



The Commonwealth of Massachusetts  
Executive Office of Health and Human Services  
Department of Public Health  
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**CHARLES D. BAKER**  
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**MARGRET R. COOKE**  
Commissioner

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March 7, 2022

Steven T. James  
House Clerk  
State House Room 145  
Boston, MA 02133

Michael D. Hurley  
Senate Clerk  
State House Room 335  
Boston, MA 02133

Dear Mr. Clerk,

Pursuant to Section 2 of Chapter 111 of the Massachusetts General Laws, the attached report summarizes birth data and statistics for the 2018 calendar year.

Sincerely,

A handwritten signature in black ink that reads "Margret R. Cooke". The signature is fluid and cursive, with the first name "Margret" being more prominent.

Margret R. Cooke  
Commissioner  
Department of Public Health



**CHARLES D. BAKER**  
GOVERNOR

**KARYN POLITO**  
LT. GOVERNOR



**MARYLOU SUDDERS**  
SECRETARY

**MARGRET R. COOKE**  
COMMISSIONER

# Massachusetts Births 2018

**February 2022**



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# ***Massachusetts Births 2018***

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**Massachusetts Department of Public Health**  
Registry of Vital Records and Statistics

February 2022



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# Massachusetts Births 2018

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Charles D. Baker, Governor  
Marylou Sudders, Secretary of Health and Human Services  
Margret R Cooke, Commissioner of Public Health  
Abigail R. Averbach, MSc, Assistant Commissioner

Karin Barrett, Registrar  
Registry of Vital Records and Statistics

Massachusetts Department of Public Health

February 2022



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An additional thank you to: Kevin Foster, Office of Data Management and Outcomes Assessment.

Data in this report have been collected through the efforts of the Registry of Vital Records and Statistics staff, including: Tara Andrews, Michael Baker, June Deloney, Alex Forman, Marta Mercado, and Margaret Riley.

### **To obtain additional copies of this report, contact:**

Massachusetts Department of Public Health  
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To obtain more information on births in Massachusetts and other Department of Public Health data please visit the Department's free, Internet-based public health information reports at: <http://www.mass.gov/dph/phit> or email DPH.PHIT@state.ma.us

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## **Note to Readers**

As required by Chapter 111, Section 2 of the General Laws, this report satisfies the requirement of the annual report of statistics on births for calendar year 2018 (Annual Report Vital Statistics of Massachusetts-Births, Public Document #1 2017). The publication of this report was delayed due to both staffing vacancies and the reallocation of available staff in order to provide timely data for COVID-19 mortality reporting. Public Document #1 information on 2018 deaths, marriages, and divorces is covered in separate reports.

1. **Population Sources.** We have used two population files based upon the 2010 Census for denominators in rate calculations:
  - Population estimates from 2000-2009 were created using straight line interpolation of data from the U.S. Census.
  - Population estimates from 2011-present were created by the UMASS Donahue Institute (UMDI). The same categorizations were applied to the 2010 census data to make a consistent dataset from 2010-present. Data are updated annually with summary census files that incorporate lagging birth data. These more accurate and up-to-date rates may differ somewhat from previously released rates. UMDI estimates were created by a team of expert demographers using novel modifications of an existing and well-accepted methodology. UMDI created estimates by sex, age, race, and ethnicity at the census tract and community levels. These estimates are controlled to the annual county level Census estimates<sup>1</sup> on a yearly basis, so they become more accurate over time. To read the full methodology, please refer to the report created by UMDI: Strate, S., Renski, H., Peake, T., Murphy, J.J., Zaldonis, P. (2016). Small area population estimates for 2011 through 2020. [White Paper]. Population Estimates Program, Economic and Public Policy Research, University of Massachusetts Donahue Institute.
2. **Resident births.** All data in this publication are resident data unless otherwise stated. Resident data include all events that occur to residents of the Commonwealth, including resident births that occur in other U.S. States and territories.
3. **Race and Ethnicity.** In the text, the race categories, White, Black, American Indian/Alaska Native, Asian, and Hispanic are mutually exclusive. For example, when we refer to White mothers, this means White Non-Hispanic mothers. See “Technical Notes” for detailed information on the multiple-race reporting area and methods used to bridge responses for those who report more than one race to a single race. Please note that trend data on minority groups such as Native Americans, Hispanics, Blacks, and Asians may not be comparable as these groups will show increases in the number of births solely related to the methods used for re-classification of multiple races into single race categories. **Please use caution in interpreting these numbers.**
4. **Breastfeeding.** Beginning in 2016, statistics on breastfeeding indicate whether the infant was being breastfed during the hospital stay. In earlier birth reports, statistics on breastfeeding reported on breastfeeding at the time of discharge. **Please use caution when comparing breastfeeding data before and after 2016.**
5. **Tables/Figures Based on Mothers.** Please note that Tables 18-19 and Figures 7-11 are based on mothers and not births.

### **Suggested Citation**

*Massachusetts Births 2018* Boston, MA: Registry of Vital Records and Statistics, Massachusetts Department of Public Health. February 2022.

## Selected Takeaways

- In 2018, there were 69,098 births to Massachusetts resident mothers, a decline of 2.3% from 70,704 in 2017 and a decline of 25.3% since 1990 (Table 1). The number of births to mothers age 30 and older increased (for the 8th year in a row) by 10.7% (2010: 39,548; 2018: 43,793). Since 2008, the number of births to mothers under 30 decreased by 30.0% percent (2008: 36,117; 2018: 25,305) (Figure 1).
- Between 2017 and 2018, the number of births to White Non-Hispanic and Black Non-Hispanic mothers decreased by 2.5% and 1.5%, respectively, while the number of births to Asian Non-Hispanic and Hispanic mothers increased by 1.2% and 1.7%, respectively (Table 1).
- In 2018, the Massachusetts teen birth rate decreased for the tenth year in a row. The teen birth rate was 20.1 births per 1,000 women age 15-19 in 2008, while in 2018 the rate was 7.1 births per 1,000 women age 15-19 (Table 1). Between 2017 and 2018, the percentage of births to mothers less than 20 years old decreased for all races/ethnicities. However, disparities persisted between 2017 and 2018, and the percentage of teen births to Hispanic women remained over five times higher than the percentage of teen births to White Non-Hispanic women and the percentage of teen births to American Indian Non-Hispanic was over three times higher than that of White Non-Hispanic (Table 2, Figure 2).
- In 2018, 31.5% of births were cesarean deliveries (Table 1). Among White Non-Hispanic, Black Non-Hispanic, Hispanic, and Asian Non-Hispanic births, Black Non-Hispanics had the highest percentage of cesarean deliveries (36.5%), while Asian Non-Hispanics had the lowest percentage (29.2%) (Table 2).
- In 2018, the percentage of births to mothers affected by gestational diabetes increased to 7.0% from 6.5% in 2017 (Table 1).
- For the first time in 5 years, the percentage of low birthweight infants (less than 2,500 grams or 5.5 pounds) increased (2014: 7.5%; 2015: 7.5%; 2016: 7.5%; 2017: 7.5%; 2018:7.6%) (Table 1).
- From 2017 to 2018, the percentage of preterm births (births occurring at less than 37 weeks of gestation) remained the same at 8.9% (Table 1). The percentage of White Non-Hispanic preterm births from 2017 to 2018 increased from 8.0% to 8.3%. In contrast, this percentage decreased for Asian Non-Hispanics from 8.3% to 7.8%, for Hispanics from 10.0% to 9.8%, and for Black Non-Hispanic from 11.2% to 11.0% (Table 10).
- From 2017 to 2018, the percentage of births to mothers who received adequate prenatal care continued to increase from 80.5% to 86.1% (Table 1, Figure 3). In 2018, the percentage of births with adequate prenatal care was higher among those with private insurance (87.3%) than public insurance (74.0%) (Table 16p2).
- The percentage of births to mothers whose prenatal care was covered through public insurance decreased slightly from 2017 (39.2%) to 38.5% in 2018 (Table 1).
- The percentage of multiple births decreased slightly from 3.6% in 2017 to 3.5% in 2018. The percentage of multiple births to mothers under 35 years old decreased slightly from 3.2% in 2017 to 3.1% in 2018, and the corresponding percentage for multiple births to mothers 35 and older decreased from 5.1% to 4.8% (Table 4).
- Smoking during pregnancy continued to decline in 2018. The percentage of infants whose mothers reported smoking during pregnancy decreased from 4.9% in 2017 to 4.4% in 2018 (Figure 6).

- In Massachusetts 3,570 women used fertility treatment in 2018. The percentage of mothers who used assisted reproductive technology (ART) among all mothers who used infertility treatment increased from 70.7% in 2017 to 73.6% in 2018. The percentage of mothers who used ART fertility treatment was much higher among White Non-Hispanic mothers at 78.9% than among Black Non-Hispanic, Asian Non-Hispanic, and Hispanic mothers at 3.3%, 11.7%, and 5.7%, respectively (Table 21).

Table 1. Trends in Birth Characteristics, Massachusetts: 1990, 2004-2018

Characteristic		1990	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Births<sup>1</sup></b>	<b>n<sup>2</sup></b>	92,461	78,460	76,824	77,670	77,934	76,969	74,966	72,835	73,169	72,457	71,618	71,867	71,484	71,319	70,704	69,098
	<b>Rate<sup>3</sup></b>	62.1	56.2	55.6	56.9	57.2	56.5	55.1	53.7	54.1	53.3	52.5	52.1	52	52	51.2	49.0
<b>Race of Mother</b>																	
<b>White Non-Hispanic</b>	<b>n</b>	72,483	55,322	53,469	52,975	52,620	51,760	49,759	48,466	45,973	45,032	44,432	44,128	43,255	42,448	40,989	39,956
	<b>%<sup>4</sup></b>	78.4	70.5	69.6	68.2	67.5	67.2	66.4	66.5	62.8	62.1	62.0	61.4	60.5	59.5	58	57.8
<b>Black Non-Hispanic</b>	<b>n</b>	7,158	6,053	6,077	6,452	6,462	6,652	6,945	6,794	6,999	6,892	7,016	7,071	6,949	7,095	7,251	7,142
	<b>%<sup>4</sup></b>	7.7	7.7	7.9	8.3	8.3	8.6	9.3	9.3	9.6	9.5	9.8	9.8	9.7	9.9	10.3	10.3
<b>Asian Non-Hispanic</b>	<b>n</b>	3,349	5,454	5,251	5,469	5,758	5,958	5,939	5,817	6,022	6,530	6,220	6,426	6,473	6,647	6,338	6,411
	<b>%<sup>4</sup></b>	3.6	7.0	6.8	7.0	7.4	7.7	7.9	8.0	8.2	9.0	8.7	8.9	9.1	9.3	9	9.3
<b>Hispanic</b>	<b>n</b>	8,406	9,798	10,061	10,696	10,861	10,895	10,986	10,588	12,777	13,088	12,315	12,670	12,927	13,100	13,516	13,748
	<b>%<sup>4</sup></b>	9.1	12.5	13.1	13.8	13.9	14.2	14.7	14.5	17.5	18.1	17.2	17.6	18.1	18.4	19.1	19.9
<b>Teen Births (Ages 15-19)</b>	<b>n</b>	7,258	4,559	4,539	4,722	4,944	4,583	4,477	3,907	3,480	3,219	2,732	2,402	2,140	1,931	1,827	1,639
	<b>Rate<sup>3</sup></b>	35.4	22.2	21.7	21.3	22.0	20.1	19.5	17.1	15.4	14.0	12.0	10.6	9.4	8.5	8.1	7.1
<b>Births to Unmarried</b>	<b>n</b>	22,837	22,376	23,170	24,977	26,010	26,146	26,029	25,220	25,349	24,900	24,014	23,853	23,913	23,566	23,309	22,467
	<b>%</b>	24.7	28.5	30.2	32.2	33.4	34.0	34.7	34.6	34.8	34.5	33.7	33.3	33.6	33.2	33.1	32.6
<b>Cesarean Deliveries</b>	<b>n</b>	20,615	24,295	24,732	25,901	26,240	26,240	25,067	24,244	23,062	22,900	22,508	22,691	22,431	22,302	22,290	21,710
	<b>%</b>	22.3	31.0	32.3	33.4	33.7	34.3	33.6	33.3	32.5	31.7	31.5	31.6	31.4	31.3	31.6	31.5
<b>Gestational Diabetes<sup>5</sup></b>	<b>n</b>		2,741	2,666	2,925	3,279	3,086	3,445	3,368	3,698	4,070	3,784	3,867	4,287	4,005	4,575	4,812
	<b>%</b>		3.5	3.5	3.8	4.2	4.0	4.7	4.7	5.1	5.6	5.3	5.4	6	5.6	6.5	7.0
<b>Low Birthweight<sup>6</sup></b>	<b>n</b>	5,388	6,125	6,073	6,150	6,147	5,955	5,804	5,650	5,458	5,491	5,495	5,394	5,321	5,341	5,261	5,243
	<b>%</b>	5.8	7.8	7.9	7.9	7.9	7.8	7.8	7.8	7.6	7.6	7.7	7.5	7.5	7.5	7.5	7.6
<b>Preterm<sup>7</sup></b>	<b>n</b>	5,899	7,222	6,925	6,954	6,980	6,750	6,516	6,234	5,992	6,107	6,300	6,161	6,001	6,167	6,272	6,167
	<b>%</b>	6.5	9.2	9.0	9.0	9.0	8.8	8.7	8.6	8.4	8.6	8.8	8.6	8.4	8.7	8.9	8.9
<b>Late Preterm<sup>8</sup></b>	<b>n</b>	3,977	5,016	4,808	4,918	4,945	4,753	4,602	4,361	4,206	4,422	4,518	4,394	4,305	4,492	4,680	4,489
	<b>%</b>	4.4	6.4	6.3	6.3	6.4	6.2	6.2	6.0	5.9	6.2	6.3	6.1	6	6.3	6.6	6.5
<b>Prenatal Care</b>																	
Public Pay Prenatal Care <sup>9</sup>	<b>%</b>	25.1	29.9	31.9	33.5	34.9	34.5	35.3	35.8	38.8	39.7	38.9	42.9	38.3	38.6	39.2	38.5
APNCU Index <sup>10</sup>	<b>%</b>		84.2	84.0	83.1	82.8	82.1	84.3	84.9	82.8	83.4	83.7	82.6	81.8	82.1	80.6	81.6
Adjusted APNCU Index <sup>10</sup>	<b>%</b>									85.3	85.4	84.5	83.1	81.8	82.3	80.5	81.6

**NOTE:** All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated. 1. Births presented in all tables are resident live births unless otherwise specified. 2. Differences in numbers of births from previous publications are the result of updated files. 3. Birth rates represent the total number of births to women ages 15-44 years per 1,000 females ages 15-44; teen birth rates refer to number of births per 1,000 females ages 15-19. Population data for computing 2008 birth rates at the state level were provided by the US Census Bureau. See the "Population Denominators" section of the "Technical Notes" for further information. 4. Percentages are calculated based on births, including those to mothers of unknown race. 5. Gestational diabetes is defined as glucose intolerance found during pregnancy for the first time. It excludes cases with pre-existing diabetes. 6. Low birthweight: less than 2,500 grams or 5.5 pounds. 7. Preterm: <37 weeks gestation. 8. Late preterm: 34-36 weeks gestation. 9. Government programs including Commonwealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care), or free care; other: Worker's Compensation and other sources. 10. Beginning with Births 2001, the APNCU Index has replaced the Kessner Index as the standard measurement of adequacy of prenatal care (see Technical Notes for more information).

**Table 2. Birth Characteristics by Maternal Race/Hispanic Ethnicity and Birthplace, Massachusetts: 2018**

Race and Hispanic Ethnicity (by mother's birthplace)	Births		Teen Births				Birthweight				Prenatal Care				Cesarean Deliveries		Breastfeeding <sup>5</sup>	
	n	% <sup>1</sup>	<18 Years		<20 Years		Very Low <sup>2</sup>		Low <sup>3</sup>		Adequate <sup>4</sup>		1 <sup>st</sup> Trimester		n	%	n	%
<b>State Total</b>	<b>69,098</b>	<b>100.0</b>	<b>388</b>	<b>0.6</b>	<b>1,661</b>	<b>2.4</b>	<b>829</b>	<b>1.2</b>	<b>5,243</b>	<b>7.6</b>	<b>55,160</b>	<b>81.6</b>	<b>54,297</b>	<b>79.7</b>	<b>21,710</b>	<b>31.5</b>	<b>59,173</b>	<b>85.9</b>
US inc. DC	45,835	66.3	256	0.6	1,086	2.4	519	1.1	3,395	7.4	37,688	84.2	37,534	83.1	14,037	30.7	38,163	83.6
US Territories <sup>7</sup>	1,757	2.5	37	2.1	157	8.9	35	2.0	162	9.2	1,330	76.8	1,269	72.6	580	33.0	1,427	81.6
Non-US-born <sup>8</sup>	21,473	31.1	94	0.4	417	1.9	269	1.3	1,673	7.8	16,133	76.5	15,481	73.1	7,083	33.0	19,577	91.4
<b>White Non-Hispanic</b>	<b>39,956</b>	<b>57.8</b>	<b>73</b>	<b>0.2</b>	<b>463</b>	<b>1.2</b>	<b>362</b>	<b>0.9</b>	<b>2,599</b>	<b>6.5</b>	<b>33,432</b>	<b>85.4</b>	<b>33,303</b>	<b>84.4</b>	<b>12,408</b>	<b>31.1</b>	<b>34,008</b>	<b>85.3</b>
US inc. DC	35,331	88.4	68	0.2	439	1.2	317	0.9	2,301	6.5	29,797	86.2	29,749	85.2	10,958	31.0	29,692	84.2
US Territories <sup>7</sup>	11	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	81.8	8	72.7	-- <sup>6</sup>	-- <sup>6</sup>	8	72.7
Non-US-born <sup>8</sup>	4,604	11.5	5	0.1	24	0.5	44	1.0	296	6.4	3,619	80.0	3,539	77.7	1,446	31.4	4,307	93.8
<b>Black Non-Hispanic</b>	<b>7,142</b>	<b>10.3</b>	<b>47</b>	<b>0.7</b>	<b>192</b>	<b>2.7</b>	<b>169</b>	<b>2.4</b>	<b>767</b>	<b>10.8</b>	<b>4,861</b>	<b>69.9</b>	<b>4,673</b>	<b>66.6</b>	<b>2,607</b>	<b>36.5</b>	<b>6,263</b>	<b>88.2</b>
US inc. DC	2,967	41.5	33	1.1	132	4.4	77	2.6	368	12.4	2,149	74.4	2,099	71.8	1,006	33.9	2,425	82.2
US Territories <sup>7</sup>	-- <sup>6</sup>	-- <sup>6</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>
Non-US-born <sup>8</sup>	4,170	58.4	14	0.3	60	1.4	91	2.2	397	9.5	2,712	66.8	2,573	62.9	1,599	38.4	3,836	92.4
<b>Hispanic</b>	<b>13,748</b>	<b>19.9</b>	<b>253</b>	<b>1.8</b>	<b>941</b>	<b>6.8</b>	<b>214</b>	<b>1.6</b>	<b>1,181</b>	<b>8.6</b>	<b>10,277</b>	<b>76.2</b>	<b>9,862</b>	<b>72.6</b>	<b>4,269</b>	<b>31.1</b>	<b>11,633</b>	<b>84.9</b>
US inc. DC	5,279	38.4	144	2.7	472	8.9	99	1.9	521	9.9	3,970	77.1	3,946	75.7	1,485	28.1	4,203	79.9
US Territories <sup>7</sup>	1,733	12.6	36	2.1	156	9.0	35	2.0	162	9.3	1,310	76.7	1,251	72.5	570	32.9	1,408	81.6
Non-US-born <sup>8</sup>	6,734	49.0	73	1.1	313	4.6	80	1.2	497	7.4	4,997	75.3	4,665	70.1	2,213	32.9	6,021	89.7
<b>Asian Non-Hispanic</b>	<b>6,411</b>	<b>9.3</b>	<b>9</b>	<b>0.1</b>	<b>29</b>	<b>0.5</b>	<b>45</b>	<b>0.7</b>	<b>504</b>	<b>7.9</b>	<b>5,252</b>	<b>83.1</b>	<b>5,191</b>	<b>81.6</b>	<b>1,868</b>	<b>29.2</b>	<b>5,830</b>	<b>91.0</b>
US inc. DC	1,259	19.6	8	0.6	22	1.7	10	0.8	109	8.7	1,025	82.9	1,041	83.5	316	25.1	1,095	87.2
US Territories <sup>7</sup>	-- <sup>6</sup>	-- <sup>6</sup>	0	0.0	0	0.0	0	0.0	0	0.0	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>
Non-US-born <sup>8</sup>	5,148	80.3	-- <sup>6</sup>	-- <sup>6</sup>	7	0.1	35	0.7	395	7.7	4,224	83.1	4,147	81.2	1,549	30.1	4,731	92.0
<b>American Indian Non-Hispanic<sup>9</sup></b>	<b>224</b>	<b>0.3</b>	-- <sup>6</sup>	-- <sup>6</sup>	<b>9</b>	<b>4.0</b>	-- <sup>6</sup>	-- <sup>6</sup>	<b>16</b>	<b>7.2</b>	<b>186</b>	<b>85.7</b>	<b>168</b>	<b>76.4</b>	<b>63</b>	<b>28.1</b>	<b>193</b>	<b>86.2</b>
US inc. DC	217	96.9	-- <sup>6</sup>	-- <sup>6</sup>	9	4.1	-- <sup>6</sup>	-- <sup>6</sup>	16	7.4	181	86.2	164	77.0	62	28.6	186	85.7
US Territories <sup>7</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Non-US-born <sup>8</sup>	7	3.1	0	0.0	0	0.0	0	0.0	0	0.0	5	71.4	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	-- <sup>6</sup>	7	100.0
<b>Other Non-Hispanic<sup>10</sup></b>	<b>497</b>	<b>0.7</b>	-- <sup>6</sup>	-- <sup>6</sup>	<b>13</b>	<b>2.6</b>	<b>8</b>	<b>1.6</b>	<b>51</b>	<b>10.3</b>	<b>341</b>	<b>71.6</b>	<b>338</b>	<b>70.0</b>	<b>178</b>	<b>35.8</b>	<b>413</b>	<b>83.4</b>
US inc. DC	92	18.5	0	0.0	5	5.4	-- <sup>6</sup>	-- <sup>6</sup>	6	6.5	66	76.7	65	73.9	28	30.4	57	62.0
US Territories <sup>7</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-- <sup>6</sup>	-- <sup>6</sup>
Non-US-born <sup>8</sup>	405	81.5	-- <sup>6</sup>	-- <sup>6</sup>	8	2.0	7	1.7	45	11.1	275	70.5	273	69.1	150	37.0	356	88.3
<b>Unknown</b>	<b>1,120</b>	<b>1.6</b>	-- <sup>6</sup>	-- <sup>6</sup>	<b>14</b>	<b>1.3</b>	<b>30</b>	<b>2.8</b>	<b>125</b>	<b>11.8</b>	<b>811</b>	<b>82.5</b>	<b>762</b>	<b>77.1</b>	<b>317</b>	<b>30.2</b>	<b>833</b>	<b>80.2</b>

**NOTE:** All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated.

1. In the column "Births %," the percentages of the race/Hispanic groups (bolded) are based on the state total (including births of unknown race/ethnicity), and the birthplace percentage for the race/ethnicities are based on the total number in race/Hispanic ethnicity category. For all other categories, percentages are based on row totals. 2. Very low birthweight: less than 1,500 grams or 3.3 pounds. 3. Low birthweight: less than 2,500 grams or 5.5 pounds. 4. Based on Adequacy of Prenatal Care Utilization (APNCU) Index. 5. Infant was being breastfed during the hospital stay. 6. Calculations based on 1-4 events are excluded. 7. The category "US Territories" includes women born in Puerto Rico, the US Virgin Islands, and Guam. Approximately 95% of the births in this category were to women born in Puerto Rico. 8. The category "Non-US-born" includes women born outside of the 50 US states, District of Columbia, and the US territories. 9. Mothers who selected American Indian/Alaska Native as their race. 10. Mothers who indicated "Other" as their race.

