

*Asian Births in Massachusetts
1998-1999 Supplement*

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Technical Foreword

Purpose of this Supplement

This publication was prepared by staff of the Division of Research and Epidemiology, Bureau of Health Statistics, and was released concurrently with *Asian Births in Massachusetts: 1996-1997* in May, 2001. It is intended as a supplement to that report. This supplement provides an overview of data on Asian births in Massachusetts for the years 1998-1999, which represent the most recent state birth data available. This supplement is intended for use in conjunction with *Asian Births in Massachusetts: 1996-1997*, although all necessary technical notes and definitions have been reproduced in this supplement. To obtain copies of the 1996-1997 report, please contact the Department as instructed on the preceding page.

Changes in birth data

Asian Births in Massachusetts: 1998-1999 Supplement presents, as closely as possible, natality data in a form that is consistent with data from 1995 and previous years. In 1996, Massachusetts implemented a major revision to the birth certificate form and installed a new Electronic Birth Certificate (EBC) system in Massachusetts maternity hospitals. As a result, beginning with 1996 birth data, there is new information that was previously not available (such as the mother's language preference) as well as greater specificity in some of the data elements, which more correctly reflects the populations under study. However, the transition to the new format affected several data elements, and not all data elements presented in this report can be compared precisely with previously published data. Changes reflected in the calculation of the Kessner Adequacy of Prenatal Care Index make the comparison of data for prenatal care presented in this report with data prior to 1996 inappropriate. Other data items are comparable over time, but may be affected by minor changes in data collection, recording and coding.

Notes on Data Sources

All the information on Massachusetts births contained in this report is based upon data from the Massachusetts certificate of live birth. The terms used for Asian ethnic groups in this report are taken from the list of ancestries provided on the birth certificate. These terms are referred to as ethnicities, although they may also represent nationalities. Issues of nationality may influence women's choices of ancestry on the birth certificate. For instance, if some Taiwanese or Tibetan women chose not to characterize their ancestry as Chinese, they would not be included under this ethnicity group.

Table of Contents

Technical Foreword	iii
Summary	1
Figures	3
1. Percentage of Asian Births by Ethnicity, Massachusetts: 1998-1999	5
2. Number of Chinese, Southeast Asian and Other Asian Births by Maternal Residence, in Selected Communities, Massachusetts: 1998 -1999	6
3. Percentage Preferring a Language Other than English Among Asian and White Non-Hispanic Mothers by Ethnicity, Massachusetts: 1998-1999	7
4. Percent Distribution of Adequate Prenatal Care Among Asian Mothers by Ethnicity and Place of Birth, Massachusetts: 1998-1999	8
5. Percent Distribution of Low Birthweight Infants to Asian Mothers by Ethnicity and Place of Birth, Massachusetts: 1998-1999	9
Tables	11
1. Distribution of Asian Births by Community, Massachusetts: 1998-1999	13
2a. Percent Distribution of Mother’s Demographic Characteristics by Ethnicity, Massachusetts: 1998-1999	14
2b. Distribution of Mother’s Demographic Characteristics by Ethnicity, Massachusetts: 1998-1999	15
3a. Percent Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity, Massachusetts: 1998-1999	16
3b. Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity, Massachusetts: 1998-1999	17
4a. Percent Distribution of Infant Characteristics by Mother’s Ethnicity, Massachusetts: 1998-1999	18
4b. Distribution of Infant Characteristics by Mother’s Ethnicity, Massachusetts: 1998-1999	19
5. Selected Birth Characteristics by Ethnicity in Selected Communities, Massachusetts: 1998-1999	20
Technical Notes	21
Glossary	23

SUMMARY

Changes in Asian Births from 1996-1997 to 1998-1999

During 1998 and 1999, there were 7,616 births among Massachusetts women of Asian ancestry, representing almost a 10% increase in the number of births from 1996-1997. The majority of the increase (57%) was among Asian Indian mothers. These 7,616 Asian births constituted 4.7% of all Massachusetts births during this period, a slightly higher proportion of statewide births than in 1996-1997 (4.3%). The majority of these births occurred among women of Chinese ancestry (30%), followed by Asian Indian (18%), Vietnamese (17%), and Cambodian (14%) ancestries (Figure 1). Based on observations of these 4 largest groups, increases occurred between 1996-1997 and 1998-1999 in percentages of: mothers who prefer the English language; adequacy of prenatal care; breastfeeding; and infants with low birthweight. These changes were consistent across most of the other Asian ancestry groups as well, although some of the groups were too small to provide stable estimates of change.

Maternal Demographics

As in the period of 1996-1997, almost half of all Asian births in Massachusetts were concentrated among residents of 7 cities: Boston (14%), Lowell (11%), Quincy (5%), Worcester (5%), Malden (4%), Cambridge (3%), and Lynn (3%) (Figure 2). Although Boston had the highest number of Asian births (1,039), only 7% of all births to Boston residents were to Asian women. In comparison, in Lowell, 25% of all resident births were to Asian women (Table 1).

In 1998-1999, approximately 15% of Asian women who gave birth had completed less than a high school education; 21% had completed a high school diploma or GED; 15% had completed some college education; and 49% had completed at least a college degree. A higher percentage of Asian mothers (15%) than White non-Hispanic mothers (4%) had not completed high school. Over two-thirds of Cambodian, Vietnamese and Laotian mothers had not completed education beyond high school. In contrast, over 85% of Asian Indian, Japanese and Korean mothers had completed college degrees (Table 2a).