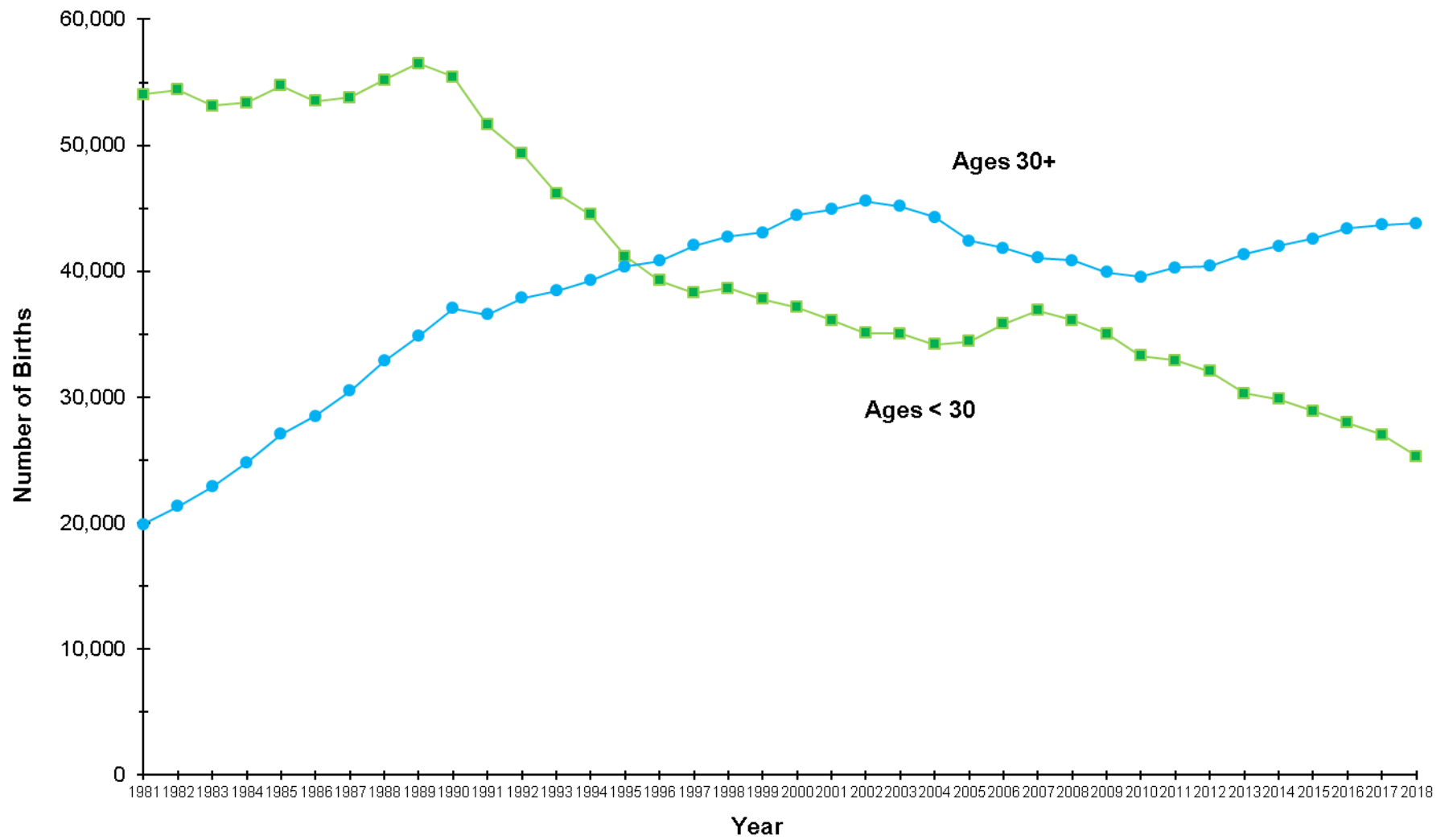


**Table 3. Birth Characteristics by Maternal Ancestry, Massachusetts: 2018**

Maternal Ancestry	Births <sup>1</sup>		Teen Births				Low Birthweight <sup>2</sup>		Prenatal Care				Late Preterm <sup>4</sup>		Cesarean Section		Breast-feeding <sup>5</sup>		Gestational Diabetes <sup>6</sup>	
			<18 years		<20 Years				Adequate <sup>3</sup>		1 <sup>st</sup> Trimester									
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
State Total	69,098	100.0	388	0.6	1,661	2.4	5,243	7.6	55,160	81.6	54,297	79.7	4,489	6.5	21,710	31.5	59,173	85.9	4,812	7.0
American	31,798	46.0	100	0.3	551	1.7	2,125	6.7	26,701	85.5	26,511	84.3	2,046	6.4	9,786	30.8	27,218	85.8	1,990	6.3
European	8,930	12.9	8	0.1	51	0.6	501	5.6	7,583	86.5	7,619	86.3	523	5.9	2,665	29.8	8,246	92.4	540	6.0
Puerto Rican	4,837	7.0	134	2.8	467	9.7	491	10.2	3,606	76.2	3,527	73.5	368	7.6	1,478	30.6	3,737	77.6	357	7.4
African American	3,201	4.6	38	1.2	139	4.3	396	12.4	2,321	74.2	2,250	71.1	254	7.9	1,068	33.4	2,611	82.1	164	5.1
Dominican	3,089	4.5	42	1.4	167	5.4	271	8.8	2,348	77.7	2,204	72.5	181	5.9	1,155	37.4	2,665	86.8	193	6.3
Asian Indian	2,097	3.0	0	0.0	--7	--7	217	10.3	1,725	83.1	1,730	83.0	152	7.2	740	35.3	1,970	94.0	307	14.6
Brazilian	2,007	2.9	18	0.9	45	2.2	132	6.6	1,489	75.1	1,444	72.6	103	5.1	827	41.2	1,869	93.3	132	6.6
African	1,986	2.9	--7	--7	9	0.5	167	8.4	1,356	69.6	1,296	66.1	115	5.8	771	38.8	1,845	93.5	157	7.9
Portuguese	1,986	2.9	12	0.6	64	3.2	150	7.6	1,642	83.9	1,584	80.5	116	5.8	713	35.9	1,462	73.7	142	7.2
Chinese	1,916	2.8	--7	--7	--7	--7	116	6.1	1,614	85.1	1,637	86.0	115	6.0	445	23.2	1,757	91.7	216	11.3
Haitian	1,569	2.3	--7	--7	17	1.1	184	11.7	1,022	67.1	972	63.4	115	7.3	618	39.4	1,401	89.8	106	6.8
Cape Verdean	1,448	2.1	20	1.4	87	6.0	136	9.4	992	70.7	972	68.6	81	5.6	487	33.6	1,263	87.3	92	6.4
Salvadoran	1,313	1.9	20	1.5	85	6.5	126	9.6	999	76.6	926	70.9	90	6.9	329	25.1	1,176	89.8	74	5.6
Middle Eastern	1,166	1.7	0	0.0	6	0.5	86	7.4	857	74.8	854	73.9	79	6.8	396	34.0	1,086	93.3	93	8.0
Guatemalan	1,142	1.7	29	2.5	101	8.8	70	6.1	813	72.8	729	65.2	75	6.6	258	22.6	967	84.8	86	7.5
Other	1,833	2.7	5	0.3	20	1.1	174	9.5	1,423	83.6	1,423	80.2	145	7.9	626	34.2	942	51.4	137	7.5
Russian	707	1.0	0	0.0	6	0.8	40	5.7	578	83.3	563	80.1	38	5.4	181	25.6	671	94.9	45	6.4
Vietnamese	685	1.0	0	0.0	--7	--7	42	6.1	550	81.8	536	79.2	35	5.1	195	28.5	609	89.0	71	10.4
Cambodian	575	0.8	8	1.4	17	3.0	60	10.5	447	80.0	422	74.2	47	8.2	133	23.1	396	69.0	61	10.6
West Indian Caribbean	549	0.8	--7	--7	21	3.8	59	10.8	396	73.7	367	67.8	45	8.2	191	34.8	513	93.4	39	7.1
Other South American	545	0.8	--7	--7	18	3.3	25	4.6	407	75.8	394	73.0	33	6.1	146	26.8	525	96.5	24	4.4
Mexican	513	0.7	10	1.9	25	4.9	26	5.1	388	77.0	383	75.2	24	4.7	130	25.3	465	90.6	33	6.4
Honduran	453	0.7	8	1.8	31	6.8	46	10.2	318	70.5	312	69.2	44	9.7	104	23.0	393	87.1	20	4.4
Colombian	449	0.6	0	0.0	7	1.6	33	7.3	363	82.3	341	77.0	36	8.0	142	31.6	416	92.7	23	5.1
Native American	380	0.5	--7	--7	15	3.9	32	8.4	295	78.9	266	70.6	24	6.3	114	30.1	312	82.5	27	7.1
Korean	375	0.5	0	0.0	0	0.0	20	5.3	302	81.8	306	82.7	18	4.8	106	28.4	355	94.9	40	10.7

**NOTE:** All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated. Women may select more than one ancestry groups, therefore totals of all ancestries is greater than the number of births. Since 2009, certain ancestry groups were combined: Lebanese, Iranian, Israeli, and Other Middle Eastern ancestries were combined into "Middle Eastern"; and Nigerian and Other African were combined into "African." 1. In the column "Births," percentages are based on column total (state total of births, including births for which maternal ethnicity is unknown and other). For all other categories, percentages are based on row totals. 2. Low birthweight: less than 2,500 grams or 5.5 pounds. 3. Based on Adequacy of Prenatal Care Utilization (APNCU) Index. 4. Late preterm: 34-36 weeks gestation. 5. Infant was being breastfed during the hospital stay. 6. Gestational diabetes is defined as glucose intolerance found during pregnancy for the first time. It excludes cases with pre-existing diabetes. 7. Calculations based on 1-4 events are excluded.

Figure 1. Trends in the Number of Births by Mother's Age Group, Massachusetts: 1981-2018



**Table 4. Trends in Number and Percent Distribution of Births by Plurality and Maternal Age, Massachusetts: 2004-2018**

Singletons				Multiples <sup>1</sup>						Total births <sup>2</sup>	
Age Group	Year	n	%	Twins		Triplets or more		Total Multiples		n	%
				n	%	n	%	n	%		
<u>All Ages</u>											
	2004	74,677	95.2	3,538	4.5	245	0.3	3,783	4.8	78,460	100.0
	2005	73,258	95.4	3,375	4.4	190	0.2	3,565	4.6	76,824	100.0
	2006	74,146	95.5	3,375	4.3	149	0.2	3,524	4.5	77,670	100.0
	2007	74,498	95.6	3,310	4.2	126	0.2	3,436	4.4	77,934	100.0
	2008	73,475	95.5	3,365	4.4	129	0.2	3,494	4.5	76,969	100.0
	2009	71,423	95.3	3,386	4.5	157	0.2	3,543	4.7	74,966	100.0
	2010	69,508	95.4	3,220	4.4	107	0.1	3,327	4.6	72,835	100.0
	2011	69,933	95.6	3,135	4.3	100	0.1	3,235	4.4	73,169	100.0
	2012	69,272	95.6	3,093	4.3	90	0.1	3,183	4.4	72,457	100.0
	2013	68,363	95.5	3,164	4.4	91	0.1	3,255	4.5	71,618	100.0
	2014	68,800	95.7	2,984	4.2	83	0.1	3,067	4.3	71,867	100.0
	2015	68,756	96.2	2,671	3.7	57	0.1	2,728	3.8	71,484	100.0
	2016	68,660	96.3	2,569	3.6	90	0.1	2,659	3.7	71,319	100.0
	2017	68,134	96.4	2,523	3.6	47	0.1	2,570	3.6	70,704	100.0
	2018	66,658	96.5	2,368	3.4	72	0.1	2,440	3.5	69,098	100.0
<u>Ages &lt;35</u>											
	2004	57,618	96.0	2,229	3.7	142	0.2	2,371	4.0	59,989	100.0
	2005	56,380	96.3	2,086	3.6	102	0.2	2,188	3.7	58,569	100.0
	2006	57,237	96.3	2,116	3.6	89	0.1	2,205	3.7	59,442	100.0
	2007	57,977	96.3	2,144	3.6	87	0.1	2,231	3.7	60,208	100.0
	2008	57,080	96.3	2,111	3.6	78	0.1	2,189	3.7	59,269	100.0
	2009	55,906	96.1	2,202	3.8	80	0.1	2,282	3.9	58,188	100.0
	2010	54,369	96.3	2,018	3.6	58	0.1	2,076	3.7	56,445	100.0
	2011	54,837	96.4	2,014	3.5	59	0.1	2,073	3.6	56,910	100.0
	2012	54,069	96.4	1,961	3.5	57	0.1	2,018	3.6	56,089	100.0
	2013	52,995	96.2	2,025	3.7	54	0.1	2,079	3.8	55,074	100.0
	2014	53,166	96.5	1,890	3.4	50	0.1	1,940	3.5	55,106	100.0
	2015	52,640	96.9	1,665	3.1	45	0.1	1,710	3.1	54,350	100.0
	2016	52,043	96.9	1,601	3.0	47	0.1	1,648	3.1	53,691	100.0
	2017	51,258	96.8	1,653	3.1	18	0.0	1,671	3.2	52,929	100.0
	2018	49,340	96.9	1,523	3.0	36	0.1	1,559	3.1	50,899	100.0
<u>Ages 35+</u>											
	2004	17,055	92.4	1,309	7.1	103	0.6	1,412	7.6	18,467	100.0
	2005	16,874	92.5	1,289	7.1	88	0.5	1,377	7.5	18,251	100.0
	2006	16,901	92.8	1,257	6.9	60	0.3	1,317	7.2	18,218	100.0
	2007	16,519	93.2	1,166	6.6	39	0.2	1,205	6.8	17,724	100.0
	2008	16,392	92.6	1,254	7.1	51	0.3	1,305	7.4	17,697	100.0
	2009	15,513	92.5	1,184	7.1	77	0.5	1,261	7.5	16,774	100.0
	2010	15,136	92.4	1,200	7.3	49	0.3	1,249	7.6	16,385	100.0
	2011	15,092	92.8	1,121	6.9	41	0.3	1,162	7.1	16,255	100.0
	2012	15,202	92.9	1,132	6.9	33	0.2	1,165	7.1	16,367	100.0
	2013	15,367	92.9	1,139	6.9	37	0.2	1,176	7.1	16,543	100.0
	2014	15,634	93.3	1,094	6.5	33	0.2	1,127	6.7	16,761	100.0
	2015	16,115	94.1	1,005	5.9	12	0.1	1,017	5.9	17,132	100.0
	2016	16,617	94.3	968	5.5	43	0.2	1,011	5.7	17,628	100.0
	2017	16,875	94.9	870	4.9	29	0.2	899	5.1	17,774	100.0
	2018	17,315	95.2	843	4.6	36	0.2	879	4.8	18,194	100.0

1. Numbers of multiples (n) represent individual infants rather than sets of infants. 2. Differences in the number of births from previous publications are the result of updated files.

**Table 5. Summary of Selected Teen Birth Characteristics, Massachusetts: 2018**

	Ages 15-17		Ages 18-19		Combined Ages 15-19	
	N	% <sup>1,2</sup>	N	% <sup>1,2</sup>	N	% <sup>1,2</sup>
<b>State Total</b>	366	22.3%	1273	77.7%	1639	100.0%
White Non-Hispanic	69	19.0%	390	30.9%	459	28.2%
Black Non-Hispanic	46	12.7%	145	11.5%	191	11.7%
Asian Non-Hispanic	8	2.2%	20	1.6%	28	1.7%
Hispanic	238	65.6%	688	54.5%	926	56.9%
American Indian or Other	--6	--6	20	1.6%	22	1.4%
<b>Birthplace</b>						
US States / D.C.	240	65.6%	830	65.2%	1070	65.3%
Puerto Rico / US Terr.	35	9.6%	120	9.4%	155	9.5%
Non-US-born	91	24.9%	323	25.4%	414	25.3%
<b>Prenatal Care Funding</b>						
Public	307	85.3%	1032	82.0%	1339	82.7%
Private, other	53	14.7%	227	18.0%	280	17.3%
<b>Pregnancy-Related Factors</b>						
<b>Adequacy of Prenatal Care<sup>3</sup></b>						
Adequate Total <sup>4</sup>	208	56.8%	844	66.3%	1052	64.2%
Adequate Intensive	102	27.9%	400	31.4%	502	30.6%
Adequate Basic	106	29.0%	444	34.9%	550	33.6%
Intermediate	35	9.6%	114	9.0%	149	9.1%
Inadequate/None	114	31.1%	284	22.3%	398	24.3%
Unknown	9	2.5%	31	2.4%	40	2.4%
<b>Parity<sup>5</sup></b>						
1	348	95.1%	1094	86.0%	1442	88.0%
2	17	4.6%	161	12.7%	178	10.9%
3+	--6	--6	17	1.3%	18	1.1%
<b>Smoking during Pregnancy</b>						
Yes	13	3.7%	71	5.8%	84	5.3%
No	341	96.3%	1158	94.2%	1499	94.7%
<b>Birth Outcomes</b>						
<b>Birthweight</b>						
< 500 g	0	0.0%	--6	--6	--6	--6
500-1,499 g	--6	--6	16	1.3%	20	1.2%
1,500-2,499 g	28	7.7%	108	8.5%	136	8.3%
<b>LBW (&lt;2,499 g)</b>	32	8.7%	125	9.8%	157	9.6%
2,500-3,999 g	319	87.2%	1080	84.8%	1399	85.4%
4000+ g	15	4.1%	68	5.3%	83	5.1%
<b>Gestational Age</b>						
< 28 weeks	0	0.0%	10	0.8%	10	0.6%
<b>Preterm (&lt; 37 weeks)</b>	36	9.8%	110	8.6%	146	8.9%
37-42 weeks	330	90.2%	1162	91.4%	1492	91.1%
<b>Plurality</b>						
Singleton	363	99.2%	1257	98.7%	1620	98.8%
Multiple birth	--6	--6	16	1.3%	19	1.2%

**NOTE:** All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated.

1. For state total row, percentages are based on total births to females ages 15-19. For the rest of the table, percentages are based on births for a given age group and characteristic. 2. Percentages are based on state total of the age group. 3. Based on Adequacy of Prenatal Care Utilization (APNCU) Index. 4. Adequate Total = Adequate Basic + Adequate Intensive. 5. Number of live births including the current birth. 6. Calculations based on 1-4 events are excluded.

Table 6. Number and Teen Birth Rates by Race/Hispanic Ethnicity for Selected Communities, Massachusetts: 2018

Municipality <sup>1</sup>	Teen Births		White Non-Hispanic		Black Non-Hispanic		Hispanic	
	N	Rate (95%CI) <sup>2,3</sup>	N	Rate (95%CI) <sup>2,3</sup>	N	Rate (95%CI) <sup>2,3</sup>	N	Rate (95%CI) <sup>2,3</sup>
<b>State Total</b>	<b>1,639</b>	<b>7.1 (6.7, 7.4)</b>	<b>459</b>	<b>3 (2.8, 3.3)</b>	<b>191</b>	<b>10.4 (8.9, 11.9)</b>	<b>926</b>	<b>25.7 (24, 27.3)</b>
Chelsea	44	40.1 (28.6, 53.4)	--4	--4	--4	--4	36	40.3 (28.8, 53.6)
Holyoke	45	32.9 (22.7, 45.1)	--4	--4	--4	--4	39	39.1 (27.8, 52.2)
Lawrence	106	32.4 (26.2, 38.5)	--4	--4	--4	--4	100	34 (27.3, 40.7)
New Bedford	88	29.1 (19.5, 40.6)	18	12.4 (6.5, 20.2)	10	29.1 (19.5, 40.6)	56	53.8 (40.4, 69)
Springfield	174	28 (23.8, 32.1)	7	6.4 (2.4, 12.2)	18	15.5 (8.8, 24.1)	147	41.1 (34.4, 47.7)
Fall River	63	25.3 (16.4, 36)	20	12.9 (6.8, 20.8)	6	34 (23.6, 46.4)	36	67 (52, 84)
Pittsfield	29	23.7 (15.2, 34.2)	19	25.6 (16.6, 36.4)	7	45.8 (33.5, 59.9)	--4	--4
Lynn	62	19.5 (11.8, 29.1)	--4	--4	--4	--4	52	30.7 (20.8, 42.5)
Brockton	57	18.2 (10.8, 27.4)	8	12.1 (6.3, 19.9)	34	19 (11.5, 28.5)	11	25.5 (16.6, 36.3)
Lowell	63	16.1 (9.2, 24.8)	9	6.3 (2.4, 12)	--4	--4	41	38.7 (27.5, 51.8)
Fitchburg	25	15.9 (9, 24.6)	6	6.9 (2.7, 12.9)	--4	--4	19	36.4 (25.5, 49.1)
Haverhill	26	14.8 (8.2, 23.2)	13	12.2 (6.4, 20)	--4	--4	12	23.1 (14.7, 33.4)
Marlboro	15	14 (7.7, 22.2)	--4	--4	--4	--4	12	46.3 (34, 60.6)
Chicopee	22	13.2 (7.1, 21.2)	6	6.3 (2.4, 12.1)	--4	--4	13	24 (15.4, 34.5)
Worcester	94	12.6 (6.6, 20.5)	24	7.5 (3.1, 13.7)	10	8.6 (3.8, 15.2)	58	24.7 (15.9, 35.4)
Barnstable	13	12.3 (6.4, 20.1)	5	6.3 (2.4, 12.1)	--4	--4	5	49.6 (36.7, 64.3)
Leominster	13	11.2 (5.7, 18.7)	5	7.2 (3, 13.4)	--4	--4	8	24.8 (16, 35.4)
Taunton	17	10.4 (5.1, 17.6)	9	8 (3.4, 14.4)	--4	--4	5	21.9 (13.7, 32)
Attleboro	13	10.4 (5.1, 17.6)	11	12.7 (6.7, 20.6)	--4	--4	--4	--4
Methuen	17	9.6 (4.5, 16.6)	--4	--4	--4	--4	14	18.8 (11.3, 28.3)
Everett	14	9.5 (4.4, 16.4)	--4	--4	--4	--4	8	14.8 (8.2, 23.2)
Waltham	18	7.5 (3.1, 13.7)	--4	--4	--4	--4	13	27 (17.8, 38.1)
Westfield	13	7.3 (3, 13.4)	8	5.4 (1.9, 10.8)	--4	--4	5	21.6 (13.5, 31.6)
Framingham	17	6.8 (2.7, 12.7)	--4	--4	--4	--4	15	31.2 (21.2, 43)
Boston	162	6.5 (5.5, 7.5)	8	0.8 (0, 3.2)	60	10.9 (5.5, 18.3)	92	17.1 (10, 26.1)

**NOTE:** The total number of Asian Non-Hispanic teen births in MA in 2018 was 28 for a rate of 1.6/1,000 significantly lower than the state rate of 7.1. Lowell had the largest number of Asian Non-Hispanic teen births at 12 births. The Asian Non-Hispanic teen birth rate in this community was slightly higher than the state.

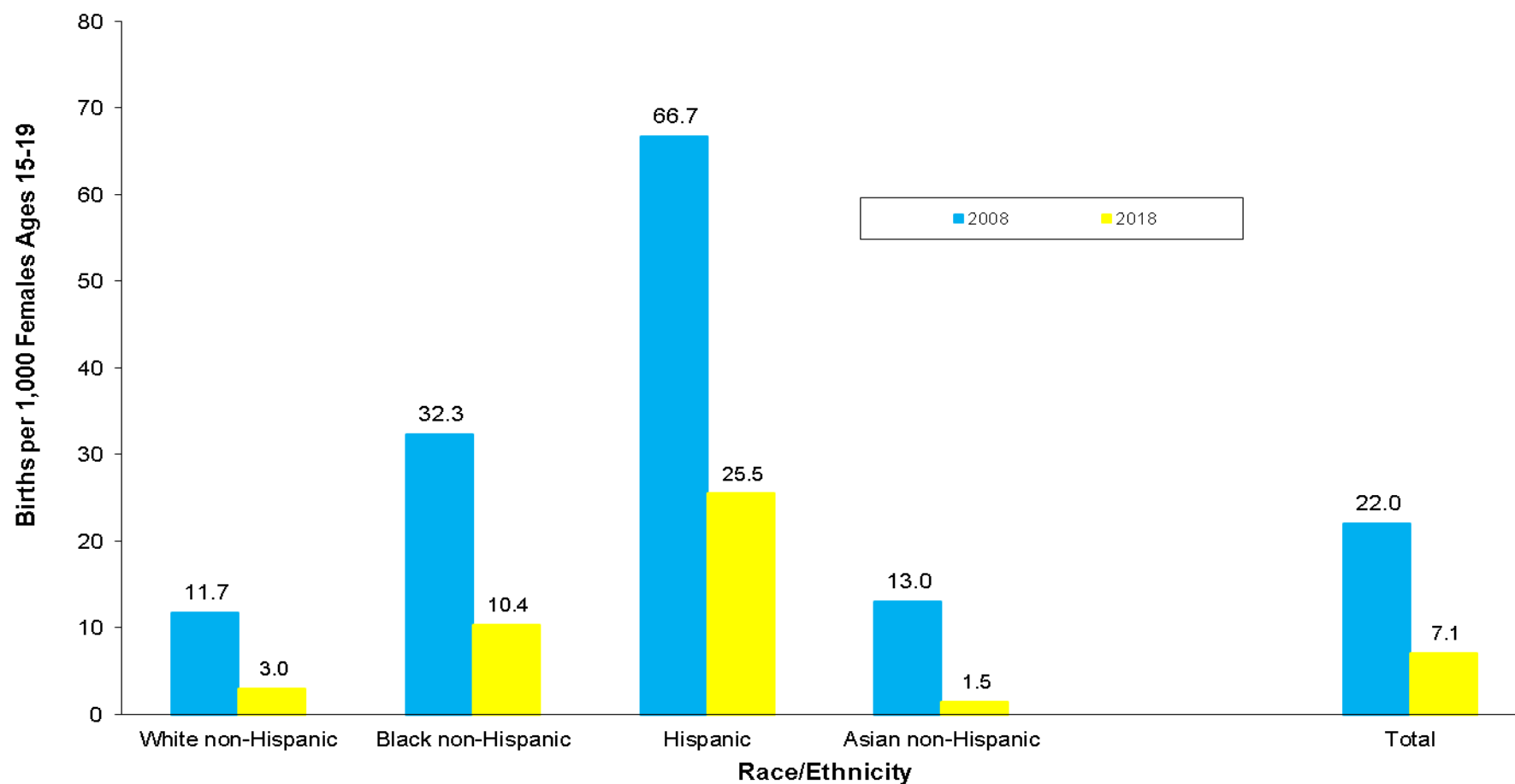
1. Selected communities include the 25 Massachusetts cities and towns with the greatest number of teen births. 2. Rates are per 1,000 females ages 15-19 per city/town. 3. Birth rates for cities and towns were calculated using the Massachusetts Department of Public Health Race Allocated Census 2010 Estimates file (MRACE 2010), which is the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. **If the population in your community increased from 2010 to 2018, the rates listed may overestimate the actual rate. If the population in your community declined from 2010 to 2018, the rates given in the publication may underestimate the actual rate.** 4. Counts and rates based on counts of 1-4 births are excluded.

**Table 7. Trends in Teen Birth Rates for Selected Communities, Ranked by 2018 Teen Birth Rate, Massachusetts: 2008, 2017-2018**

2018 Rank	Municipality <sup>1</sup>	2008		2017		2018	
		# Births 15-19	Birth Rate <sup>2</sup>	# Births 15-19	Birth Rate <sup>2,3</sup>	# Births 15-19	Birth Rate <sup>2,3</sup>
	<b>State Total</b>	<b>4,583</b>	<b>20.1</b>	<b>1,827</b>	<b>8.1</b>	<b>1,639</b>	<b>7.1</b>
1	Chelsea	97	97.0	44	36.8	44	40.1
2	Holyoke	174	115.3	40	26.5	45	32.9
3	Lawrence	245	80.9	117	34.5	106	32.4
4	New Bedford	186	62.9	92	30.3	88	29.1
5	Springfield	373	61.4	195	28.5	174	28.0
6	Fall River	159	56.2	67	24.1	63	25.3
7	Pittsfield	60	47.2	21	15.7	29	23.7
8	Lynn	164	53.2	91	28.2	62	19.5
9	Brockton	155	42.6	60	17.9	57	18.2
10	Lowell	193	48.7	65	15.8	63	16.1
11	Fitchburg	60	38.4	35	19.7	25	15.9
12	Haverhill	61	32.0	28	15.6	26	14.8
13	Marlborough	27	27.3	13	12.6	15	14.0
14	Leominster	29	23.1	12	10.2	13	11.2
15	Chicopee	59	33.9	31	16.5	22	13.2
16	Taunton	40	24.5	18	10.3	17	10.4
17	Worcester	256	36.4	110	14.2	94	12.6
18	Attleboro	30	26.4	7	5.2	13	10.4
19	Barnstable	31	24.2	14	11.0	13	12.3
20	Methuen	30	22.6	14	8.6	17	9.6
21	Everett	43	40.6	18	13.7	14	9.5
22	Waltham	35	15.0	14	5.9	18	7.5
23	Westfield	38	22.0	8	4.4	13	7.3
24	Framingham	53	27.1	19	8.1	17	6.8
25	Boston	565	28.6	202	7.8	162	6.5

1. Selected communities include the 25 Massachusetts cities and towns with the greatest number of teen births in 2018. Ranking is by 2018 teen birth rate. 2. Rates are per 1,000 females ages 15-19 per city/town. 3. Birth rates for cities and towns were calculated using the Massachusetts Department of Public Health Race Allocated Census 2010 Estimates file (MRACE 2010), which is the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. 4. Counts and rates based on counts of 1-4 births are excluded. **If the population in your community increased from 2010 to 2018, the rates listed may overestimate the actual rate. If the population in your community declined from 2010 to 2018, the rates given in the publication may underestimate the actual rate.** 4. Birth rates for select cities and towns were calculated using the Massachusetts Department of Public Health Race Allocated Census 2004 Estimates file (MRACE 2004), which is the most up-to-date information available prior to 2010 on the number of persons by age, race, and sex at the sub-state level.

**Figure 2. Teen Birth Rates among Females Ages 15-19 Years by Mother's Race/Hispanic Ethnicity, Massachusetts: 2008 and 2018**



**NOTE:** Teen birth rate is number of births to females ages 15-19 per 1,000 females ages 15-19. 2008 birth rates are based upon the 2008 population estimates from the National Center for Health Statistics. 2018 birth rates are based upon UMass Donahue Institute population estimates for 2018.

**Table 8. Births by Birthweight, Race/Hispanic Ethnicity, Massachusetts: 2018**

Birthweight (in grams)	Total		White Non-Hispanic		Black Non-Hispanic		Hispanic		Asian Non-Hispanic		Other Non-Hispanic		Unknown Race/Ethnicity	
	n	% <sup>1</sup>	n	% <sup>1</sup>	n	% <sup>1</sup>	n	% <sup>1</sup>	n	% <sup>1</sup>	n	% <sup>1</sup>	n	% <sup>1</sup>
<b>State Total</b>	<b>69,098</b>	<b>100.0</b>	<b>40,989</b>	<b>100.0</b>	<b>7,142</b>	<b>100.0</b>	<b>13,748</b>	<b>100.0</b>	<b>6,411</b>	<b>100.0</b>	<b>721</b>	<b>100.0</b>	<b>1,120</b>	<b>100.0</b>
<500	92	0.1	31	0.1	22	0.3	26	0.2	--2	--2	--2	--2	9	0.8
500-999	252	0.4	94	0.2	65	0.9	64	0.5	15	0.2	--2	--2	11	1.0
1,000-1,499	485	0.7	237	0.6	82	1.2	124	0.9	28	0.4	--2	--2	10	0.9
1,500-1,999	1,037	1.5	524	1.3	151	2.1	230	1.7	92	1.4	13	1.8	27	2.5
2,000-2,499	3,377	4.9	1,713	4.3	447	6.3	737	5.4	367	5.7	45	6.3	68	6.4
2,500-2,999	11,950	17.3	5,999	15.1	1,424	20.0	2,708	19.7	1,512	23.6	126	17.5	181	17.0
3,000-3,499	26,425	38.3	14,791	37.1	2,731	38.3	5,482	39.9	2,730	42.6	268	37.2	423	39.8
3,500-3,999	19,291	28.0	12,262	30.8	1,732	24.3	3,448	25.1	1,391	21.7	200	27.8	258	24.3
4,000-4,499	5,222	7.6	3,654	9.2	415	5.8	796	5.8	241	3.8	54	7.5	62	5.8
4,500-4,999	754	1.1	550	1.4	51	0.7	107	0.8	28	0.4	--2	--2	14	1.3
>=5,000	56	0.1	38	0.1	6	0.1	11	0.1	0	0.0	--2	--2	0	0.0
Unknown birthweight	157	0.2	63	0.2	16	0.2	15	0.1	5	0.1	--2	--2	57	5.1
<b>VLBW<sup>3</sup> (0-1,499 g)</b>	<b>829</b>	<b>1.2</b>	<b>362</b>	<b>0.9</b>	<b>169</b>	<b>2.4</b>	<b>214</b>	<b>1.6</b>	<b>45</b>	<b>0.7</b>	<b>9</b>	<b>1.3</b>	<b>30</b>	<b>2.8</b>
<b>LBW<sup>4</sup> (0-2,499 g)</b>	<b>5,243</b>	<b>7.6</b>	<b>2,599</b>	<b>6.4</b>	<b>767</b>	<b>10.8</b>	<b>1,181</b>	<b>8.6</b>	<b>504</b>	<b>7.9</b>	<b>67</b>	<b>9.3</b>	<b>125</b>	<b>11.8</b>
<b>NOTE:</b> Percentages for detailed birthweight rows ("<500" through "Unknown birthweight") are calculated based on births including those with unknown birthweight. Percentages for VLBW and LBW rows are calculated based on births with known birthweight only.														
1. Percentages are based on column totals. 2. Calculations based on values of 1-4 are excluded. 3. Very Low Birthweight (VLBW): less than 1,500 grams (3.3 lbs.). 4. Low Birthweight (LBW): less than 2,500 grams (5.5 lbs.).														



Table 9. Low Birthweight by Plurality and Maternal Age, Massachusetts: 2008-2018

Maternal Age Group (years)	Year	Singleton				Twin				Multiples				Total Multiples				Total Births			
		VLBW <sup>1</sup>		LBW <sup>2</sup>		VLBW <sup>1</sup>		LBW <sup>2</sup>		VLBW <sup>1</sup>		LBW <sup>2</sup>		VLBW <sup>1</sup>		LBW <sup>2</sup>		VLBW <sup>1</sup>		LBW <sup>2</sup>	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Ages	2008	627	0.9	4,039	5.5	324	9.7	1,803	53.8	55	42.6	113	87.6	379	10.9	1,916	55.1	1,006	1.3	5,955	7.8
	2009	677	1.0	3,886	5.5	276	8.2	1,771	52.7	61	38.9	147	93.6	337	9.6	1,918	54.5	1,014	1.4	5,804	7.8
	2010	643	0.9	3,882	5.6	288	8.9	1,668	51.8	30	28.8	100	96.2	318	9.6	1,768	53.2	961	1.3	5,650	7.8
	2011	629	0.9	3,824	5.6	286	9.2	1,541	49.8	41	41.0	93	93.0	327	10.2	1,634	51.2	956	1.3	5,458	7.6
	2012	585	0.8	3,810	5.5	252	8.2	1,592	51.6	41	45.6	89	98.9	300	7.5	1,731	43.5	878	1.2	5,491	7.6
	2013	596	0.9	3,727	5.5	318	10.1	1,686	53.5	23	25.8	82	92.1	351	8.6	1,825	45.0	937	1.3	5,495	7.7
	2014	605	0.9	3,690	5.4	270	9.1	1,624	54.5	19	22.9	80	96.4	297	7.6	1,763	45.2	894	1.2	5,394	7.5
	2015	627	0.9	3,849	5.6	219	8.2	1,419	53.4	19	34.5	53	96.4	241	6.8	1,528	43.2	865	1.2	5,321	7.5
	2016	596	0.9	3,904	5.7	208	8.1	1,351	52.7	38	42.2	86	95.6	258	6.8	1,514	39.7	842	1.2	5,341	7.5
	2017	575	0.8	3,878	5.7	183	7.3	1,342	53.4	16	34	41	87.2	206	5.9	1,443	41.2	774	1.1	5,261	7.5
	2018	583	0.9	3860	5.8	210	8.9	1318	56	36	53	65	96	258	7.5	1468	43	829	1.2	5243	7.6
Ages < 35	2008	492	0.9	3,134	5.5	218	10.4	1,181	56.2	34	43.6	70	89.7	252	11.6	1,251	57.4	744	1.3	4,385	7.4
	2009	525	0.9	3,093	5.6	174	7.9	1,187	54.2	36	45.0	76	95.0	210	9.2	1,263	55.6	735	1.3	4,356	7.5
	2010	489	0.9	3,071	5.7	206	10.2	1,059	52.5	22	40.0	51	92.7	228	11.0	1,110	53.5	717	1.3	4,181	7.4
	2011	475	0.9	2,964	5.5	189	9.5	1,034	52.0	31	52.5	54	91.5	220	10.8	1,088	53.2	695	1.2	4,052	7.2
	2012	437	0.8	2,964	5.5	185	9.5	1,066	54.6	34	59.6	57	100	226	8.4	1,168	43.5	656	1.2	4,087	7.3
	2013	433	0.8	2,852	5.4	225	11.2	1,101	54.6	17	32.7	48	92.3	250	9.1	1,202	43.7	675	1.2	4,001	7.3
	2014	460	0.9	2,828	5.3	186	9.8	1,076	57.0	14	28.0	48	96.0	207	7.9	1,173	44.7	660	1.2	3,952	7.2
	2015	476	0.9	2,922	5.6	142	8.6	902	54.5	16	36.4	43	97.7	160	6.7	990	41.8	634	1.2	3,867	7.1
	2016	443	0.9	2,952	5.7	145	9.1	865	54.1	22	46.8	47	100.0	178	6.9	977	37.8	610	1.1	3,864	7.2
	2017	446	0.9	2,920	5.7	122	7.4	924	56.1	3	16.7	14	77.8	132	5.4	992	40.9	571	1.1	3,858	7.3
	2018	396	0.8	2,798	5.7	157	10.3	859	56.6	20	57.1	35	100	188	8	967	40.9	573	1.1	3,692	7.3
Ages 35+	2008	135	0.8	905	5.6	106	8.5	622	49.8	21	41.2	43	84.3	127	9.8	665	51.2	262	1.5	1,570	8.9
	2009	152	1.0	792	5.1	102	8.7	584	49.9	25	32.5	71	92.2	127	10.2	655	52.5	279	1.7	1,447	8.7
	2010	154	1.0	810	5.4	82	6.8	609	50.8	8	16.3	49	100	90	7.2	658	52.8	244	1.5	1,468	9.0
	2011	154	1.0	860	5.8	97	8.8	507	45.9	10	24.4	39	95.1	107	9.3	546	47.6	261	1.6	1,406	8.8
	2012	148	1.0	846	5.6	67	5.9	526	46.5	7	21.2	32	97.0	74	5.7	563	43.5	222	1.4	1,404	8.6
	2013	163	1.1	875	5.7	93	8.2	585	51.6	6	16.2	34	91.9	101	7.7	623	47.6	262	1.6	1,494	9.1
	2014	145	0.9	862	5.5	84	7.7	548	50.2	5	15.2	32	97.0	90	7.1	590	46.3	234	1.4	1,442	8.6
	2015	151	0.9	927	5.8	77	7.7	517	51.7	3	27.3	10	90.9	81	7.0	538	46.3	231	1.4	1,454	8.5
	2016	153	0.9	952	5.7	63	6.5	486	50.3	16	37.2	39	90.7	80	6.5	537	43.8	232	1.3	1,477	8.4
	2017	129	0.8	958	5.7	61	7	418	48.3	13	44.8	27	93.1	74	6.9	451	41.8	203	1.1	1,403	7.9
	2018	187	1.1	1,061	6.1	53	6.3	457	54.5	16	48.5	30	90.9	70	6.4	499	45.7	256	1.4	1,548	8.5

**NOTE:** Very Low Birthweight (VLBW) births are a subset of Low Birthweight (LBW) births. All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated. 1. Very Low Birthweight (VLBW): less than 1,500 grams (3.3 lbs.). 2. Low Birthweight (LBW): less than 2,500 grams (5.5 lbs.).