Massachusetts mothers of Chinese ancestry were more likely to be older and married than White non-Hispanic mothers. For instance, about 6% of Chinese mothers were under the age of 25, compared with 16% of White non-Hispanic mothers. In contrast, Laotian (47%), Cambodian (45%), and Vietnamese (26%) mothers were more likely to be under 25 years old than White non-Hispanic mothers (Table 2a). Over 25% of Chinese, Japanese and Filipino mothers were over age 35, compared to less than 11% for Laotian, Vietnamese, Cambodian and Pakistani mothers. The majority of Asian mothers were born outside of the United States and indicated a preference for the English language rather than their native languages. Over half of Vietnamese and Cambodian mothers preferred other languages to English (Table 2a). Chinese mothers born in the People's Republic and Vietnam were also less likely to prefer English (Figure 3). (See Glossary for definition of language preference).

Prenatal Care

Adequacy of prenatal care varied between Asian ancestry groups. (Adequacy of prenatal care is a quantitative measure based on the timing and total number of prenatal visits; it is not a measure of the quality of care.) The percentage of Asian mothers receiving adequate prenatal care ranged from 46% to 87% (Figure 4). Chinese mothers born in Taiwan had the highest percentage of adequate prenatal care (87%), compared to White non-Hispanic mothers (83%). Southeast Asian women had considerably lower percentages of adequate prenatal care; Cambodian women had the lowest percentage, 46%. Asian women in some of the larger, urban communities such as Lowell (45%), Lynn (53%), Worcester (64%) and Springfield (67%) had lower percentages of adequate prenatal care than the statewide average for all Asian mothers (72%) (Table 5).

About seventy-three percent of Asian mothers had privately financed prenatal care, compared with 80% of White non-Hispanic mothers. In addition, 26% of Asian mothers had publicly financed prenatal care, compared with 15% of White non-Hispanic mothers. Source of payment for prenatal care also varied substantially among ancestry groups. Almost half of Cambodian mothers paid for prenatal care with public funds, compared with less than 7% of Japanese mothers (Table 3a).

Asian mothers were more likely to receive their prenatal care at physicians' offices (range of 47% to 80%) than at hospital clinics or community health centers. Compared to White non-Hispanic mothers (84%), Asian mothers were less likely to receive prenatal care at physicians' offices and more likely to receive care at hospital clinics (range of 9% to 26%) (Table 3a).

Breastfeeding

As in 1996-1997, Cambodian, Vietnamese and Laotian mothers continued to report the lowest percentages of breastfeeding (48%, 53% and 54% respectively). However, over 75% of all other Asian groups reported breastfeeding, in contrast with 71% of White non-Hispanic mothers (Table 3a).

Low Birthweight

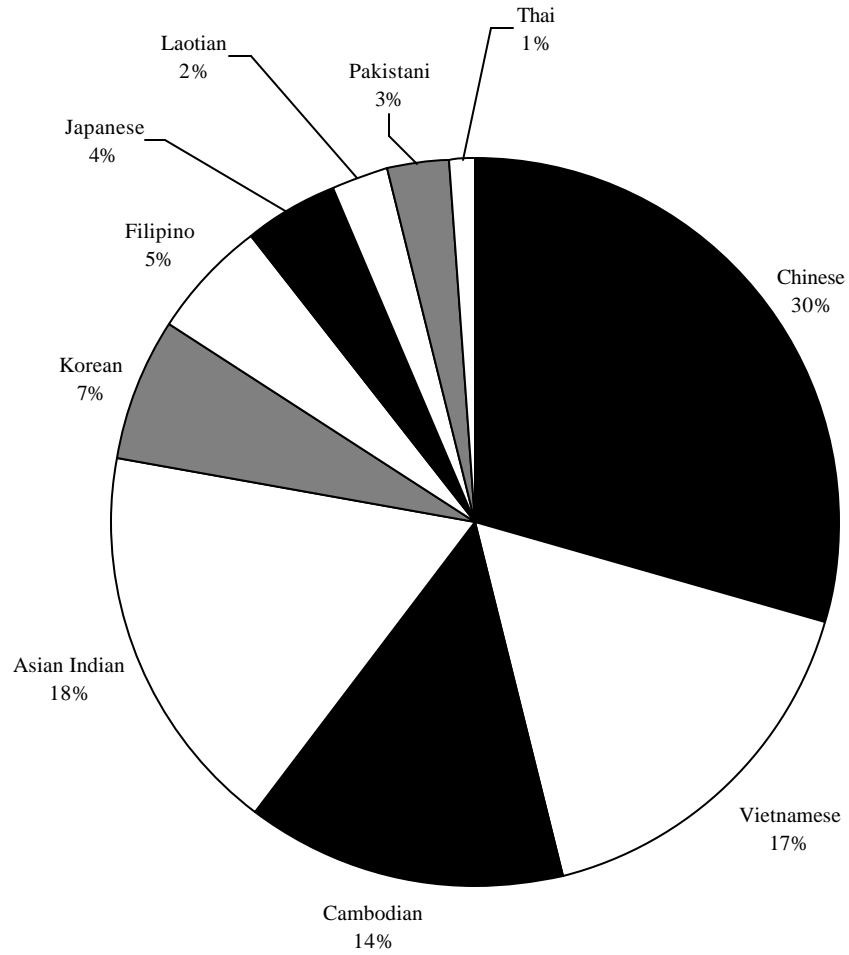
The percentage of infants with low birthweight (under 5.5 pounds) varied among Asian ethnicity groups. Chinese mothers overall had one of the lowest percentages of low birthweight infants (5.8%). However, Chinese women born in Hong Kong had one of the highest percentages of low birthweight infants (9.2%) while those born in Taiwan had one of the lowest (4.2%). Low birthweight percentages were over 8% for Thai (11.1%), Asian Indian (9.7%), Cambodian (9.4%), Filipino (9.1%), Japanese (8.8%) and Laotian (8.0%) mothers (Figure 5). Asian mothers in Lowell (10.8%) and Lynn (9.5%) had higher percentages of low birthweight infants than the statewide average for Asian mothers (8%) (Table 5).

Preterm Births

The percentages of preterm births (births before 37 weeks of gestation) also varied by Asian ethnicity. Overall, percentages were highest for Southeast Asian mothers, ranging from 6 to 15%. Chinese mothers had a lower percentage of preterm births than White non-Hispanic mothers did (6% and 7%, respectively) (Table 4a).

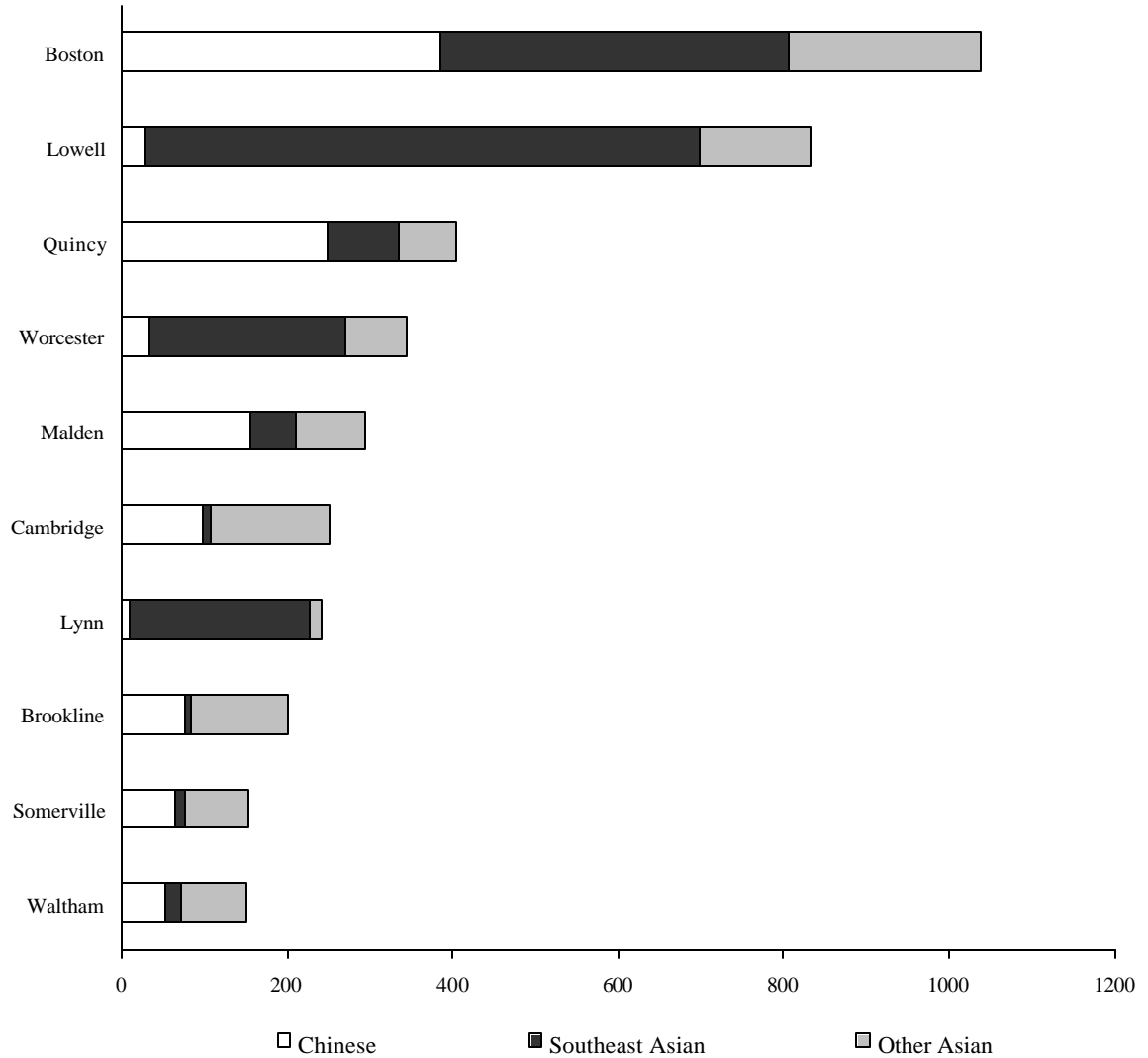
FIGURES

Figure 1. Percentage of Asian Births by Ethnicity
Massachusetts: 1998-1999



Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation (BHSR&E) (See Table 1.)

**Figure 2. Number of Chinese, Southeast Asian and Other Asian Births by Maternal Residence, in Selected Communities*
Massachusetts: 1998-99**