Table 10. Births by Gestational Age, Race/Hispanic Ethnicity, Massachusetts: 2018

Gestational Age <sup>1</sup> (weeks completed)	Total		White Non-Hispanic		Black Non-Hispanic		Hispanic		Asian Non-Hispanic		Other Non-Hispanic <sup>3</sup>		Unknown
	n	% <sup>2</sup>	n	% <sup>2</sup>	n	% <sup>2</sup>	n	% <sup>2</sup>	n	% <sup>2</sup>	n	% <sup>2</sup>	n
<b>State Total</b>	<b>69,098</b>	<b>100.0</b>	<b>39,956</b>	<b>100.0</b>	<b>7,142</b>	<b>100.0</b>	<b>13,748</b>	<b>100.0</b>	<b>6,411</b>	<b>100.0</b>	<b>721</b>	<b>100.0</b>	<b>1,120</b>
<20	13	0.02	--4	--4	--4	--4	6	0.04	0	0.0	0	0.0	--4
20-23	96	0.14	37	0.1	26	0.4	21	0.2	--4	--4	--4	--4	6
24-27	257	0.34	94	0.2	72	1.0	64	0.5	16	0.2	--4	--4	8
28-31	552	0.73	287	0.7	84	1.2	124	0.9	35	0.5	7	1.0	15
32-33	760	1.00	388	1.0	109	1.5	193	1.4	37	0.6	11	1.5	22
34-36	4,489	5.64	2,522	6.3	497	7.0	939	6.8	410	6.4	47	6.5	74
37-38	16,162	21.50	8,730	21.9	1,811	25.4	3,492	25.4	1,713	26.7	167	23.2	249
39	23,679	19.44	13,626	34.1	2,292	32.1	4,811	35.0	2,318	36.2	282	39.1	350
40	15,994	13.99	9,710	24.3	1,544	21.6	2,974	21.6	1,391	21.7	143	19.8	232
41	6,763	4.67	4,372	10.9	678	9.5	1,100	8.0	477	7.4	56	7.8	80
42	219	0.16	152	0.4	26	0.4	22	0.2	9	0.1	--4	--4	7
43	5	0.00	--4	--4	--4	--4	--4	--4	0	0.0	0	0.0	0
44+	--4	--4	--4	--4	0	0.0	0	0.0	0	0.0	0	0.0	0
<b><u>Preterm<sup>5</sup> (&lt;37)</u></b>	<b>6,167</b>	<b>8.9</b>	<b>3,331</b>	<b>8.3</b>	<b>789</b>	<b>11.0</b>	<b>1,347</b>	<b>9.8</b>	<b>502</b>	<b>7.8</b>	<b>70</b>	<b>9.7</b>	<b>128</b>
Very Early <sup>6</sup> (<28)	366	0.5	134	0.3	99	1.4	91	0.7	20	0.3	5	0.7	17
(28-33)	1,312	1.9	675	1.7	193	2.7	317	2.3	72	1.1	18	2.5	37
Late (34-36)	4,489	6.5	2,522	6.3	497	7.0	939	6.8	410	6.4	47	6.5	74
<b><u>Term (≥37)</u></b>	<b>62,825</b>	<b>91.1</b>	<b>36,596</b>	<b>91.7</b>	<b>6,352</b>	<b>89.0</b>	<b>12,400</b>	<b>90.2</b>	<b>5,908</b>	<b>92.2</b>	<b>651</b>	<b>90.3</b>	<b>918</b>
Early Term (37-38)	16,162	23.4	8,730	21.9	1,811	25.4	3,492	25.4	1,713	26.7	167	23.2	249
(39-41)	46,436	67.2	27,708	69.4	4,514	63.2	8,885	64.6	4,186	65.3	481	66.7	662
(≥42)	227	0.3	158	0.4	27	0.4	23	0.2	9	0.1	--4	--4	7
Unknown <sup>7</sup>	106		29		--4	--4	--4	--4	--4	--4	0	0.0	74

**NOTE:** Percentages are calculated based on births with known gestational age only.

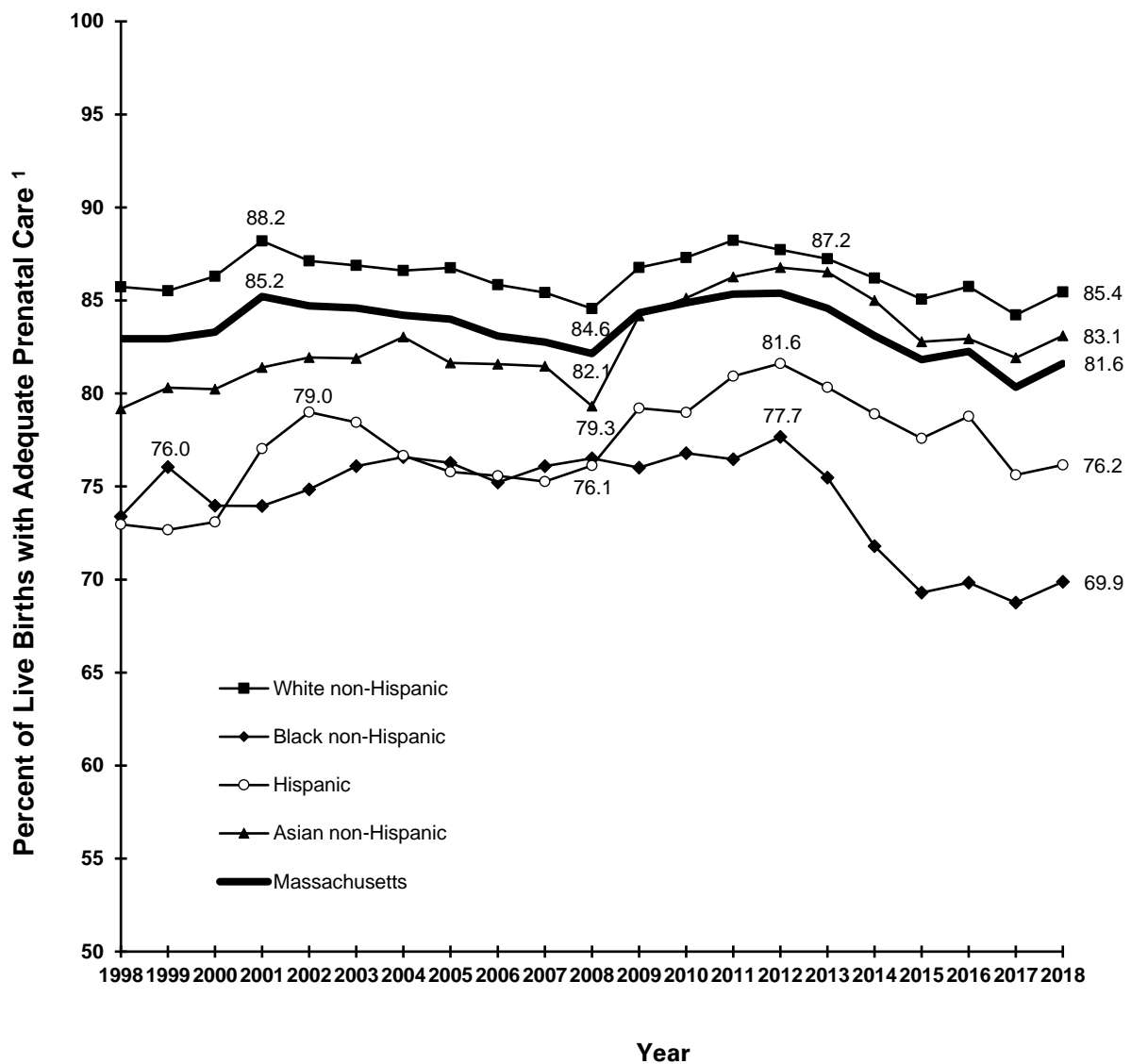
1. A clinical estimate of the number of weeks of pregnancy completed; as estimated by the attendant at birth or the postnatal physician. 2. Percentages are based on column total. 3. Other races include American Indian and others not specified. 4. Calculations based on values of 1-4 are excluded. 5. Also known as early gestational age, premature delivery, or preterm delivery. 6. Also known as extremely premature delivery or extremely preterm delivery. 7. Estimate of gestational age not provided and excluded from percentage calculations.

**Table 11. Percent Preterm and Term Births by Gestational Age Category, Massachusetts: 2002-2018**

	Preterm <sup>1</sup>			Term <sup>2</sup>	
Year	Very Early Preterm (<28 wks)	Moderate Preterm (28-33 wks)	Late Preterm (34-36 wks)	Early Term (37-38 wks)	Full Term (37+ wks)
2002	0.6	1.9	5.9	20.0	91.5
2003	0.7	2.1	6.0	20.8	91.3
2004	0.6	2.2	6.4	22.3	90.8
2005	0.6	2.1	6.3	22.3	91.0
2006	0.6	2.0	6.3	22.7	91.0
2007	0.6	2.0	6.4	22.6	91.0
2008	0.6	2.0	6.2	22.6	91.2
2009	0.7	1.9	6.2	20.8	91.3
2010	0.6	2.0	6.0	21.1	91.4
2011	0.6	1.9	5.9	21.8	91.6
2012	0.6	1.7	6.2	21.5	91.4
2013	0.6	1.9	6.3	21.0	91.2
2014	0.6	1.9	6.1	21.7	91.4
2015	0.6	1.8	6.0	22.5	91.6
2016	0.6	1.8	6.3	22.8	91.3
2017	0.5	1.8	6.6	23.2	91.1
2018	0.5	1.9	6.5	23.4	91.0

1. Also known as early gestational age, premature delivery, or preterm delivery. Preterm: <37 weeks gestation. 2. Full term and early term are not mutually exclusive.

**Figure 3. Trends in Adequacy of Prenatal Care<sup>2,3</sup> by Race/Hispanic Ethnicity, Massachusetts: 1998-2018**



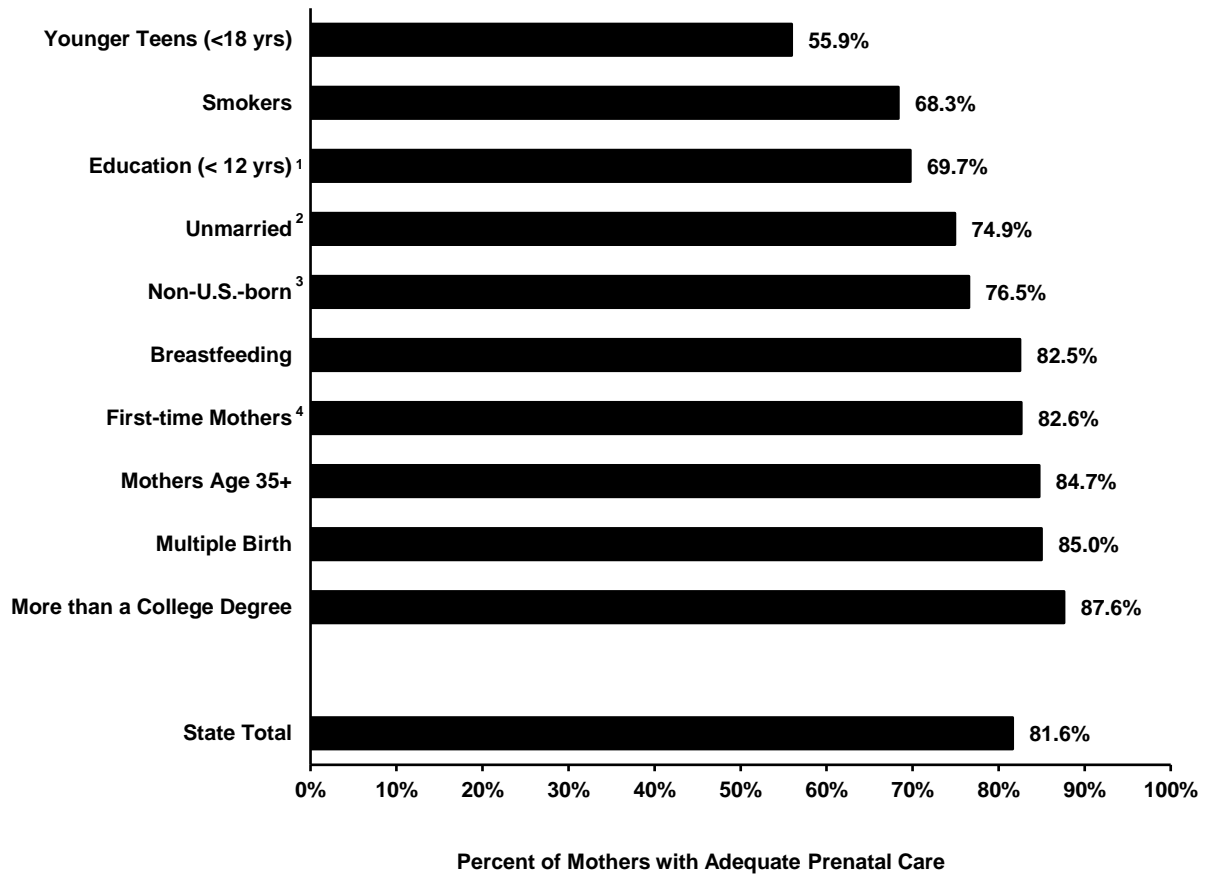
**NOTE:** FOR PURPOSES OF VISUAL REPRESENTATION THE VERTICAL SCALE OF GRAPH REPRESENTS A SMALL INTERVAL (from 50% to 100%).

1. All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated.

2. Adequacy of Prenatal Care Utilization (APNCU) Index is an assessment of the timing and number of prenatal care visits and not an evaluation of the quality of care delivered. Data from Metro West hospital are not included in years 2011 and 2012 because of reporting problems. Data from Newton Wellesley, Saint Vincent, and Winchester hospitals are not included in years 2011-2017 because of reporting problems.

3. Please use caution in interpreting this figure. The birth facility is responsible for collecting prenatal care data reported on the birth certificate. If prenatal care was obtained at a different location, the birth facility may be unable to obtain complete prenatal care data. Missing prenatal care data will impact the APNCU Index.

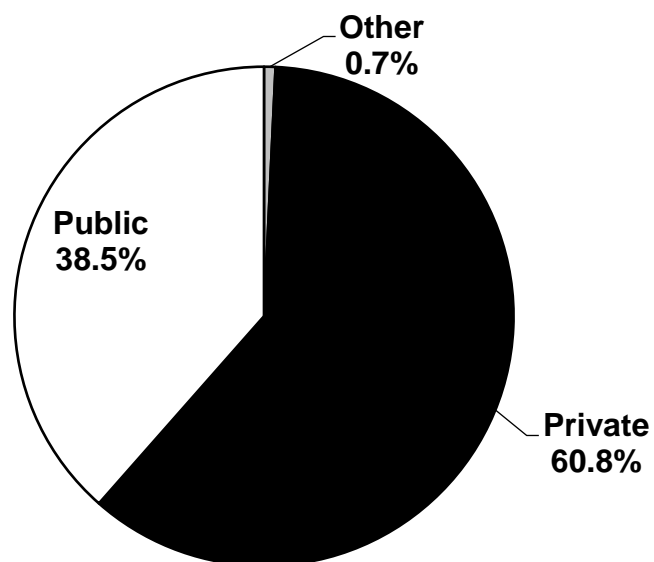
**Figure 4. Adequacy of Prenatal Care by Selected Maternal Characteristics, Massachusetts: 2018**



**NOTE:** All percentages are calculated based on the Adequacy of Prenatal Care Utilization (APNCU) Index. Characteristics of interest are not mutually exclusive, except as noted.

1. Women 20 years of age and older. 2. Marital status at time of birth. 3. Non-US-born includes women born outside of the 50 U.S. states, District of Columbia, and U.S. territories (Puerto Rico, U.S. Virgin Islands, Guam). 4. Infant was being breastfed during the hospital stay.

**Figure 5. Distribution of Prenatal Care Payment Source, Massachusetts: 2018**



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**NOTE:** Sources of Prenatal Care Payment include private: Commercial indemnity plan, commercial managed care (HMO, PPO, IPP, IPA, and other), or other private insurance; public: Government programs including CommonHealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care), or free care; and other: self-pay.

**Table 12. Resident Birth Characteristics, 30 Largest Municipalities, Massachusetts: 2018**

Mother's Race and Ethnicity <sup>4</sup>									
Municipality <sup>1</sup>	Rank <sup>3</sup>	Population	Crude <sup>2</sup>	White	Black	Hispanic	Asian <sup>5</sup>	Very Low Birthweight	Low Birthweight
			Birth rate	Non-Hispanic	Non-Hispanic		or Other	(<1500 gms.)	(<2500 gms.)
					%	%	%	%	%
<b>STATE TOTAL</b>		<b>6,947,185</b>	<b>9.9</b>	<b>57.8</b>	<b>10.3</b>	<b>19.9</b>	<b>10.3</b>	<b>1.2</b>	<b>7.6</b>
Arlington	29	45,680	11.2	62.4	3.3	3.7	28.2	1.2	8.8
Attleboro	28	46,245	10.5	75.8	7.6	9.7	6.8	0.6	6.6
Boston	1	691,548	10.8	40.7	22.8	24.7	9.6	1.4	8.6
Brockton	9	98,454	14.7	17.0	63.3	14.6	4.4	1.9	9.8
Brookline	18	64,077	8.9	59.5	3.2	7.7	27.7	0.5	6.3
Cambridge	5	112,028	10.0	50.8	11.6	8.9	26.0	0.7	6.5
Chicopee	23	56,825	9.3	55.6	7.8	32.3	3.6	1.1	7.6
Everett	27	48,215	12.5	24.6	17.6	45.7	10.8	2.2	8.5
Fall River	11	89,458	12.2	61.0	9.8	22.7	6.2	2.7	8.8
Framingham	14	74,148	12.2	47.2	7.8	30.0	13.0	1.0	8.9
Haverhill	17	65,703	11.6	56.1	4.2	34.9	3.6	1.5	8.3
Lawrence	12	87,151	16.6	6.8	2.2	89.1	1.7	1.5	8.5
Lowell	4	115,969	13.0	28.8	12.4	28.3	30.0	0.8	9.0
Lynn	7	100,315	14.4	22.2	10.6	54.9	7.5	1.6	9.3
Malden	15	67,268	13.0	31.1	18.3	16.2	31.5	0.8	6.8
Medford	21	60,570	11.2	63.5	9.3	9.1	16.1	0.7	5.0
Methuen	26	53,379	10.1	45.9	5.2	42.6	5.9	2.2	7.4
New Bedford	8	99,570	12.8	44.7	14.0	34.2	6.4	1.4	10.1
Newton	10	91,408	7.3	65.5	3.8	5.3	23.7	1.2	7.1
Peabody	25	55,688	9.9	64.5	5.3	18.4	4.0	1.1	10.4
Plymouth	19	62,040	7.5	87.7	3.7	6.0	2.4	0.6	6.1
Quincy	6	100,562	10.8	46.1	8.0	6.1	37.7	0.8	5.8
Revere	20	60,597	12.7	33.9	8.0	45.8	9.7	1.3	8.5
Salem	30	44,879	9.4	55.8	7.1	28.1	4.0	0.9	9.5
Somerville	13	76,133	10.6	62.2	6.3	16.8	13.5	0.9	6.6
Springfield	3	157,276	13.5	17.5	19.4	58.7	4.0	2.1	8.6
Taunton	22	57,381	10.6	64.3	18.7	13.6	2.6	1.3	9.5
Waltham	16	66,267	11.6	47.9	8.2	25.0	17.8	2.1	9.5
Weymouth	24	55,949	11.4	69.9	7.8	5.8	15.2	0.6	6.6
Worcester	2	191,093	12.1	40.0	21.1	29.9	8.4	1.4	8.7

**Table 12 (cont'd). Resident Birth Characteristics, 30 Largest Municipalities, Massachusetts: 2018**

Births						
Municipality <sup>1</sup>	Gestational Diabetes	Adequate Prenatal Care <sup>7</sup>	Public Payment for Prenatal Care <sup>8</sup>	Unmarried	Teen Mothers 15 to 19 years <sup>9</sup>	
	%	%	%	%	N	Rate
<b>STATE TOTAL</b>	<b>7.0</b>	<b>81.6</b>	<b>38.5</b>	<b>32.6</b>	<b>1,639</b>	<b>8.1</b>
Arlington	5.1	87.7	7.7	4.5	--6	--6
Attleboro	8.0	79.4	18.8	33.1	13	10.4
Boston	4.9	81.1	42.6	35.7	162	6.5
Brockton	7.7	70.8	72.9	54.2	57	18.2
Brookline	5.6	89.4	10.2	7.4	--6	--6
Cambridge	5.7	84.0	17.4	12.8	5	1.4
Chicopee	11.7	78.3	64.3	58.8	22	13.2
Everett	5.5	80.1	69.8	39.6	14	9.5
Fall River	8.4	80.1	71.1	63.1	63	25.3
Framingham	9.4	70.8	47.6	26.5	17	6.8
Haverhill	5.4	79.1	49.3	50.3	26	14.8
Lawrence	7.1	74.0	82.0	62.5	106	32.4
Lowell	8.8	76.0	64.0	53.4	63	16.1
Lynn	5.6	76.9	65.2	45.6	62	19.5
Malden	6.2	80.5	41.4	23.5	11	6.7
Medford	5.4	83.7	21.1	16.9	5	3.0
Methuen	7.1	78.0	49.5	39.4	17	9.6
New Bedford	9.5	77.1	73.0	65.8	88	29.1
Newton	4.5	86.9	10.3	8.7	--6	--6
Peabody	3.6	84.0	28.2	32.2	9	6.8
Plymouth	5.4	89.6	22.7	28.7	5	2.9
Quincy	7.4	85.7	30.0	22.4	--6	--6
Revere	3.0	79.1	63.1	35.5	12	7.1
Salem	3.5	81.3	38.7	35.5	9	5.7
Somerville	5.3	86.0	24.0	21.5	5	3.3
Springfield	9.0	76.9	80.5	71.2	174	28.0
Taunton	8.0	73.8	48.8	49.4	17	10.4
Waltham	4.8	82.9	33.8	25.5	18	7.5
Weymouth	9.4	88.2	21.0	25.4	--6	--6
Worcester	7.5	74.9	60.1	48.2	94	12.6

1. The 30 largest municipalities are the cities/ towns in Massachusetts with the largest populations. 2. Crude birth rates represent the number of births per 1,000 residents (male and female). 3. Rank is by population size. 4. For the category of Mother's Race/Ethnicity, percentages are calculated based on the state total of resident births, including births for which mother's race/Hispanic ethnicity is unknown. 5. Mothers who designated themselves as Non-Hispanic Asian, American Indian, or Other. 6. Counts and calculations based on 1-4 events are excluded. 7. Based on the Adequacy of Prenatal Care Utilization (APNCU) Index. 8. Public payment sources include CommonHealth, Healthy Start, Medicaid/MassHealth, and Medicare (may be HMO or managed care), or free care. 9. Births per 1,000 female residents ages 15-19; rates for cities and towns were calculated using UMass Donahue Institute (UMDI) estimates for 2018.