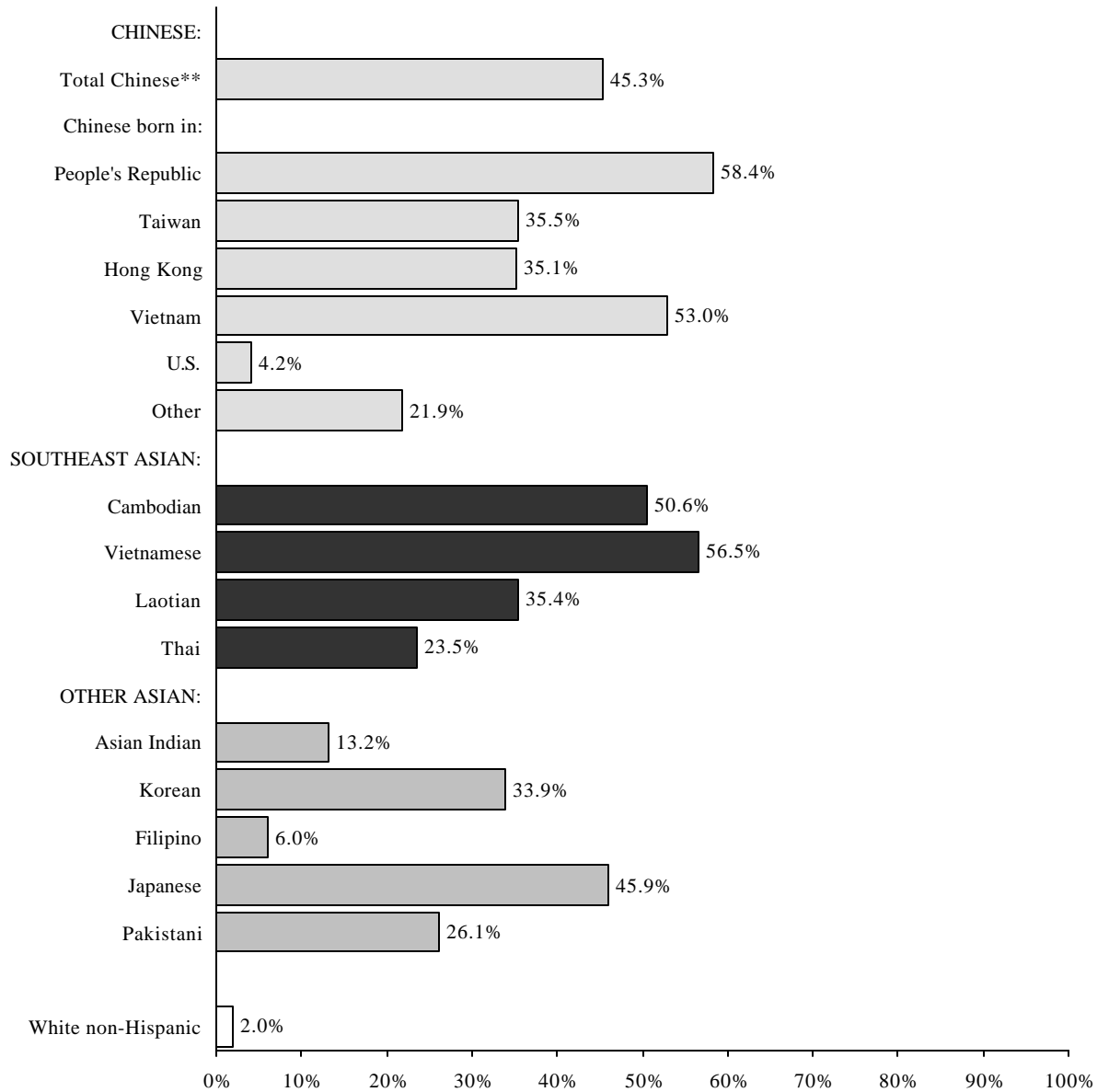


Source: Massachusetts Department of Public Health, BHSR&E (See Table 1)

* Cities and towns with 150 or more Asian births from 1998-1999.

Note: "Southeast Asian" = Cambodian, Vietnamese, Laotian, Thai.
"Other Asian" = Asian Indian, Korean, Filipino, Japanese, Pakistani.

**Figure 3. Percentage Preferring a Language* Other than English
Among Asian and White Non-Hispanic
Mothers by Ethnicity
Massachusetts: 1998-1999**



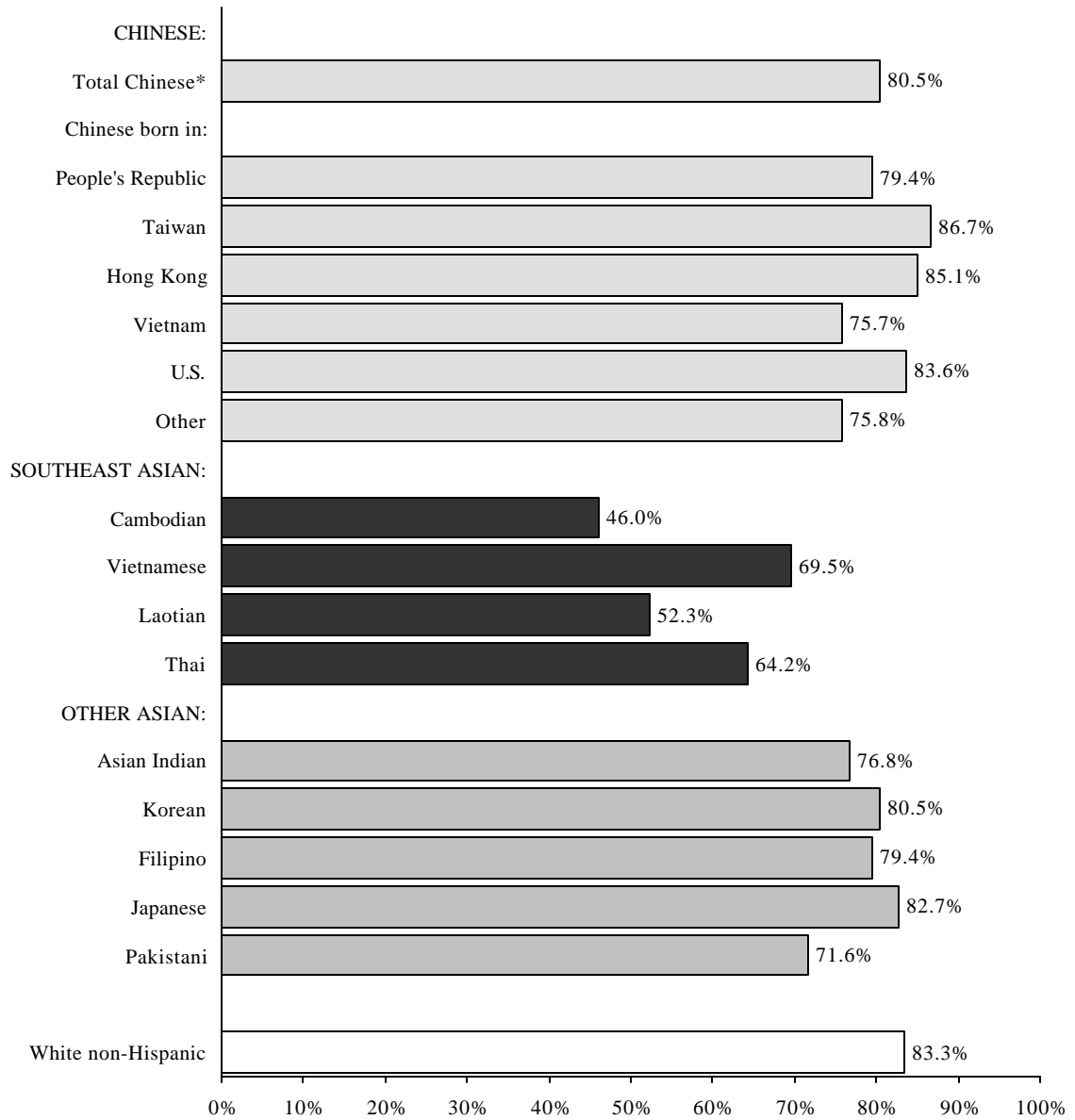
Source: Massachusetts Department of Public Health, BHSR&E (See Tables 2a and 2b.)

* Information on the mother's language preference is collected from the mother at the time of birth, based on the birth certificate question, "In what language does the mother prefer to read or discuss health-related materials?"

** Total includes 16 mothers whose place of birth is unknown.

Note: White Non-Hispanic group excludes women of Asian ancestry.

Figure 4. Percent Distribution of Adequate Prenatal Care
Among Asian Mothers by Ethnicity and Place of Birth
Massachusetts: 1998-99**



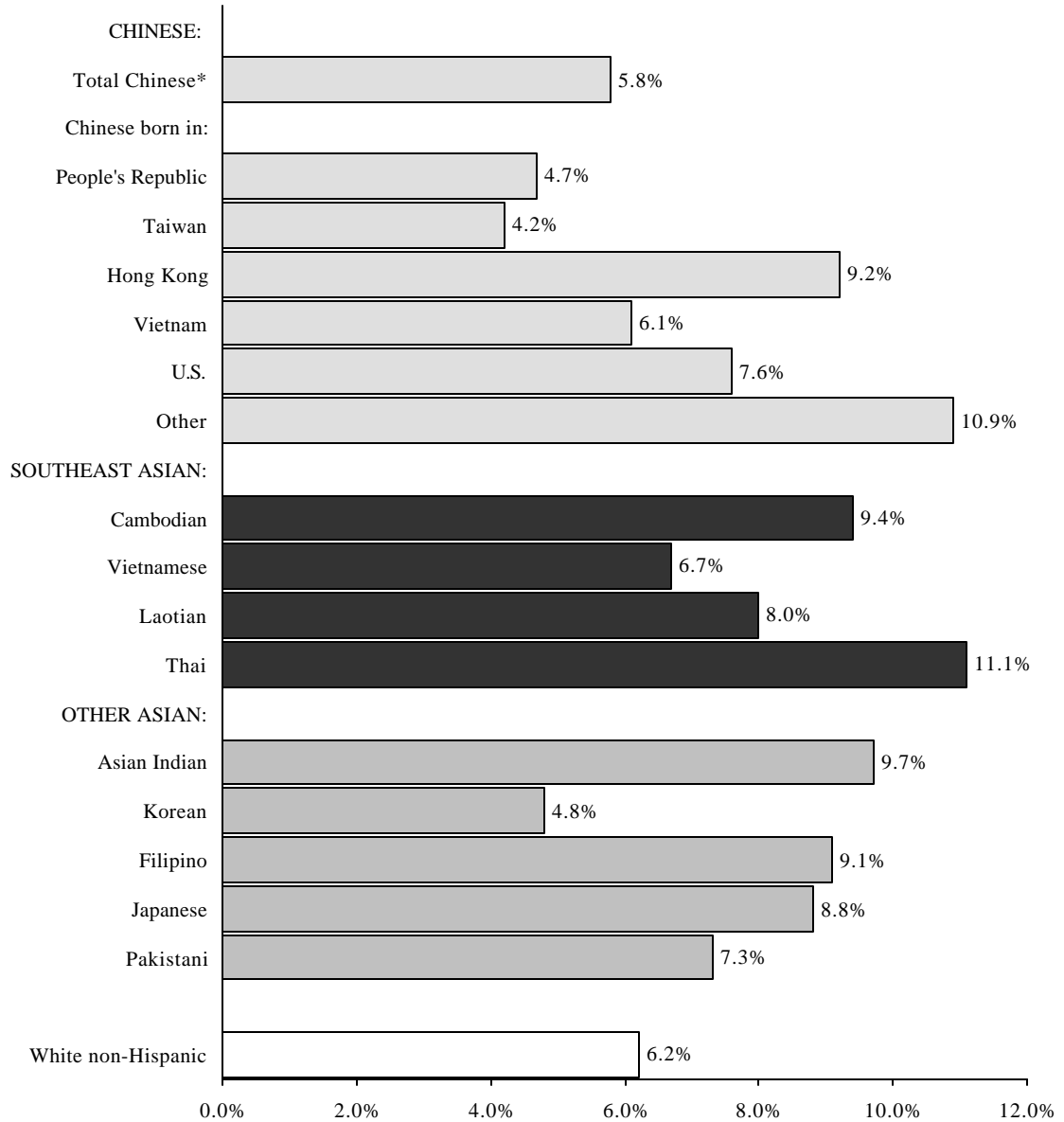
Source: Massachusetts Department of Public Health, BHSR&E (See Tables 3a and 3b.)

* Total includes 16 mothers whose place of birth is unknown.

** Excludes cases with unknown adequacy.

Note: Adequacy of prenatal care is a quantitative measure based on the timing and total number of prenatal visits; it is not a measure of the quality of care. Refer to the Glossary for a complete explanation.