**Table 13. Birth Characteristics by Facility/Location, Massachusetts: 2018**

Hospital <sup>(1)</sup>	Location	(2) Occurrence Births (n)	(3) Low Birthweight (%)	(4) Public Pay for PNC (%)	(5) Adequate Prenatal Care (%)	(6) Early Term (%)	(7) Late Preterm (%)
<b>State Total</b>		<b>69,804</b>	<b>7.5</b>	<b>38.2</b>	<b>81.6</b>	<b>23.4</b>	<b>6.5</b>
Anna Jaques Hospital	Newburyport	704	4.0	20.2	86.5	25.4	5.0
Baystate Franklin Medical Center	Greenfield	404	3.0	41.3	84.4	22.3	3.2
Baystate Medical Center	Springfield	3,964	11.2	58.8	79.9	25.8	8.3
Berkshire Medical Center	Pittsfield	728	6.5	46.9	80.9	19.8	4.7
Beth Israel Deaconess Hospital - Plymouth	Plymouth	827	3.5	26.3	86.4	19.5	4.5
Beth Israel Deaconess Medical Center	Boston	5,350	10.8	22.5	92.9	26.1	7.9
Beverly Hospital	Beverly	2,129	5.7	26.9	83.1	21.1	6.1
Boston Medical Center	Boston	2,820	9.8	83.6	59.0	24.7	7.3
Brigham And Women's Hospital	Boston	6,286	10.1	26.6	87.1	27.2	8.7
Brockton Hospital	Brockton	894	5.6	63.7	86.2	25.4	5.1
Cambridge Birth Center	Cambridge	80	0.0	31.3	81.3	20.0	0.0
Cambridge Hospital	Cambridge	1,068	4.5	68.9	79.8	23.6	3.6
Cape Cod Hospital	Barnstable	793	-- <sup>8</sup>	57.1	71.3	21.4	-- <sup>8</sup>
Charlton Memorial Hospital	Fall River	1,409	6.5	60.3	85.0	17.4	5.9
Cooley Dickinson Hospital	Northampton	513	2.5	43.1	92.8	15.6	2.3
Emerson Hospital	Concord	1,251	4.4	10.0	85.6	20.4	4.6
Fairview Hospital	Great Barrington	138	2.9	43.8	88.3	18.1	3.6
Falmouth Hospital	Falmouth	310	3.2	43.4	75.5	23.2	3.5
Good Samaritan Medical Center	Brockton	1,215	-- <sup>8</sup>	72.4	58.6	22.3	4.8
HealthAlliance Hospital	Leominster	634	4.3	59.4	85.2	20.5	3.2
Heywood Hospital	Gardner	424	3.3	69.8	81.3	21.9	1.4
Holyoke Medical Center	Holyoke	414	4.6	54.4	69.8	27.5	3.1
Lawrence General Hospital	Lawrence	1,420	6.1	74.2	76.9	21.2	5.7
Lowell General Hospital	Lowell	2,186	6.9	53.2	79.3	26.1	6.9
Martha's Vineyard Hospital	Oak Bluffs	136	0.7	60.3	93.8	11.0	1.5
Massachusetts General Hospital	Boston	3,780	9.4	24.2	83.3	22.0	7.9
Melrose-Wakefield Hospital	Melrose	834	-- <sup>8</sup>	28.6	88.5	24.0	-- <sup>8</sup>
Mercy Medical Center	Springfield	1,185	3.1	68.1	84.0	20.3	2.8
Metro West Medical Center-Framingham Union Hospital	Framingham	1,086	6.7	58.0	63.2	26.9	8.1
Milford Regional Medical Center	Milford	842	3.6	36.9	94.4	22.6	4.5
Mt. Auburn Hospital	Cambridge	2,645	3.7	17.3	85.9	18.1	4.7
Nantucket Cottage Hospital	Nantucket	137	2.9	51.5	88.8	16.8	2.9
Newton-Wellesley Hospital	Newton	3,730	4.8	3.0	83.7	22.8	5.4
North Shore Birth Center	Beverly	51	-- <sup>8</sup>	33.3	90.2	29.4	-- <sup>8</sup>
North Shore Medical Center - Salem Hospital	Salem	1,165	5.9	57.1	82.1	25.1	4.5
Norwood Hospital	Norwood	463	-- <sup>8</sup>	26.7	78.1	23.8	-- <sup>8</sup>
Saint Vincent Hospital	Worcester	1,881	4.4	34.7	86.7	23.6	5.9
South Shore Hospital	Weymouth	3,055	6.6	16.4	89.1	22.2	6.7
St. Elizabeth's Medical Center	Boston	915	15.1	41.3	77.1	23.7	10.1
St. Luke's Hospital	New Bedford	1,507	8.2	66.1	79.1	24.8	6.8
Steward Holy Family Hospital	Methuen	1,100	4.3	50.6	76.4	17.5	3.6
Sturdy Memorial Hospital	Attleboro	626	4.8	12.2	77.0	18.5	2.7
Tobey Hospital	Wareham	372	2.7	53.2	88.2	17.2	2.4

**Table 13 (cont'd). Birth Characteristics by Facility/Location, Massachusetts: 2018**

Hospital <sup>(1)</sup>	Location	(2) Occurrence Births (n)	(3) Low Birthweight (%)	(4) Public Pay for PNC (%)	(5) Adequate Prenatal Care (%)	(6) Early Term (%)	(7) Late Preterm (%)
Tufts Medical Center	Boston	1,267	21.8	43.3	82.6	25.8	11.6
UMass Memorial Medical Center	Worcester	4,296	10.5	42.0	74.0	26.0	8.1
Winchester Hospital	Winchester	2,321	5.9	10.6	76.3	23.1	6.0
Other Hospitals		9	12.5	75.0	25.0	33.3	0.0
Home, Enroute & Dr. Off.		440	7.0	25.6	62.2	20.2	5.2

**NOTE:** All percentages are calculated based on only those occurrence births with known values for the characteristic(s) of interest.

1. A licensed maternity facility is a medical unit licensed by the Commonwealth for the care of women during pregnancy and childbirth.  
2. Occurrence births are births that occurred at the facility, regardless of where the mother was a resident. 3. Less than 2,500 grams (5.5 lbs.)  
4. Public payment for prenatal care (PNC) includes Medicaid/MassHealth, CommonHealth, Medicare, Healthy Start, other government programs, and free care. 5. Based on the APNCU Index. 6. Birth at 37 or 38 weeks of gestation. 7. Birth at 34 to 36 weeks of gestation. 8. Calculations based on 1-4 events are excluded.

Table 14. Resident Teen Birth Characteristics, 30 Largest Municipalities, Massachusetts: 2018

Municipality <sup>1</sup>	Total Population Rank	Female Population, ages 15-19	Number of Teen Births (Ages 15-19)	Teen Birth Rate <sup>2</sup>	Mother's Race/Hispanic Ethnicity (% of teen births)			
					White Non-Hispanic	Black Non-Hispanic	Hispanic	Asian or Other Non-Hispanic <sup>3</sup>
<b>State Total</b>		<b>231,245</b>	<b>1,639</b>	<b>7.1</b>	<b>28.2</b>	<b>11.7</b>	<b>56.9</b>	<b>3.1</b>
Arlington	29	1,203	--4	--4	--4	0.0	0.0	0.0
Attleboro	28	1,248	13	10.4	84.6	--4	0.0	0.0
Boston	1	25,003	162	6.5	5.0	37.3	57.1	--4
Brockton	9	3,138	57	18.2	14.0	59.6	19.3	--4
Brookline	18	1,770	--4	--4	--4	0.0	0.0	0.0
Cambridge	5	3,496	5	1.4	0.0	--4	--4	0.0
Chicopee	23	1,664	22	13.2	27.3	--4	59.1	--4
Everett	27	1,476	14	9.5	--4	--4	57.1	--4
Fall River	11	2,493	63	25.3	31.7	9.5	57.1	--4
Framingham	14	2,512	17	6.8	0.0	--4	88.2	--4
Haverhill	17	1,760	26	14.8	50.0	0.0	46.2	--4
Lawrence	12	3,275	106	32.4	--4	--4	95.2	0.0
Lowell	4	3,922	63	16.1	14.3	0.0	65.1	20.6
Lynn	7	3,181	62	19.5	--4	--4	86.7	0.0
Malden	15	1,641	11	6.7	45.5	--4	45.5	0.0
Medford	21	1,649	5	3.0	--4	--4	--4	0.0
Methuen	26	1,763	17	9.6	--4	0.0	82.4	0.0
New Bedford	8	3,022	88	29.1	20.5	11.4	63.6	--4
Newton	10	4,887	--4	--4	--4	0.0	0.0	0.0
Peabody	25	1,317	9	6.8	--4	0.0	--4	0.0
Plymouth	19	1,736	5	2.9	--4	--4	0.0	0.0
Quincy	6	1,989	--4	--4	--4	0.0	--4	--4
Revere	20	1,697	12	7.1	--4	0.0	75.0	0.0
Salem	30	1,573	9	5.7	0.0	--4	88.9	0.0
Somerville	13	1,528	5	3.3	--4	0.0	--4	0.0
Springfield	3	6,223	174	28.0	4.0	10.4	85.0	--4
Taunton	22	1,639	17	10.4	52.9	--4	29.4	0.0
Waltham	16	2,401	18	7.5	--4	0.0	72.2	--4
Weymouth	24	1,459	--4	--4	--4	0.0	0.0	0.0
Worcester	2	7,452	94	12.6	25.5	10.6	61.7	--4

Table 14 (cont'd). Resident Teen Birth Characteristics, 30 Largest Municipalities, Massachusetts: 2018

Municipality <sup>1</sup>	Public Payment for Prenatal Care <sup>5</sup> (%)	Unmarried (%)	Low Birthweight <sup>6</sup> (%)	Preterm <sup>7</sup> (%)	Adequacy of Prenatal Care <sup>8</sup> (% of teen births)			
					Adequate Intensive	Adequate Basic	Intermediate	Inadequate <sup>9</sup>
<b>State Total</b>	<b>82.7</b>	<b>93.1</b>	<b>9.6</b>	<b>8.9</b>	<b>31.4</b>	<b>34.4</b>	<b>9.3</b>	<b>24.9</b>
Arlington	--4	--4	0.0	0.0	0.0	0.0	0.0	--4
Attleboro	--4	92.3	0.0	0.0	46.2	--4	--4	--4
Boston	87.4	92.6	9.3	8.7	21.3	31.9	14.4	32.5
Brockton	86.0	96.5	17.5	10.5	27.8	31.5	--4	37.0
Brookline	--4	--4	0.0	0.0	--4	0.0	0.0	0.0
Cambridge	100.0	100.0	0.0	0.0	--4	--4	0.0	--4
Chicopee	95.5	95.5	--4	--4	22.7	50.0	--4	22.7
Everett	71.4	85.7	--4	--4	35.7	42.9	0.0	--4
Fall River	88.9	98.4	15.9	11.1	51.6	25.8	--4	17.7
Framingham	87.5	82.4	--4	--4	--4	35.3	--4	29.4
Haverhill	80.8	96.2	--4	--4	--4	36.0	28.0	20.0
Lawrence	89.6	96.2	9.4	7.5	17.3	37.5	15.4	29.8
Lowell	87.3	93.7	11.1	14.3	29.0	21.0	14.5	35.5
Lynn	86.7	88.7	9.7	9.7	28.8	39.0	--4	27.1
Malden	63.6	81.8	--4	0.0	--4	45.5	0.0	--4
Medford	100.0	100.0	0.0	0.0	--4	--4	0.0	--4
Methuen	82.4	100.0	0.0	--4	--4	35.3	--4	29.4
New Bedford	80.5	90.7	5.7	--4	43.0	32.6	--4	20.9
Newton	--4	--4	0.0	0.0	--4	--4	0.0	0.0
Peabody	87.5	100.0	--4	--4	--4	--4	0.0	--4
Plymouth	--4	--4	0.0	0.0	--4	--4	0.0	0.0
Quincy	--4	--4	0.0	0.0	--4	0.0	--4	--4
Revere	100.0	91.7	0.0	0.0	--4	50.0	--4	--4
Salem	100.0	100.0	--4	--4	--4	--4	0.0	--4
Somerville	--4	--4	0.0	0.0	--4	0.0	--4	--4
Springfield	96.5	94.2	8.6	10.3	28.4	44.4	9.5	17.8
Taunton	58.8	94.1	--4	0.0	--4	33.3	0.0	40.0
Waltham	72.2	88.9	0.0	0.0	--4	50.0	--4	--4
Weymouth	--4	--4	--4	--4	--4	--4	0.0	0.0
Worcester	87.0	94.7	11.7	8.5	31.9	28.7	12.8	26.6

**NOTE:** All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated.

1. The 30 largest municipalities are the cities and towns in Massachusetts with the largest populations according to the 2010 Census. 2. Birth rates represent the number of births per 1,000 females ages 15-19. Birth rates for cities and towns were calculated using UMASS Donahue Institute (UMDI) population estimates for 2018. 3. Mothers who designated themselves as Non-Hispanic Asian, American Indian, or Other. 4. Counts and calculations based on values of 1-4 are excluded. 5. Government programs including CommonHealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care), or free care; other: Worker's Compensation and other sources. 6. Less than 2,500 grams or 5.5 pounds. 7. Less than 37 weeks of gestational age. 8. Based on Adequacy of Prenatal Care Utilization (APNCU) Index. 9. Inadequate includes those mothers with no prenatal care.

**Table 15. Adequacy of Prenatal Care Utilization: Summary and Component Indices, Massachusetts: 2018**

	Adequate Total <sup>1</sup>		Adequate Intensive		Adequate Basic		Intermediate		Inadequate		Unknown
	n	%	n	%	n	%	n	%	n	%	n
<b><u>Summary Index</u></b>											
Adequacy of Prenatal Care Utilization	54,290	81.6	26,630	40.0	27,660	41.6	4,276	6.4	7,937	11.9	1,333
<b><u>Component Indices</u></b>											
Adequacy of Initiation	59,085	88.8	20,505	30.8	38,580	58.0	4,031	6.1	3,387	5.1	1,333
Adequacy of Received Services (Visits)	60,687	91.3	31,693	47.7	28,994	43.6	4,840	7.3	976	1.5	1,333

**NOTE:** All percentages are calculated based on the Adequacy of Prenatal Care Utilization (APNCU) Index.

1. Adequate Total is the sum of Adequate Intensive and Adequate Basic categories.

**Table 16. Birth Characteristics by Race/Hispanic Ethnicity and Source of Prenatal Care Payment, Massachusetts: 2018**

Race/Ethnicity and Payment Source	Births <sup>1</sup>		Teen Births <sup>2</sup>				Birthweight			
			<18 Years		<20 Years		Very Low <sup>3</sup>		Low <sup>4</sup>	
	n	%	n	%	n	%	n	%	n	%
<b>STATE TOTAL<sup>5</sup></b>	<b>69,098</b>	<b>100.0</b>	<b>388</b>	<b>0.6</b>	<b>1,661</b>	<b>2.4</b>	<b>829</b>	<b>1.2</b>	<b>5,243</b>	<b>7.6</b>
<b>Public</b>	26,313	38.3	321	1.2	1,353	5.1	384	1.5	2,340	8.9
Medicaid <sup>6</sup>	23,378	34.0	298	1.3	1,252	5.4	339	1.5	2,085	8.9
Other Public <sup>7</sup>	2,935	4.3	23	0.8	101	3.4	45	1.5	255	8.7
<b>Private<sup>8</sup></b>	41,538	60.5	52	0.1	269	0.6	401	1.0	2,747	6.6
<b>White Non-Hispanic</b>	<b>39,956</b>	<b>100.0</b>	<b>73</b>	<b>0.2</b>	<b>463</b>	<b>1.2</b>	<b>362</b>	<b>0.9</b>	<b>2,599</b>	<b>6.5</b>
<b>Public</b>	9,275	23.4	48	0.5	300	3.2	96	1.0	732	7.9
Medicaid <sup>6</sup>	7,824	19.7	44	0.6	276	3.5	77	1.0	613	7.8
Other Public <sup>7</sup>	1,451	3.7	-- <sup>9</sup>	-- <sup>9</sup>	24	1.7	19	1.3	119	8.2
<b>Private<sup>8</sup></b>	30,077	75.7	23	0.1	156	0.5	250	0.8	1,806	6.0
<b>Black Non-Hispanic</b>	<b>7,142</b>	<b>100.0</b>	<b>47</b>	<b>0.7</b>	<b>192</b>	<b>2.7</b>	<b>169</b>	<b>2.4</b>	<b>767</b>	<b>10.7</b>
<b>Public</b>	4,546	63.9	38	0.8	156	3.4	110	2.4	483	10.6
Medicaid <sup>6</sup>	4,087	57.5	36	0.9	144	3.5	98	2.4	439	10.7
Other Public <sup>7</sup>	459	6.5	-- <sup>9</sup>	-- <sup>9</sup>	12	2.6	12	2.6	44	9.6
<b>Private<sup>8</sup></b>	2,374	33.4	6	0.3	31	1.3	49	2.1	244	10.3
<b>Hispanic</b>	<b>13,748</b>	<b>100.0</b>	<b>253</b>	<b>1.8</b>	<b>941</b>	<b>6.8</b>	<b>214</b>	<b>1.6</b>	<b>1,181</b>	<b>8.6</b>
<b>Public</b>	10,093	73.6	222	2.2	842	8.3	153	1.5	889	8.8
Medicaid <sup>6</sup>	9,325	68.0	205	2.2	781	8.4	140	1.5	816	8.8
Other Public <sup>7</sup>	768	5.6	17	2.2	61	7.9	13	1.7	73	9.5
<b>Private<sup>8</sup></b>	3,458	25.2	21	0.6	73	2.1	52	1.5	263	7.6
<b>Asian Non-Hispanic</b>	<b>6,411</b>	<b>100.0</b>	<b>9</b>	<b>0.1</b>	<b>29</b>	<b>0.5</b>	<b>45</b>	<b>0.7</b>	<b>504</b>	<b>7.9</b>
<b>Public</b>	1,592	24.9	7	0.4	21	1.3	11	0.7	132	8.3
Medicaid <sup>6</sup>	1,435	22.4	7	0.5	20	1.4	11	0.8	125	8.7
Other Public <sup>7</sup>	157	2.5	0	0.0	-- <sup>9</sup>	-- <sup>9</sup>	0	0.0	7	4.5
<b>Private<sup>8</sup></b>	4,735	73.9	-- <sup>9</sup>	-- <sup>9</sup>	8	0.2	33	0.7	361	7.6
<b>Other Non-Hispanic<sup>9</sup></b>	<b>721</b>	<b>100.0</b>	<b>--<sup>9</sup></b>	<b>--<sup>9</sup></b>	<b>22</b>	<b>3.1</b>	<b>9</b>	<b>1.2</b>	<b>67</b>	<b>9.3</b>
<b>Public</b>	425	60.0	-- <sup>9</sup>	-- <sup>9</sup>	21	4.9	-- <sup>9</sup>	-- <sup>9</sup>	41	9.6
Medicaid <sup>6</sup>	364	51.4	-- <sup>9</sup>	-- <sup>9</sup>	18	4.9	-- <sup>9</sup>	-- <sup>9</sup>	34	9.3
Other Public <sup>7</sup>	61	8.6	0	0.0	-- <sup>9</sup>	-- <sup>9</sup>	0	0.0	7	11.5
<b>Private<sup>8</sup></b>	273	38.6	0	0.0	-- <sup>9</sup>	-- <sup>9</sup>	-- <sup>9</sup>	-- <sup>9</sup>	23	8.4