Figure 5. Percent Distribution of Low Birthweight Infants to Asian Mothers by Ethnicity and Place of Birth**
 Massachusetts: 1998-99



Source: Massachusetts Department of Public Health, BHSR&E (See Tables 4a and 4b.)

*Total includes 16 mothers of Chinese ancestry whose place of birth is unknown.

** Low birthweight is defined as less than 2,500 grams (5.5 lbs.).

DETAILED TABLES

Table 1. Distribution of Asian Births by Community ¹: Massachusetts 1998-1999.

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	TOTAL ²
Boston	386	371	34	71	44	46	45	3	27	12	1,039
Lowell	29	50	547	113	6	10	0	65	5	8	833
Quincy	248	81	2	42	11	12	0	2	5	2	405
Worcester	34	212	9	36	10	13	6	12	9	4	345
Malden	157	50	5	42	21	5	4	0	11	0	295
Cambridge	98	6	1	53	54	6	21	0	10	3	252
Lynn	10	39	166	3	2	8	0	9	2	3	242
Brookline	78	4	2	19	34	6	52	0	5	0	200
Somerville	65	10	2	41	11	5	7	0	11	1	153
Waltham	52	10	2	53	13	7	5	7	0	1	150
Newton	92	6	2	16	13	2	14	0	2	2	149
Framingham	50	6	1	58	6	9	4	0	8	0	142
Springfield	9	66	3	5	4	7	4	10	5	1	114
Other towns	942	359	291	777	269	261	169	67	118	44	3,297
TOTAL	2,250	1,270	1,067	1,329	498	397	331	175	218	81	7,616

¹ Cities and towns with 100 or more Asian births from 1998-1999.

² This column does not include 460 total births to mothers of Hawaiian or "Other Asian/Pacific Islander" ancestry.

Table 2a. Percent Distribution of Mother's Demographic Characteristics by Ethnicity: Massachusetts 1998-1999.

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic ¹
Number of Births	2,250	1,270	1,067	1,329	498	397	331	175	218	81	119,636
U.S. born	11.0	1.5	4.4	3.2	10.2	20.2	14.5	6.3	4.1	9.9	92.2
Age, in years											
<18	-- ²	2.0	10.5	0.0	-- ²	-- ²	0.0	8.0	0.0	9.9	1.3
18-19	0.5	3.5	9.7	0.5	1.0	2.8	0.0	10.9	2.8	8.6	3.3
20-24	4.8	20.5	24.6	11.7	8.0	9.1	3.3	28.0	14.7	18.5	11.4
25-29	22.0	37.8	28.7	44.8	38.4	24.9	24.5	31.4	37.2	22.2	25.2
30-34	41.6	25.4	15.8	33.3	37.8	39.3	38.7	13.1	34.4	23.5	36.0
35-39	26.2	8.8	8.6	8.6	12.9	18.6	27.8	8.0	9.6	12.3	19.1
40+	4.7	2.0	2.1	1.1	1.8	5.0	5.7	-- ²	-- ²	-- ²	3.7
Education completed ³											
less than high school	10.1	33.2	38.3	2.7	1.2	2.3	-- ²	26.1	7.1	10.6	3.7
high school	18.4	35.7	37.0	8.2	12.6	17.9	12.4	43.0	15.2	16.7	23.8
some college	13.0	19.1	17.4	9.5	15.0	20.5	22.7	24.6	14.3	27.3	27.1
college graduate	27.8	9.2	5.9	40.4	44.1	46.2	41.7	4.9	42.9	27.3	30.9
more than college	30.8	2.8	1.4	39.3	27.0	13.0	22.7	-- ²	20.5	18.2	14.5
Marital status											
married	95.4	71.0	44.5	98.4	94.0	85.9	95.2	56.6	99.5	61.7	81.5
not married	4.6	29.0	55.5	1.6	6.0	14.1	4.8	43.4	-- ²	38.3	18.5
Language preference											
English	54.7	43.5	49.4	86.8	66.1	94.0	54.1	64.6	73.9	76.5	98.0
Cambodian	0.2	0.4	48.3	-- ²	0.0	0.0	0.0	0.0	0.0	-- ²	0.0
Cantonese	24.0	1.0	-- ²	-- ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lao	0.0	-- ²	-- ²	0.0	0.0	0.0	0.0	26.9	0.0	0.0	-- ²
Mandarin	13.0	-- ²	-- ²	0.0	0.0	0.0	-- ²	0.0	0.0	0.0	0.0
Vietnamese	0.7	53.4	-- ²	-- ²	0.0	0.0	0.0	0.0	0.0	0.0	-- ²
Other	7.3	1.6	1.5	12.9	33.9	6.0	45.6	8.6	26.1	19.8	2.0

¹ White Non-Hispanic group excludes women of Asian ancestry.

² Percentages based on fewer than five events are excluded.

³ Women 20 years of age and older.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table 2b. Distribution of Mother's Demographic Characteristics by Ethnicity: Massachusetts 1998-1999.

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic ¹
Number of Births	2,250	1,270	1,067	1,329	498	397	331	175	218	81	119,636
U.S. born	245	19	47	43	51	80	48	11	9	8	110,269
Age, in years											
<18	3	26	112	0	1	1	0	14	0	8	1,608
18-19	12	45	103	6	5	11	0	19	6	7	3,913
20-24	109	260	263	156	40	36	11	49	32	15	13,633
25-29	495	480	306	595	191	99	81	55	81	18	30,167
30-34	936	322	169	443	188	156	128	23	75	19	43,054
35-39	589	112	92	114	64	74	92	14	21	10	22,843
40+	106	25	22	15	9	20	19	1	3	4	4,418
Education completed ²											
less than high school	225	398	326	36	6	9	2	37	15	7	4,210
high school	411	427	315	108	62	69	41	61	32	11	27,177
some college	290	229	148	125	74	79	75	35	30	18	30,876
college graduate	621	110	50	534	217	178	138	7	90	18	35,236
more than college	688	33	12	519	133	50	75	2	43	12	16,557
Marital status											
married	2,146	902	475	1,307	468	340	315	99	217	50	97,483
not married	104	368	592	21	30	56	16	76	1	31	22,134
Language preference											
English	1,231	552	527	1,153	329	373	179	113	161	62	117,259
Cambodian	5	5	515	2	0	0	0	0	0	3	6
Cantonese	540	13	1	1	0	0	0	0	0	0	0
Lao	0	1	3	0	0	0	0	47	0	0	1
Mandarin	293	1	2	0	0	0	1	0	0	0	0
Vietnamese	16	678	3	1	0	0	0	0	0	0	1
Other	164	20	16	172	169	24	151	15	57	16	2,367

¹ White Non-Hispanic group excludes women of Asian ancestry.

² Women 20 years of age and older.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table 3a. Percent Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity: Massachusetts 1998-1999.

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,250	1,270	1,067	1,329	498	397	331	175	218	81	119,636
Adequate prenatal care ¹	80.5	69.5	46.0	76.8	80.5	79.4	82.7	52.3	71.6	64.2	83.3
Payment source ²											
private	77.5	57.1	46.4	93.2	84.1	85.5	91.2	63.4	62.2	64.2	82.6
public	21.8	41.6	52.0	5.8	13.7	12.9	6.4	36.0	35.0	33.3	16.2
self	0.4	0.7	0.5	0.8	1.0	-- ³	1.5	-- ³	2.8	-- ³	0.5
Site of care											
physician's office	58.4	47.1	48.5	79.9	71.7	75.8	71.6	66.7	62.8	64.2	84.1
hospital clinic	12.9	16.8	26.1	9.4	11.6	12.1	18.0	16.1	21.1	18.5	6.8
community health center	18.1	25.2	14.9	1.6	1.8	2.3	2.4	4.6	5.5	-- ³	2.0
HMO/other	10.6	10.9	10.5	9.1	14.8	9.8	8.0	12.6	10.6	12.3	7.1
Breastfeeding ⁴											
yes	80.7	53.0	47.6	95.1	90.2	86.8	94.8	54.3	95.0	77.8	71.3
no	19.3	47.0	52.4	4.9	9.8	13.2	5.2	45.7	5.0	22.2	28.7
Pediatric provider named?											
yes	81.6	95.0	99.3	96.6	96.8	98.5	96.7	98.9	98.2	100.0	98.1
no	18.4	5.0	0.7	3.4	3.2	1.5	3.3	-- ³	-- ³	0.0	1.9

¹ Adequate prenatal care: See technical notes for definition of adequacy of care.

² Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

Public = Medicaid/MassHealth, Medicare, Healthy Start, free care, other government source of payment

Self = Self-pay

³ Percentages based on fewer than five events are excluded.

⁴ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

**Table 3b. Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity:
Massachusetts 1998-1999.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non- Hispanic
Number of Births	2,250	1,270	1,067	1,329	498	397	331	175	218	81	119,636
Adequate prenatal care ¹	1,808	878	486	1,017	401	313	273	91	156	52	99,274
Payment source ²											
private	1,735	724	495	1,229	418	337	300	111	135	52	98,300
public	489	527	555	76	68	51	21	63	76	27	19,277
self	10	9	5	10	5	3	5	1	6	2	579
Site of care											
physician's office	1,296	594	512	1,040	353	295	234	116	137	52	98,865
hospital clinic	286	212	276	122	57	47	59	28	46	15	7,989
community health center	403	317	157	21	9	9	8	8	12	4	2,318
HMO/other	236	137	111	118	73	38	26	22	23	10	8,380
Breastfeeding ³											
yes	1,811	673	508	1,253	449	342	312	95	207	63	84,877
no	433	596	559	64	49	52	17	80	11	18	34,157
Pediatric provider named?											
yes	1,836	1,206	1,060	1,284	482	391	320	173	214	81	117,305
no	414	64	7	45	16	6	11	2	4	0	2,331

¹ Adequate prenatal care: See technical notes for definition of adequacy of care.

² Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

Public = Medicaid/MassHealth, Medicare, Healthy Start, free care, other government source of payment

Self = Self-pay

³ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table 4a. Percent Distribution of Infant Characteristics by Mother's Ethnicity: Massachusetts 1998-1999.

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,250	1,270	1,067	1,329	498	397	331	175	218	81	119,636
Birthweight (g)											
< 1,500	0.8	0.9	0.8	1.1	-- ¹	2.0	-- ¹	-- ¹	2.8	0.0	1.1
1,500 - 2,499	4.9	5.7	8.5	8.6	4.0	7.1	8.5	6.9	4.6	11.1	5.1
2,500 - 3,999	87.3	88.7	88.0	85.8	88.2	83.4	84.8	89.7	89.9	87.7	80.3
4,000+	6.9	4.6	2.6	4.5	7.0	7.6	6.4	-- ¹	2.8	-- ¹	13.5
Gestational age (weeks)											
< 37	6.2	7.0	8.1	7.1	5.8	10.4	4.9	5.7	7.8	14.8	6.9
37 -42	93.5	92.6	91.9	92.9	93.8	89.6	95.1	94.3	92.2	85.2	92.9
43+	0.2	-- ¹	0.0	0.0	-- ¹	0.0	0.0	0.0	0.0	0.0	0.1
Sex of infant: female	49.4	50.4	49.0	46.0	46.0	51.4	47.7	50.3	43.6	40.7	48.7
Abnormal condition of newborn											
jaundice	11.0	11.5	14.2	12.1	15.3	14.4	13.0	16.0	14.2	21.0	12.2
	6.5	6.0	4.0	5.2	9.9	9.4	7.3	-- ¹	9.6	9.9	4.7

¹ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table 4b. Distribution of Infant Characteristics by Mother's Ethnicity: Massachusetts 1998-1999.