**Table 16 (cont'd). Birth Characteristics by Race/Hispanic Ethnicity and Source of Prenatal Care Payment, Massachusetts: 2018**

Race/Ethnicity and Payment Source	Prenatal Care									
	Adequate <sup>11</sup>		Began 1st Trimester		Cesarean Delivery		Breastfeeding <sup>12</sup>		Smoking <sup>13</sup>	
	n	%	n	%	n	%	n	%	n	%
<b>STATE TOTAL<sup>5</sup></b>	<b>55,160</b>	<b>81.6</b>	<b>54,297</b>	<b>79.7</b>	<b>21,710</b>	<b>31.5</b>	<b>59,173</b>	<b>85.9</b>	<b>2,937</b>	<b>4.4</b>
<b>Public</b>	19,063	74.0	18,170	70.0	8,335	31.7	21,310	81.2	2,135	8.4
Medicaid <sup>6</sup>	16,888	73.8	16,056	69.6	7,365	31.5	18,970	81.4	1,899	8.4
Other Public <sup>7</sup>	2,175	75.6	2,114	72.8	970	33.0	2,340	79.9	236	8.2
<b>Private<sup>8</sup></b>	35,634	87.3	35,653	86.7	13,056	31.4	37,197	89.7	699	1.7
<b>White Non-Hispanic</b>	<b>33,432</b>	<b>85.4</b>	<b>33,303</b>	<b>84.4</b>	<b>12,408</b>	<b>31.1</b>	<b>34,008</b>	<b>85.3</b>	<b>2,206</b>	<b>5.6</b>
<b>Public</b>	7,029	77.6	6,728	73.6	2,907	31.3	6,997	75.6	1,554	17.2
Medicaid <sup>6</sup>	5,900	77.3	5,618	72.9	2,465	31.5	5,878	75.3	1,367	17.9
Other Public <sup>7</sup>	1,129	79.3	1,110	77.3	442	30.5	1,119	77.4	187	13.1
<b>Private<sup>8</sup></b>	26,110	88.4	26,279	88.2	9,355	31.1	26,726	89.0	578	2.0
<b>Black Non-Hispanic</b>	<b>4,861</b>	<b>69.9</b>	<b>4,673</b>	<b>66.6</b>	<b>2,607</b>	<b>36.5</b>	<b>6,263</b>	<b>88.2</b>	<b>217</b>	<b>3.1</b>
<b>Public</b>	2,913	65.7	2,768	61.9	1,635	36.0	3,920	86.7	169	3.8
Medicaid <sup>6</sup>	2,633	66.1	2,473	61.5	1,458	35.7	3,539	87.1	153	3.8
Other Public <sup>7</sup>	280	62.1	295	65.1	177	38.6	381	83.6	16	3.5
<b>Private<sup>8</sup></b>	1,903	81.5	1,859	78.9	901	38.0	2,179	92.2	36	1.6
<b>Hispanic</b>	<b>10,277</b>	<b>76.2</b>	<b>9,862</b>	<b>72.6</b>	<b>4,269</b>	<b>31.1</b>	<b>11,633</b>	<b>84.9</b>	<b>409</b>	<b>3.1</b>
<b>Public</b>	7,351	74.0	7,001	70.0	3,093	30.7	8,410	83.6	342	3.5
Medicaid <sup>6</sup>	6,783	73.9	6,477	70.1	2,813	30.2	7,795	83.9	314	3.5
Other Public <sup>7</sup>	568	75.4	524	68.9	280	36.5	615	80.1	28	3.7
<b>Private<sup>8</sup></b>	2,860	84.4	2,788	81.6	1,118	32.3	3,096	89.8	56	1.7
<b>Asian Non-Hispanic</b>	<b>5,252</b>	<b>83.1</b>	<b>5,191</b>	<b>81.6</b>	<b>1,868</b>	<b>29.2</b>	<b>5,830</b>	<b>91.0</b>	<b>51</b>	<b>0.8</b>
<b>Public</b>	1,218	77.9	1,155	73.2	437	27.4	1,327	83.4	30	1.9
Medicaid <sup>6</sup>	1,100	78.1	1,041	73.3	394	27.5	1,185	82.6	29	2.1
Other Public <sup>7</sup>	118	76.1	114	72.6	43	27.4	142	90.4	-- <sup>9</sup>	-- <sup>9</sup>
<b>Private<sup>8</sup></b>	4,005	85.6	4,006	85.1	1,411	29.8	4,438	93.8	18	0.4
<b>Other Non-Hispanic<sup>10</sup></b>	<b>527</b>	<b>76.0</b>	<b>506</b>	<b>72.0</b>	<b>241</b>	<b>33.4</b>	<b>606</b>	<b>84.3</b>	<b>47</b>	<b>6.8</b>
<b>Public</b>	294	70.7	277	65.8	137	32.2	367	86.6	35	8.7
Medicaid <sup>6</sup>	247	69.0	237	65.7	116	31.9	320	88.2	31	9.0
Other Public <sup>7</sup>	47	81.0	40	66.7	21	34.4	47	77.0	-- <sup>9</sup>	-- <sup>9</sup>
<b>Private<sup>8</sup></b>	227	85.3	224	83.0	94	34.4	228	83.8	10	3.7



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**NOTE:** All percentages are calculated based on only those births with known values for the characteristic(s) of interest, unless otherwise stated.

1. In the "Births" column, percentages are based on race/ethnicity category totals (in column). For all other characteristics, percentages are based on the total number of births for the race/ethnicity by payment source for the row. 2. Teen births include births to female ages less than 20, not just those ages 15-19. 3. Very low birthweight: less than 1,500 grams or 3.3 pounds. 4. Low Birthweight: less than 2,500 grams or 5.5 pounds. 5. Total births do not equal Public + Private because Workers' Compensation, self-paid, and other are in the state total but not shown in the table. 6. Medicaid/MassHealth. 7. Other Public: CommonHealth, Healthy Start, Medicare, other government programs, and free care. 8. Private: commercial indemnity plans or commercial managed care organizations (HMO, PPO, IPP, or IPA). It does not include Self-Paid/Other. 9. Calculations based on values of 1-4 are excluded. 10. Other: Mothers who designated their race as American Indian or "Other." 11. Based on the Adequacy of Prenatal Care Utilization (APNCU) Index. 12. Infant was being breastfed during the hospital stay. 13. Mother reported smoking during pregnancy.

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**Table 17. Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
<b>STATE TOTAL</b>	<b>69,804</b>	<b>69,098</b>	<b>5,243</b>	<b>6,167</b>	<b>1,639</b>
Abington	0	194	14	19	--
Acton	1	190	8	7	0
Acushnet	0	74	6	7	--
Adams	1	72	8	5	--
Agawam	0	249	18	24	--
Alford	0	0	0	0	0
Amesbury	1	155	10	10	--
Amherst	1	120	11	13	--
Andover	2	264	13	17	0
Aquinnah (Formerly Gay Head)	0	3	0	0	--
Arlington	3	510	45	43	--
Ashburnham	0	46	--	0	--
Ashby	0	30	--	--	0
Ashfield	0	10	0	--	0
Ashland	2	204	14	11	--
Athol	2	124	10	12	5
Attleboro	627	487	32	40	13
Auburn	1	153	5	11	0
Avon	0	41	--	--	0
Ayer	2	88	7	12	--
Barnstable	797	409	31	44	13
Barre	0	55	--	--	--
Becket	0	11	--	--	0
Bedford	0	111	12	11	0
Belchertown	1	122	10	15	0
Bellingham	1	175	12	17	5
Belmont	0	258	13	16	0
Berkley	0	53	6	5	--
Berlin	0	19	--	--	0
Bernardston	0	11	--	--	0
Beverly	2,180	383	20	38	5
Billerica	1	435	45	46	--
Blackstone	1	66	--	--	0
Blandford	0	12	0	--	0
Bolton	0	46	--	--	0
Boston	20,471	7,483	639	753	162
Bourne	2	131	8	12	0
Boxborough	0	41	--	--	0
Boxford	1	78	--	--	0
Boylston	1	43	--	--	0
Braintree	4	380	26	28	--
Brewster	0	49	0	--	--
Bridgewater	0	231	15	18	--
Brimfield	0	24	--	--	0
Brockton	2,117	1,443	141	140	57
Brookfield	0	24	--	--	--
Brookline	4	571	36	30	--

**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Buckland	1	15	0	0	0
Burlington	0	275	28	29	--
Cambridge	3,806	1,121	73	81	5
Canton	1	262	21	22	--
Carlisle	0	40	--	--	0
Carver	0	103	8	12	--
Charlemont	1	7	0	--	--
Charlton	3	125	6	11	0
Chatham	1	27	--	--	--
Chelmsford	1	343	32	46	--
Chelsea	1	630	48	63	44
Cheshire	1	30	--	--	--
Chester	1	7	0	0	0
Chesterfield	0	14	--	--	--
Chicopee	2	529	40	54	22
Chilmark	0	5	0	0	0
Clarksburg	0	12	--	--	0
Clinton	3	167	12	16	--
Cohasset	0	88	--	--	0
Colrain	1	10	--	--	0
Concord	1,253	89	--	6	0
Conway	2	11	--	--	0
Cummington	1	8	--	0	0
Dalton	1	37	--	--	--
Danvers	1	242	15	25	--
Dartmouth	0	193	17	17	--
Dedham	0	293	16	22	--
Deerfield	0	23	--	--	0
Dennis	1	93	7	10	0
Dighton	1	71	--	--	--
Douglas	0	73	--	--	--
Dover	1	24	--	--	0
Dracut	0	316	18	25	--
Dudley	3	101	--	8	5
Dunstable	0	25	--	--	0
Duxbury	1	121	--	6	--
East Bridgewater	1	149	12	15	--
East Brookfield	0	14	0	--	0
East Longmeadow	3	136	--	6	0
Eastham	0	23	--	--	0
Easthampton	2	108	8	8	--
Easton	1	181	7	11	--
Edgartown	0	56	--	--	0
Egremont	0	3	0	0	0
Erving	0	12	--	0	--
Essex	0	20	0	0	0
Everett	4	602	51	55	14
Fairhaven	1	112	9	10	--
Fall River	1,413	1,091	96	112	63
Falmouth	312	187	9	18	5

**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Fitchburg	1	454	41	40	25
Florida	0	3	--	0	0
Foxborough	2	176	12	16	--
Framingham	1,090	906	81	86	17
Franklin	2	252	28	27	--
Freetown	1	84	6	10	--
Gardner	426	237	9	10	9
Georgetown	1	71	5	5	--
Gill	0	11	0	0	0
Gloucester	3	248	25	22	6
Goshen	0	4	0	0	0
Gosnold	0	0	0	0	0
Grafton	5	201	12	18	0
Granby	0	32	0	0	0
Granville	0	6	--	0	0
Great Barrington	140	48	5	6	0
Greenfield	408	130	6	5	--
Groton	0	85	7	7	0
Groveland	0	49	--	--	0
Hadley	0	31	--	--	0
Halifax	0	67	6	10	0
Hamilton	2	81	--	--	0
Hampden	0	29	0	--	0
Hancock	0	7	0	0	0
Hanover	2	133	5	10	0
Hanson	0	95	8	14	0
Hardwick	1	19	--	--	--
Harvard	0	30	--	--	0
Harwich	1	79	6	9	--
Hatfield	1	24	--	--	0
Haverhill	2	759	63	76	26
Hawley	0	0	0	0	0
Heath	0	6	0	0	0
Hingham	0	199	7	16	--
Hinsdale	0	15	0	--	0
Holbrook	0	117	12	16	--
Holden	6	165	11	11	--
Holland	0	18	--	--	--
Holliston	0	124	6	6	0
Holyoke	417	516	52	54	45
Hopedale	1	47	--	--	0
Hopkinton	0	146	15	21	0
Hubbardston	1	26	--	--	--
Hudson	3	193	16	16	5
Hull	1	42	--	6	0
Huntington	1	18	--	--	--
Ipswich	0	82	5	6	--
Kingston	1	129	7	5	--
Lakeville	1	74	--	7	--
Lancaster	1	58	--	0	--

**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Lanesborough	1	24	--	--	0
Lawrence	1,424	1,443	123	134	106
Lee	0	40	--	--	--
Leicester	1	87	10	8	--
Lenox	1	17	--	--	0
Leominster	636	463	37	38	13
Leverett	0	4	--	--	0
Lexington	1	152	8	12	--
Leyden	0	3	0	0	0
Lincoln	2	86	--	6	--
Littleton	1	90	7	5	0
Longmeadow	0	103	--	--	--
Lowell	2,190	1,502	135	135	63
Ludlow	1	147	14	16	--
Lunenburg	0	109	7	11	--
Lynn	2	1,442	134	146	62
Lynnfield	1	115	7	9	0
Malden	4	874	59	57	11
Manchester	0	27	--	--	0
Mansfield	1	215	13	15	--
Marblehead	2	135	7	12	--
Marion	1	23	--	--	0
Marlborough	1	481	23	37	15
Marshfield	1	214	6	10	0
Mashpee	0	116	9	7	--
Mattapoisett	1	35	--	6	0
Maynard	1	125	7	8	0
Medfield	1	118	6	6	0
Medford	6	679	34	34	5
Medway	0	106	--	6	0
Melrose	836	382	22	34	5
Mendon	3	56	6	5	0
Merrimac	0	53	0	--	--
Methuen	1,102	538	40	51	17
Middleborough	1	199	18	19	5
Middlefield	0	0	0	0	0
Middleton	0	69	--	6	0
Milford	845	341	27	35	9
Millbury	1	121	10	12	--
Millis	1	86	5	7	0
Millville	1	25	0	0	--
Milton	0	255	13	21	--
Monroe	0	1	0	0	0
Monson	1	52	--	--	--
Montague	1	61	--	--	--
Monterey	0	3	0	0	0
Montgomery	0	5	0	0	--
Mount Washington	0	1	0	--	0
Nahant	0	18	0	--	0
Nantucket	138	157	6	11	6

**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Natick	4	394	35	46	--
Needham	2	255	16	25	0
New Ashford	0	1	0	0	0
New Bedford	1,511	1,272	129	128	88
New Braintree	0	10	--	0	0
New Marlborough	2	9	0	0	0
New Salem	0	3	0	0	0
Newbury	1	52	--	--	0
Newburyport	705	128	--	12	--
Newton	3,734	663	47	60	--
Norfolk	0	113	7	7	0
North Adams	1	98	12	9	5
North Andover	0	274	23	27	--
North Attleborough	0	232	17	16	--
North Brookfield	0	42	--	8	0
North Reading	1	152	10	11	--
Northampton	519	166	12	11	6
Northborough	1	131	5	9	--
Northbridge	1	141	16	20	--
Northfield	1	17	--	--	--
Norton	0	140	6	12	--
Norwell	0	111	8	10	0
Norwood	466	385	26	32	--
Oak Bluffs	136	38	0	--	0
Oakham	0	14	0	--	0
Orange	2	74	--	--	--
Orleans	0	28	--	--	--
Otis	1	10	0	--	0
Oxford	3	103	8	10	--
Palmer	0	116	7	5	8
Paxton	0	41	5	5	0
Peabody	1	550	57	50	9
Pelham	0	3	--	--	0
Pembroke	2	149	11	11	0
Pepperell	0	98	--	7	--
Peru	0	7	0	0	--
Petersham	0	4	0	0	0
Phillipston	0	14	0	--	0
Pittsfield	732	449	37	44	29
Plainfield	0	3	0	0	0
Plainville	1	96	6	7	0
Plymouth	830	464	28	45	5
Plympton	0	20	0	--	0
Princeton	1	24	--	--	0
Provincetown	1	15	--	--	0
Quincy	1	1,090	63	92	--
Randolph	1	362	34	39	--
Raynham	1	132	8	16	0
Reading	0	275	14	23	0
Rehoboth	0	89	5	7	0

**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Revere	1	771	65	86	12
Richmond	1	10	--	--	0
Rochester	0	47	7	7	0
Rockland	2	191	13	14	--
Rockport	0	32	8	7	0
Rowe	0	4	--	--	0
Rowley	0	49	--	--	--
Royalston	0	9	--	--	--
Russell	2	18	--	--	--
Rutland	1	92	6	8	--
Salem	1,168	423	40	37	9
Salisbury	0	56	--	5	--
Sandisfield	0	9	0	0	0
Sandwich	2	128	--	6	--
Saugus	0	277	23	31	--
Savoy	0	2	0	0	0
Scituate	1	149	8	12	0
Seekonk	0	110	9	13	--
Sharon	1	136	--	6	0
Sheffield	1	25	--	--	0
Shelburne	0	6	0	0	0
Sherborn	0	20	--	--	0
Shirley	1	43	--	--	0
Shrewsbury	0	328	34	35	--
Shutesbury	0	11	--	0	0
Somerset	0	123	16	15	--
Somerville	3	810	53	69	5
South Hadley	0	120	14	14	--
Southampton	0	41	--	--	0
Southborough	0	86	5	--	0
Southbridge	2	235	28	25	12
Southwick	1	68	7	6	--
Spencer	2	115	8	11	--
Springfield	5,166	2,119	182	211	174
Sterling	0	54	--	--	0
Stockbridge	1	7	0	0	0
Stoneham	0	255	18	22	--
Stoughton	2	337	20	25	5
Stow	0	61	--	--	0
Sturbridge	1	78	--	6	--
Sudbury	0	135	7	7	--
Sunderland	0	27	--	--	0
Sutton	2	83	5	6	--
Swampscott	0	144	--	6	0
Swansea	1	136	6	12	--
Taunton	8	611	58	56	17
Templeton	0	68	--	--	--
Tewksbury	0	300	28	28	--
Tisbury	0	41	--	--	0
Tolland	0	2	0	0	0

**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Topsfield	0	47	--	--	--
Townsend	0	92	8	8	--
Truro	0	8	0	--	0
Tyngsborough	0	105	7	9	--
Tyringham	0	1	0	0	0
Upton	2	65	--	--	0
Uxbridge	2	120	7	11	--
Wakefield	0	310	21	29	--
Wales	0	18	0	--	0
Walpole	1	258	12	21	0
Waltham	2	768	73	89	18
Ware	2	105	10	16	--
Wareham	372	213	26	18	--
Warren	1	41	--	--	--
Warwick	0	4	0	0	0
Washington	0	6	0	0	0
Watertown	1	401	29	27	--
Wayland	0	121	6	10	0
Webster	1	164	16	18	7
Wellesley	1	198	15	16	0
Wellfleet	1	16	--	--	0
Wendell	3	5	--	--	0
Wenham	0	34	0	0	0
West Boylston	1	61	--	--	--
West Bridgewater	1	84	5	6	0
West Brookfield	2	28	--	0	--
West Newbury	0	38	0	0	0
West Springfield	0	312	24	26	6
West Stockbridge	0	6	--	--	0
West Tisbury	0	27	--	--	0
Westborough	0	198	13	16	--
Westfield	1	336	22	30	13
Westford	1	155	13	19	0
Westhampton	1	7	0	0	0
Westminster	5	72	5	7	0
Weston	0	65	--	5	0
Westport	0	82	6	8	--
Westwood	2	115	7	16	0
Weymouth	3,058	637	42	56	--
Whately	0	10	0	0	0
Whitman	0	150	14	22	--
Wilbraham	1	106	7	9	0
Williamsburg	0	17	--	--	0
Williamstown	2	31	--	--	0
Wilmington	3	219	21	28	--
Winchendon	1	98	8	5	6
Winchester	2,322	187	10	16	0
Windsor	0	5	0	0	0
Winthrop	0	186	21	16	--
Woburn	4	454	32	38	--



**Table 17 (cont'd). Birth Characteristics: Occurrence and Resident Births,  
Massachusetts Municipalities: 2018**

Community	Occurrence Births <sup>1</sup>	Resident Births <sup>2</sup>			
		Number of Births	Low Birthweight (Less than 2,500 grams, 5.5 lbs.)	Preterm (<37 weeks gestation)	Teen Births (15-19 years)
Worcester	6,195	2,321	202	223	94
Worthington	0	7	0	0	0
Wrentham	2	109	7	7	0
Yarmouth	0	189	10	13	5
1. Births occurring in a geographical place (state, city/town) regardless of the residency of the mother. 2. Births to mothers who report their usual place of residence as a particular geographical place (state, or city/town). See "Note to Readers" for more details. -- Due to small numbers (n=1-4), exact count not provided.					

**Table 18. Birth Characteristics: Occurrence and Resident Births by County,  
Massachusetts: 2018**

County	Occurrence Births <sup>1</sup>	Number of Births	Resident Births <sup>2</sup>		
			Low Birthweight <sup>3</sup>	Preterm <sup>4</sup>	Teen Births (15-19 Years)
<b>STATE TOTAL</b>	<b>69,804</b>	<b>69,098</b>	<b>5,243</b>	<b>6,167</b>	<b>1,639</b>
BARNSTABLE	1,118	1,498	93	130	34
BERKSHIRE	886	999	84	88	44
BRISTOL	3,566	5,488	454	512	209
DUKES	136	170	7	7	--
ESSEX	6,599	8,376	651	756	261
FRANKLIN	420	476	25	27	10
HAMPDEN	5,596	4,928	392	456	280
HAMPSHIRE	529	950	80	95	17
MIDDLESEX	15,284	16,586	1,224	1,414	199
NANTUCKET	138	157	6	11	6
NORFOLK	3,555	7,035	456	576	36
PLYMOUTH	3,336	5,029	380	462	92
SUFFOLK	20,473	9,070	773	918	219
WORCESTER	8,167	8,335	618	715	231
UNKNOWN	1	1	0	0	0

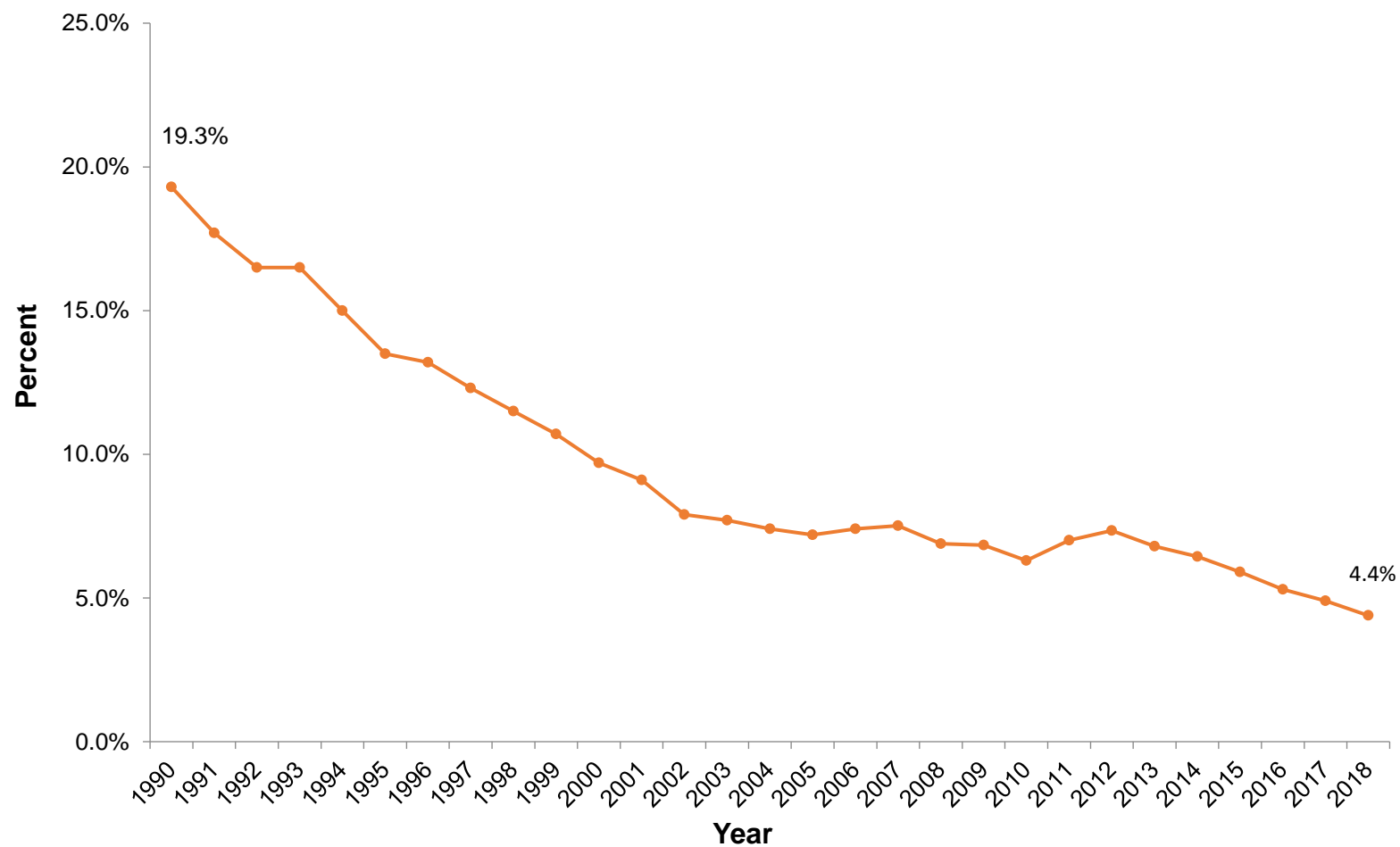
1. Births occurring in a geographical place (state, city/town) regardless of the residency of the mother. 2. Births to mothers who report their usual place of residence as a particular geographical place (state, or city/town). See "Note to Readers" for more details. 3. Less than 2,500 grams (5.5 lbs.). 4. Less than 37 weeks gestation 5. Due to small numbers (n=1-4), exact count not provided.

**Table 19. Birth Characteristics: Occurrence and Resident Births, Massachusetts Community Health Network Areas (CHNAs), Massachusetts: 2018**

Community Health Network Area	Occurrence Births <sup>1</sup>	Number of Births	LBW <sup>3</sup>	Resident Births <sup>2</sup>	
				Preterm <sup>4</sup>	Teen Births (15-19 Years)
<b>STATE TOTAL</b>	<b>69,804</b>	<b>69,098</b>	<b>5,243</b>	<b>6,167</b>	<b>1,639</b>
1. Community Health Network of Berkshire County	--5	0	0	0	0
2. Upper Valley Health Web (Franklin County)	886	999	84	88	44
3. Partnership for Health in Hampshire County (Northampton)	422	627	36	41	16
4. The Community Health Connection (Springfield)	528	932	79	94	16
5. Community Health Network of Southern Worcester County	5,174	3,333	260	297	198
6. Community Partners for Health (Milford)	18	1,130	84	105	36
7. Community Health Network of Greater Metro West (Framingham)	861	1,550	113	140	27
8. Community Wellness Coalition (Worcester)	1,110	4,281	292	350	44
9. Fitchburg/Gardner Community Health Network	6,211	3,521	292	329	102
10. Greater Lowell Community Health Network	1,080	2,597	172	192	75
11. Greater Lawrence Community Health Network	2,193	3,181	279	309	73
12. Greater Haverhill Community Health Network	2,528	2,588	203	235	126
13. Community Health Network North (Beverly/Gloucester)	711	1,488	97	120	38
14. North Shore Community Health Network	2,185	954	64	84	13
15. Greater Woburn/Concord/Littleton Community Health Network	1,175	3,346	287	317	84
16. North Suburban Health Alliance (Medford/Malden/Melrose)	3,587	1,934	136	161	7
17. Greater Cambridge/Somerville Community Health Network	851	3,529	229	265	39
18. West Suburban Health Network (Newton/Waltham)	3,813	3,100	213	236	12
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	3,742	2,381	179	235	22
20. Blue Hills Community Health Alliance (Greater Quincy)	20,477	9,641	809	948	220
21. Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield)	3,534	4,096	258	344	19
22. Greater Brockton Community Health Network	423	1,553	129	155	82
23. South Shore Community Partners in Prevention (Plymouth)	2,122	2,927	242	275	72
24. Greater Attleboro-Taunton Health & Education Response	839	1,686	95	138	14
25. Partners for a Healthier Community (Fall River)	640	2,413	177	208	48
26. Greater New Bedford Health & Human Services Coalition	1,414	1,432	124	147	70
27. Cape and Islands Community Health Network	1,887	2,053	204	206	101

1. Births occurring in a geographical place (state, city/town) regardless of the residency of the mother. 2. Births to mothers who report their usual place of residence as a particular geographical place (state, city/town). See "Note to Readers" for more details. 3. Less than 2,500 grams (5.5 lbs.). 4. Less than 37 weeks gestation. 5. Due to small numbers (n=1-4), exact count not provided.

**Figure 6. Percent of Infants whose Mother Smoked During Pregnancy, Massachusetts: 1990 - 2018**



**Table 20. Cesarean Deliveries and Vaginal Births after Cesarean (VBACs) by Licensed Maternity Facility<sup>1</sup>, All Mothers, Massachusetts: 2018**

Facility <sup>2</sup>	Occurrence Deliveries <sup>3</sup>	Total Cesareans		Primary Cesareans <sup>3</sup>		Repeat Cesareans <sup>3</sup>		VBACs <sup>3</sup>	
		N	% <sup>4</sup>	N	%	N	%	N	%
<b>State Total</b>	<b>66,631</b>	<b>20,431</b>	<b>30.7</b>	<b>11,437</b>	<b>20.4</b>	<b>8,994</b>	<b>85.2</b>	<b>1,562</b>	<b>14.8</b>
Anna Jaques Hospital	565	184	32.6	103	22.2	81	80.2	20	19.8
Baystate Franklin Medical Center	376	101	26.9	59	18.0	42	85.7	7	14.3
Baystate Medical Center	3,695	1,195	32.3	610	20.5	585	81.7	131	18.3
Berkshire Medical Center	701	181	25.8	96	16.2	85	77.3	25	22.7
Beth Israel Deaconess Hospital - Plymouth	816	281	34.4	152	22.8	129	87.2	19	12.8
Beth Israel Deaconess Medical Center	5,148	1,594	31.0	1,001	22.6	593	81.9	131	18.1
Beverly Hospital	2,070	558	27.0	308	17.2	250	90.9	25	9.1
Boston Medical Center	2,753	979	35.6	599	26.2	380	82.1	83	17.9
Brigham And Women's Hospital	5,880	1,943	33.1	1,212	24.0	731	88.1	99	11.9
Brockton Hospital	881	224	25.4	106	14.3	118	84.9	21	15.1
Cambridge Hospital	1,049	297	28.3	161	18.4	136	79.1	36	20.9
Cape Cod Hospital	781	248	31.8	122	19.3	126	84.6	23	15.4
Charlton Memorial Hospital	1,274	368	28.9	180	16.6	188	98.9	--5	--5
Cooley Dickinson Hospital	502	146	29.1	79	18.7	67	83.8	13	16.3
Emerson Hospital	1,202	406	33.8	234	23.3	172	86.4	27	13.6
Fairview Hospital	121	36	29.8	22	20.6	14	100.0	0	0.0
Falmouth Hospital	310	123	39.7	63	25.2	60	100.0	0	0.0
Good Samaritan Medical Center	1,194	389	32.6	184	19.2	205	86.1	33	13.9
HealthAlliance Hospital	622	171	27.5	80	15.1	91	98.9	--5	--5
Heywood Hospital	412	77	18.7	32	8.9	45	83.3	9	16.7
Holyoke Medical Center	409	108	26.4	68	18.9	40	80.0	10	20.0
Lawrence General Hospital	1,330	477	35.9	183	17.8	294	98.0	6	2.0
Lowell General Hospital	2,011	700	34.8	368	22.4	332	91.0	33	9.0
Martha's Vineyard Hospital	134	59	44.0	33	30.6	26	100.0	0	0.0
Massachusetts General Hospital	3,613	992	27.5	623	19.9	369	75.5	120	24.5
Melrose-Wakefield Hospital	810	249	30.7	121	17.7	128	100.0	0	0.0
Mercy Medical Center	1,149	303	26.4	154	15.7	149	88.7	19	11.3
Metro West Medical Center-Framingham Union Hospital	1,073	372	34.7	165	19.5	207	92.0	18	8.0
Milford Regional Medical Center	808	268	33.2	157	23.0	111	89.5	13	10.5
Mt. Auburn Hospital	2,596	646	24.9	417	18.4	229	69.4	101	30.6
Nantucket Cottage Hospital	136	37	27.2	22	18.2	15	100.0	0	0.0
Newton-Wellesley Hospital	3,635	1,019	28.0	590	18.9	429	84.8	77	15.2
North Shore Medical Center - Salem Hospital	1,148	332	28.9	153	16.1	179	91.3	17	8.7

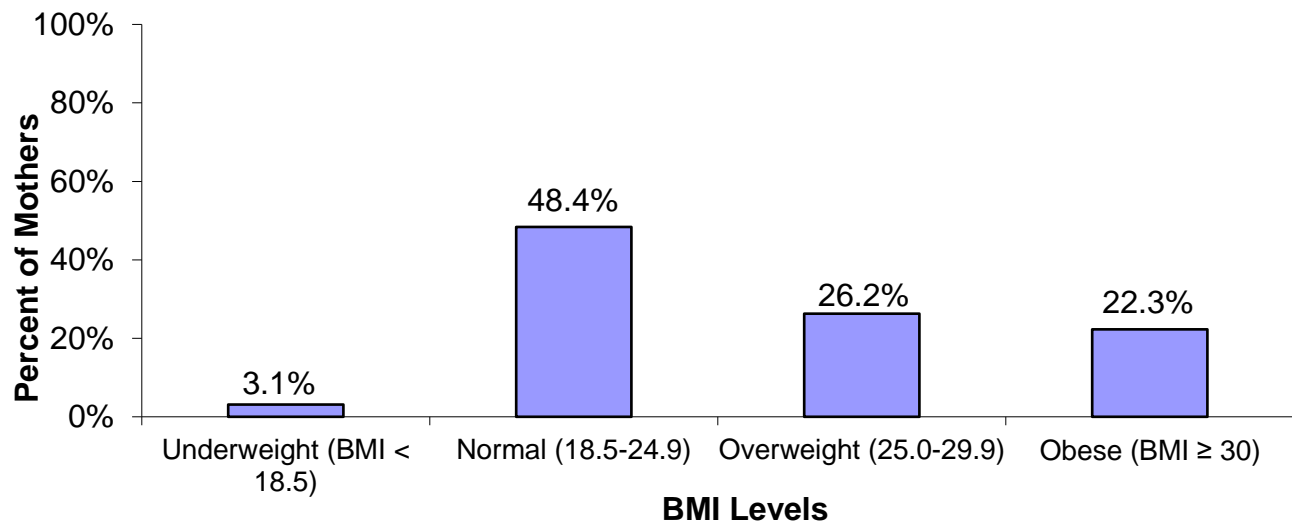
**Table 20. Cesarean Deliveries and Vaginal Births after Cesarean (VBACs) by Licensed  
Table 20 (cont'd). Cesarean Deliveries and Vaginal Births after Cesarean (VBACs) by  
Licensed Maternity Facility<sup>1</sup>, All Mothers, Massachusetts: 2018**

Licensed Maternity Facility	Total Births	Total Cesarean Deliveries	Cesarean Delivery Rate (%)	Total VBACs	VBAC Rate (%)	Total Cesarean Deliveries (excluding VBACs)	Cesarean Delivery Rate (excluding VBACs) (%)	Total Vaginal Births	Vaginal Birth Rate (%)
Saint Vincent Hospital	1,806	555	30.7	322	21.3	233	78.7	63	21.3
South Shore Hospital	2,990	1,046	33.5	551	22.2	450	87.9	62	12.1
St. Elizabeth's Medical Center	868	304	35.0	183	25.5	121	80.1	30	19.9
St. Luke's Hospital	1,482	487	32.9	238	19.6	249	93.3	18	6.7
Steward Holy Family Hospital	881	327	37.1	154	21.8	173	98.9	--5	--5
Sturdy Memorial Hospital	562	178	31.7	105	22.0	73	86.9	11	13.1
Tobey Hospital	361	64	17.7	31	9.5	33	100.0	0	0.0
Tufts Medical Center	1,195	407	34.1	255	25.9	152	72.0	59	28.0
UMass Memorial Medical Center-Memorial Campus	4,085	1,236	30.3	658	19.6	578	79.5	149	20.5
Winchester Hospital	2,189	680	31.1	418	22.0	262	90.3	28	9.7

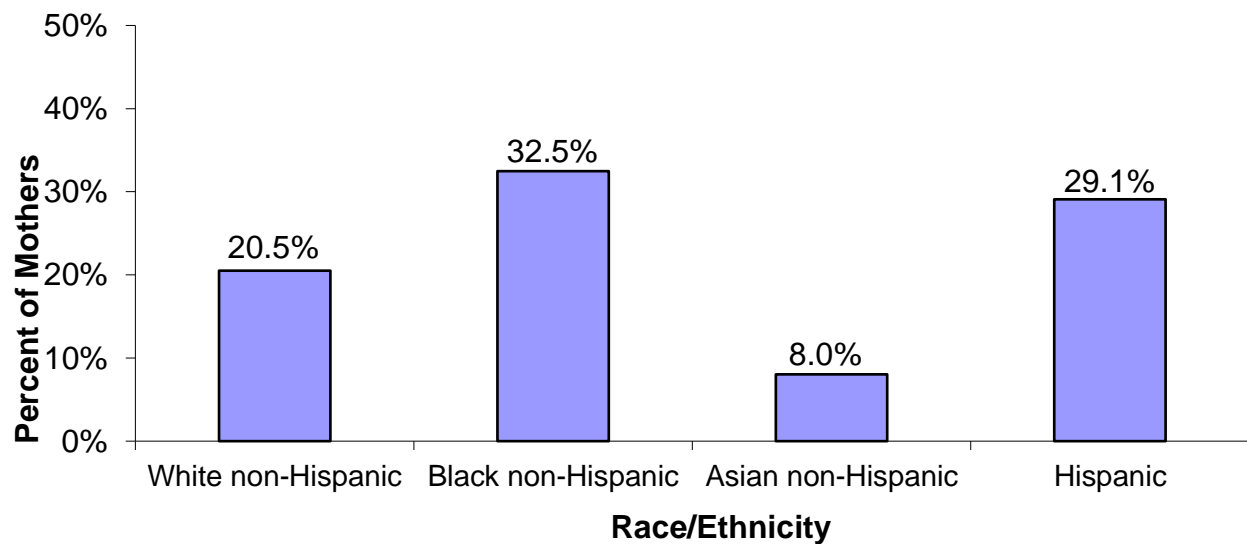
**NOTE:** This table is based on mothers and not births. All percentages are calculated based on only those mothers with known values for the characteristic(s) of interest

1. Birth centers are not included in this table. 2. A licensed maternity facility is a medical unit licensed by the Commonwealth for the care of women during pregnancy and childbirth. 3. The percentages provided in this table are based on occurrence births, and may differ from data that are based on resident births presented elsewhere in this book. 4. The percentage of Cesarean births reported is not adjusted for risk factors such as mother's age, birthweight, or complications of labor and delivery, which would influence the number of procedures in a particular facility. Caution should be used when comparing unadjusted percentages. 5. Calculations based on values of 1-4 are excluded.

**Figure 7. Maternal Body Mass Index (BMI) Prior to Pregnancy, All Mothers, Massachusetts: 2018**

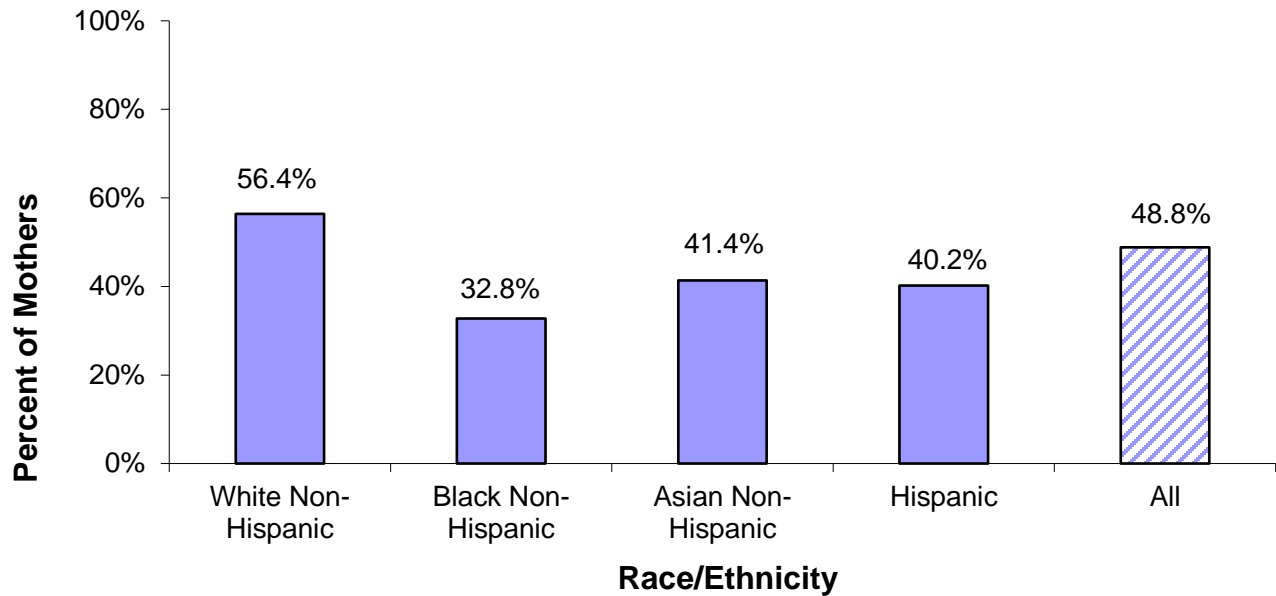


**Figure 8. Obesity Prior to Pregnancy by Race/Hispanic Ethnicity, All Mothers, Massachusetts: 2018**

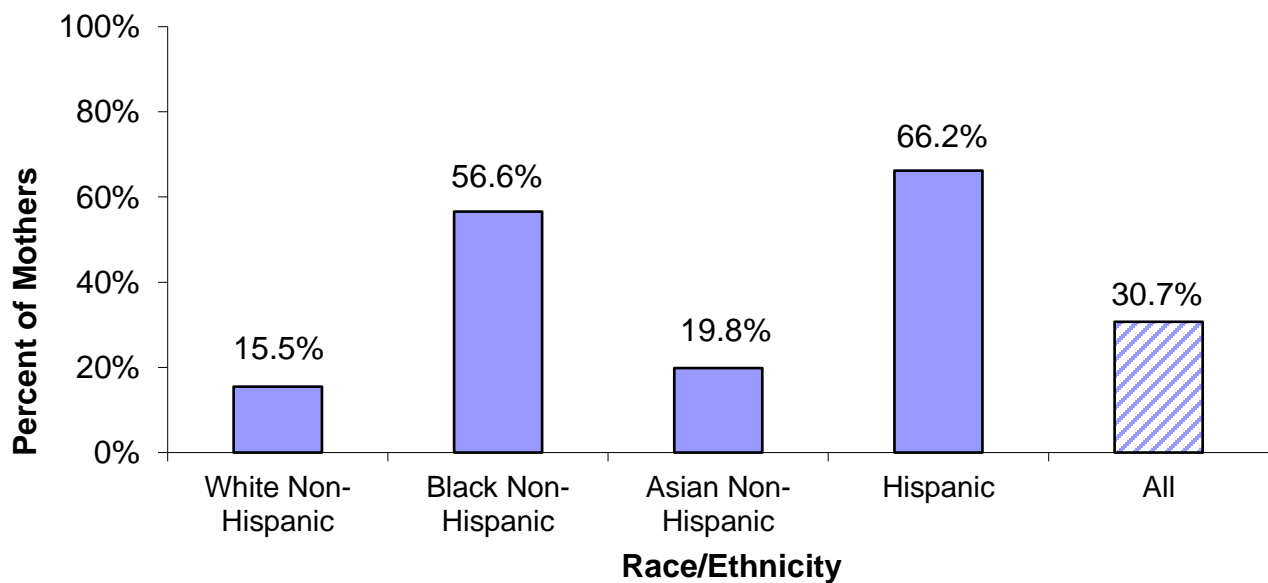


**NOTE:** These figures are based on mothers and not births.

**Figure 9. Mothers Who Reported Having Their Teeth Cleaned During Pregnancy by Race/Hispanic Ethnicity, All Mothers, Massachusetts: 2018**



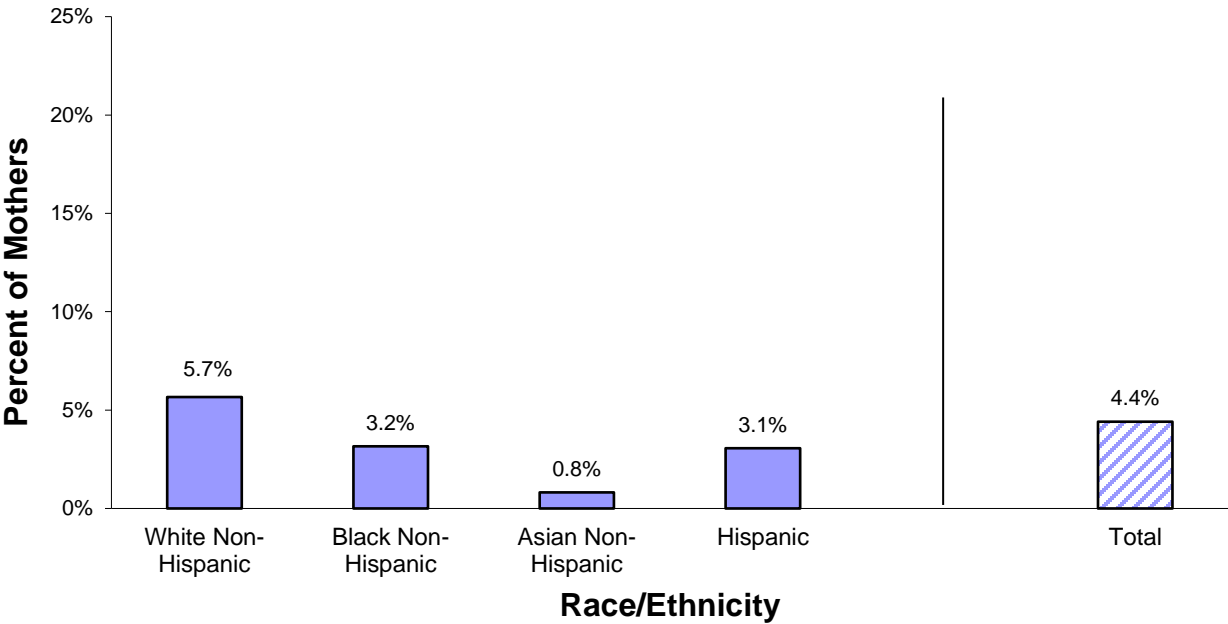
**Figure 10. Mothers Who Reported Having Received WIC Food During Pregnancy by Race/Hispanic Ethnicity, All Mothers, Massachusetts: 2018**



**NOTE:** These figures are based on mothers and not births.



**Figure 11. Mothers Who Reported Smoking During Pregnancy by Race/Hispanic Ethnicity, All Mothers, Massachusetts: 2018**



**NOTE:** This figure is based on mothers and not births.

**Table 21. Mothers Who Used Infertility Treatments, Massachusetts: 2018**

	Assisted Reproductive Technology (ART) with or without Artificial Insemination and/or Fertility Drugs <sup>1</sup>		Artificial Insemination with or without Fertility Drugs <sup>2</sup>		Fertility Enhancing Drugs Only <sup>3</sup>	
	N	% <sup>4</sup>	N	% <sup>4</sup>	N	% <sup>4</sup>
<b>State total</b>	2,627	73.6%	468	13.1%	475	13.3%
<b>Maternal Demographics</b>						
Race/Hispanic Ethnicity	N	% <sup>5</sup>	N	% <sup>5</sup>	N	% <sup>5</sup>
White Non-Hispanic	2,044	78.9%	364	78.8%	356	76.6%
Black Non-Hispanic	86	3.3%	14	3.0%	28	6.0%
Asian Non-Hispanic	303	11.7%	47	10.2%	44	9.5%
Hispanic	148	5.7%	32	6.9%	32	6.9%
American Indian and Other	10	0.4%	5	1.1%	5	1.1%
<b>Birthplace</b>						
US States / D.C. / US Terr.	2,025	77.1%	378	80.8%	354	74.5%
Non-US-born	602	22.9%	90	19.2%	121	25.5%
<b>Prenatal care funding</b>						
Public	129	4.9%	39	8.4%	62	13.2%
Private, other	2,491	95.1%	428	91.6%	408	86.8%
<b>Age</b>						
20-29	151	5.8%	61	13.0%	106	22.4%
30-34	906	34.5%	190	40.6%	216	45.6%
35-39	1,030	39.2%	179	38.2%	125	26.4%
40+	539	20.5%	38	8.1%	27	5.7%
<b>Pregnancy-Related Factors</b>						
<b>Adequacy of Prenatal Care<sup>6</sup></b>						
Adequate Total <sup>7</sup>	949	87.3%	162	91.5%	150	83.3%
Adequate Intensive	554	51.0%	90	50.8%	85	47.2%
Adequate Basic	395	36.3%	72	40.7%	65	36.1%
Intermediate	33	3.0%	-- <sup>9</sup>	-- <sup>9</sup>	9	5.0%
Inadequate/None	105	9.7%	12	6.8%	21	11.7%
<b>Parity<sup>8</sup></b>						
1	1,543	58.8%	311	66.5%	297	62.7%
2	872	33.2%	135	28.8%	149	31.4%
3+	211	8.0%	22	4.7%	28	5.9%
<b>Birth Outcomes</b>						
<b>Gestational age</b>						
<28 weeks (extremely preterm) <sup>10</sup>	24	0.9%	-- <sup>9</sup>	-- <sup>9</sup>	6	1.3%
<37 weeks (preterm) <sup>10</sup>	373	14.2%	63	13.5%	77	16.2%
37+	2,254	85.8%	405	86.5%	398	83.8%
<b>Plurality</b>						
Singleton	2,374	90.4%	435	92.9%	435	91.6%
Multiple birth	253	9.6%	33	7.1%	40	8.4%

**NOTE:** Beginning in 2014, questions about fertility assistance were asked on both the hospital and mother's worksheets. This table shows combined data from both sources. While asking mothers has increased reporting, it is known that these treatments are still underreported. As such, these numbers should be interpreted with caution. All percentages are calculated based only on mothers with known values for the characteristic(s) of interest, unless otherwise stated. Often women use more than one method of treatment, and the categories presented are mutually exclusive.

**NOTE:** This table is based on unique mothers and not births.

1. This category includes all women who used ART (typically IVF) and those who used any additional treatments. 2. This category includes women who used artificial insemination (including intrauterine insemination) and those who used fertility drugs in addition. 3. This category includes women who only used fertility drugs. 4. For state total row, percentages are based on total births where infertility treatment was present. 5. Percent is based on state total of the treatment methods. 6. Based on Adequacy of Prenatal Care Utilization (APNCU) Index. 7. Adequate Total = Adequate Basic + Adequate Intensive. 8. Number of live births including the current birth. 9. Numbers and calculations based on 1-4 events are excluded. 10. Categories are not mutually exclusive so percent will add to more than 100%.

## Technical Notes

### Data Cautions

#### Limitations of small numbers:

Cells in some tables in this publication, and particularly those tables specific to individual cities and towns, contain small numbers. Rates and proportions based on fewer than five observations are suppressed, and trends based upon small numbers should be interpreted cautiously.

#### Differences with previously published data:

Numbers and rates in this publication may differ from those in previous reports because of updated birth data, or release of the most up-to-date population estimates for a given year (see Population Denominators for details on population files).

#### Self-reported data:

Many statistics reported in this publication, such as maternal smoking, education, and race/ethnicity are *self-reported*, and are subject to the usual limitations of this type of information.

### Changes in the Collection of Race/Ethnicity Information

The 2003 revision of the Standard Certificate of Live Birth allows the reporting of more than one race (multiple races) for each parent in accordance with the revised standards issued by the Office of Management and Budget (OMB) in 1997.

The revised standards incorporated two major changes designed to reflect the changing racial and ethnic profile of the United States. First, the revision increased from five to twelve - the minimum set of categories to be used for identification of race. The twelve categories for race specified in the 1997 standards are: American Indian or Alaska Native, Asian, Black, Guamanian or Chamorro, Hispanic/Latino/Black, Hispanic/Latino/White, Hispanic/Latino/Other, Native Hawaiian, Samoan, White, Other Pacific Islander and Other. The revised standards called for reporting of Asians separately from Native Hawaiians, Samoan or Other Pacific Islanders.

The revised standards require federal data collection programs to allow respondents to select *one or more race categories*. In order to provide uniformity and comparability of the data during the transition period, before multiple-race data are available for all reporting areas, it is necessary to “bridge” the responses of those who reported more than one race to a single-race. The method used to bridge responses for those who report more than one race to a single race is based on a procedure whereby multiple races are assigned to the smallest minority group first (i.e. Asian and White becomes Asian or Black and Native American becomes Native American). All multiple races that include Hispanic will be assigned as Hispanic and this group also includes all respondents who reported Hispanic ethnicities as well.

The revised standards also require federal data collection programs to allow respondents to select *one or more ancestry categories*. The method used to bridge responses for those who report more than one ancestry is based on a procedure whereby multiple ancestries are assigned to each of the ancestries listed.

The following table is from the Parent Worksheet for the birth certificate, which is the self-reported information we use to report on mother’s race and ancestry.

## **2003 Revision**

### **Mother/Parent Race**

Please indicate your race(s). *You may choose more than one.*

<input type="checkbox"/> American Indian/Alaska Native (specify tribal nation): _____ <input type="checkbox"/> Asian <input type="checkbox"/> Black <input type="checkbox"/> Guamanian or Chamorro <input type="checkbox"/> Hispanic/Latina/Black <input type="checkbox"/> Hispanic/Latina/White	<input type="checkbox"/> Hispanic/Latina/Other (specify): _____ <input type="checkbox"/> Native Hawaiian <input type="checkbox"/> Samoan <input type="checkbox"/> White <input type="checkbox"/> Other Pacific Islander (specify): _____ <input type="checkbox"/> Other race not listed (specify): _____
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### **Mother/Parent Ethnicity**

Please indicate your ethnic background(s). *You may choose more than one.*

<input type="checkbox"/> African (specify): _____ <input type="checkbox"/> African-American <input type="checkbox"/> American <input type="checkbox"/> Asian Indian <input type="checkbox"/> Brazilian <input type="checkbox"/> Cambodian <input type="checkbox"/> Cape Verdean <input type="checkbox"/> Caribbean Islander (specify): _____ <input type="checkbox"/> Chinese <input type="checkbox"/> Colombian <input type="checkbox"/> Cuban <input type="checkbox"/> Dominican <input type="checkbox"/> European (specify): _____ <input type="checkbox"/> Filipino <input type="checkbox"/> Guatemalan <input type="checkbox"/> Haitian <input type="checkbox"/> Honduran	<input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input type="checkbox"/> Laotian <input type="checkbox"/> Mexican, Mexican American, Chicano <input type="checkbox"/> Middle Eastern (specify): _____ <input type="checkbox"/> Native American (specify tribal nation(s)): _____ <input type="checkbox"/> Portuguese <input type="checkbox"/> Puerto Rican <input type="checkbox"/> Russian <input type="checkbox"/> Salvadoran <input type="checkbox"/> Vietnamese <input type="checkbox"/> Other Asian (specify): _____ <input type="checkbox"/> Other Central American (specify): _____ <input type="checkbox"/> Other Pacific Islander (specify): _____ <input type="checkbox"/> Other Portuguese (specify): _____ <input type="checkbox"/> Other South American (specify): _____ <input type="checkbox"/> Other ethnicity (ies) not listed (specify): _____
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**1989 Revision**

**MOTHER'S RACE** Please mark the *one* category that *best describes* the mother's race:

☐ White      ☐ Black      ☐ Asian/Pacific Islander      ☐ American Indian      ☐ Other (specify)

**MOTHER'S ANCESTRY** Please mark the *one* category that *best describes* the mother's ancestry of ethnic heritage:

HISPANIC/LATINA	AFRICAN/AFRICAN AMERICAN
1 <input type="checkbox"/> Puerto Rican 2 <input type="checkbox"/> Dominican 3 <input type="checkbox"/> Mexican 4 <input type="checkbox"/> Cuban 5 <input type="checkbox"/> Colombian 6 <input type="checkbox"/> Salvadoran	29 <input type="checkbox"/> African-American/ Afro-American 30 <input type="checkbox"/> Nigerian 31 <input type="checkbox"/> Other African specify): _____
7 <input type="checkbox"/> Other Central American (specify) _____ 8 <input type="checkbox"/> Other South American (specify) _____ 9 <input type="checkbox"/> Other Hispanic/Latina (specify): _____	<b>MIDDLE EASTERN</b> 32 <input type="checkbox"/> Lebanese 33 <input type="checkbox"/> Iranian 34 <input type="checkbox"/> Israeli 35 <input type="checkbox"/> Other Middle Eastern (specify): _____
<b>ASIAN/PACIFIC ISLANDER</b> 10 <input type="checkbox"/> Chinese 11 <input type="checkbox"/> Vietnamese 12 <input type="checkbox"/> Cambodian 13 <input type="checkbox"/> Asian Indian 14 <input type="checkbox"/> Korean 15 <input type="checkbox"/> Filipino 16 <input type="checkbox"/> Japanese	<b>AMERICAN ANCESTRY</b> 36 <input type="checkbox"/> Native American/ American Indian (specify tribe/affiliation): _____ 37 <input type="checkbox"/> American
<b>PORTUGUESE SPEAKING</b> 22 <input type="checkbox"/> Cape Verdean 23 <input type="checkbox"/> Brazilian	<b>EUROPEAN and OTHER ancestries</b> 38 <input type="checkbox"/> European (specify): _____ 39 <input type="checkbox"/> Other (specify): _____
24 <input type="checkbox"/> Other Portuguese (specify): _____	
<b>WEST INDIAN/CARIBBEAN ISLANDER</b> 25 <input type="checkbox"/> Haitian 26 <input type="checkbox"/> Jamaican 27 <input type="checkbox"/> Barbadian	
28 <input type="checkbox"/> Other West Indian/Caribbean Islander (specify): _____	

**Table A1. 2018 Massachusetts Population Estimates by Age Group, Gender, Race/Hispanic Ethnicity (mutually exclusive)**

Age Group	Total <sup>1</sup>	White Non-Hispanic	Black Non-Hispanic	Native American Non-Hispanic	Asian Non-Hispanic	Hispanic <sup>2</sup>
<b>Female</b>						
<1	35,213	20,418	3,243	59	2,384	7,527
1 to 4	141,228	83,823	13,264	249	10,201	29,234
5 to 9	181,316	104,393	16,492	364	12,673	35,035
10 to 14	197,483	122,926	16,720	316	13,497	34,789
15 to 19	231,245	151,500	18,359	369	17,902	36,070
20 to 24	257,768	167,967	21,824	449	23,130	38,237
25 to 29	253,592	165,936	22,535	614	25,814	39,027
30 to 34	235,427	158,230	19,227	384	25,408	32,315
35 to 39	220,073	143,830	17,684	314	22,646	31,713
40 to 44	206,644	137,126	16,485	277	19,333	28,637
45 to 49	230,236	165,303	16,410	340	17,601	25,714
50+	1,384,909	1,146,607	76,385	2,119	60,717	85,641
<b>All Females</b>	<b>3,575,135</b>	<b>2,568,059</b>	<b>258,630</b>	<b>5,854</b>	<b>251,307</b>	<b>423,939</b>
<b>Male</b>						
<1	37,032	21,310	3,326	69	2,645	7,875
1 to 4	147,529	88,090	13,470	272	10,825	30,136
5 to 9	189,522	108,848	17,141	340	13,590	36,369
10 to 14	205,434	129,249	17,036	331	13,543	36,009
15 to 19	232,756	153,650	18,433	354	16,092	37,560
20 to 24	255,838	166,025	21,393	477	20,664	41,178
25 to 29	260,218	169,231	23,748	696	24,836	42,431
30 to 34	233,025	157,141	19,075	421	21,981	34,332
35 to 39	215,477	141,612	17,247	328	20,260	32,591
40 to 44	197,514	133,125	15,526	264	17,173	27,136
45 to 49	216,184	157,270	15,234	324	15,946	22,899
50+	1,181,523	983,365	61,982	1,985	52,210	69,743
<b>All Males</b>	<b>3,372,050</b>	<b>2,408,917</b>	<b>243,612</b>	<b>5,861</b>	<b>229,764</b>	<b>418,258</b>
<1	72,245	41,728	6,570	128	5,029	15,402
1 to 4	288,757	171,914	26,734	521	21,027	59,370
5 to 9	370,838	213,240	33,634	704	26,263	71,403
10 to 14	402,916	252,175	33,756	647	27,040	70,798
15 to 19	464,001	305,150	36,792	724	33,994	73,630
20 to 24	513,606	333,992	43,217	926	43,794	79,415
25 to 29	513,810	335,167	46,283	1,310	50,650	81,458
30 to 34	468,452	315,371	38,302	804	47,389	66,647
35 to 39	435,550	285,442	34,931	642	42,906	64,304
40 to 44	404,159	270,252	32,012	540	36,505	55,773
45 to 49	446,420	322,573	31,644	664	33,547	48,613
50+	2,566,432	2,129,972	138,367	4,104	112,927	155,384
<b>State Total</b>	<b>6,947,185</b>	<b>4,976,976</b>	<b>502,242</b>	<b>11,715</b>	<b>481,071</b>	<b>842,196</b>

1. Population estimates were calculated using UMass Donahue Institute (UMDI) estimates for 2018.

2. Persons of Hispanic ethnicity are NOT included in the race categories. These estimates are used to calculate **statewide population based rates** published in this report.