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non- Hispanic
Number of Births	2,250	1,270	1,067	1,329	498	397	331	175	218	81	119,636
Birthweight (g)											
< 1,500	19	12	9	15	4	8	1	2	6	0	1,268
1,500 - 2,499	111	73	91	113	20	28	28	12	10	9	6,138
2,500 - 3,999	1,962	1,127	938	1,131	439	331	279	157	196	71	95,913
4,000+	156	58	28	59	35	30	21	4	6	1	16,129
Gestational age (weeks)											
< 37	140	89	86	94	29	41	16	10	17	12	8,276
37 -42	2,099	1,172	981	1,222	466	353	313	165	200	69	110,838
43+	5	4	0	0	2	0	0	0	0	0	158
Sex of infant: female	1,111	640	523	612	229	204	158	88	95	33	58,289
Abnormal condition of newborn jaundice	247 145	146 76	151 42	161 69	76 49	57 37	43 24	28 2	31 21	17 8	14,649 5,550

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

**Table 5. Selected Birth Characteristics by Mother's Ethnicity
in Selected Communities: Massachusetts 1998-1999**

	Total Births	Low Birthweight		Adequate Prenatal Care		Public ¹ Source of Prenatal Care Payment	
		Number	Percent	Number	Percent	Number	Percent
Boston							
Chinese	386	23	6.0	309	80.1	188	48.8
Vietnamese	371	22	5.9	250	67.8	201	54.2
All Asians	1,039	69	6.6	785	75.9	448	43.2
White non-Hispanic	5,576	353	6.3	4,724	85.0	1,147	20.6
Lowell							
Cambodian	547	59	10.8	210	38.7	302	55.2
Asian Indian	113	16	14.3	69	61.1	8	7.1
Laotian	65	8	12.3	33	51.6	28	43.1
All Asians	833	90	10.8	371	44.9	363	43.6
White non-Hispanic	1,703	135	7.9	1,152	68.2	659	39.2
Quincy							
Chinese	248	19	7.7	196	79.4	94	37.9
All Asians	405	33	8.2	328	81.2	129	31.9
White non-Hispanic	1,589	94	5.9	1,415	89.3	282	17.8
Worcester							
Vietnamese	212	16	7.5	133	63.3	87	41.2
All Asians	345	25	7.2	220	64.1	108	31.4
White non-Hispanic	2,755	189	6.9	1,924	70.1	830	30.2
Malden							
Chinese	157	6	3.8	124	80.0	59	37.6
All Asians	295	19	6.4	236	80.5	83	28.1
White non-Hispanic	918	71	7.8	746	81.8	188	20.6
Lynn							
Cambodian	166	10	6.0	82	49.7	96	57.8
All Asians	242	23	9.5	126	52.5	129	53.3
White non-Hispanic	1,295	106	8.2	974	75.7	458	35.4
Cambridge							
Chinese	98	2	-- ²	87	88.8	6	6.1
All Asians	252	15	6.0	211	83.7	20	8.0
White non-Hispanic	1,202	77	6.4	1,031	85.9	97	8.1
Newton							
Chinese	92	7	7.6	82	89.1	8	8.7
All Asians	149	11	7.4	135	90.6	11	7.4
White non-Hispanic	1,438	84	5.8	1,281	89.5	37	2.6
Brookline							
All Asians	200	16	8.0	173	86.5	8	4.0
White non-Hispanic	925	61	6.6	850	91.9	31	3.4
Somerville							
All Asians	153	9	5.9	120	78.4	47	30.7
White non-Hispanic	1,133	59	5.2	921	81.7	242	21.4
Waltham							
All Asians	150	9	6.0	116	77.9	10	6.7
White non-Hispanic	885	51	5.8	754	85.7	90	10.2
Springfield							
All Asians	114	6	5.3	76	66.7	59	51.8
White non-Hispanic	1,634	132	8.1	1,215	75.0	591	36.2
Framingham							
All Asians	142	11	7.7	128	90.1	12	8.5
White non-Hispanic	1,363	91	6.7	1,196	87.7	223	16.4

¹ Public= Medicaid/Mass Health, Medicare, Healthy Start, free care, or other government source of payment.

² Percentages based on fewer than five events are excluded.

Technical Notes

Limitations of Small Numbers

Cells in some tables in this publication, and particularly those tables specific to the individual cities and towns, contain small numbers and are suppressed in accordance with the guidelines set forth by the MDPH-BHSR&E for suppression of confidential data. Proportions based upon less than five observations are suppressed, and trends based upon small numbers should be interpreted cautiously.

Self-reported Data

Many items used in this publication, such as maternal smoking and type of health insurance coverage, are self-reported.

Assignment of an Infant's Race/Ethnicity

Prior to 1989, the race/ethnicity of an infant was assigned by combining information on the race/ethnicity of the mother and the race/ethnicity of the father. Since 1989, Massachusetts has followed the recommendation of the National Center for Health Statistics of classifying births according to the self-reported race/ethnicity of the mother. Therefore, beginning in 1989, the race/ethnicity of an infant is identical to the self-reported race/ethnicity of the infant's mother. Beginning in 1996, the list of ethnic categories on the birth certificate was modified. The categories used for analysis in this report are: Asian Indian, Cambodian, Chinese, Filipino, Japanese, Korean, Laotian, Pakistani, Thai, and Vietnamese.

This report utilizes the Ancestry/Ethnicity field from the birth certificate. The actual question on the birth certificate reads: "Please check *one* box which you feel best describes the mother's ancestry." A list of 42 ancestry groups is available from which to choose. Note that the ancestry question is separate from the question regarding the mother's race. The race variable was not used to identify mothers for inclusion in this report; therefore, women of the 10 Asian ancestries included in this report could be of any race (White, Black, Asian, American Indian or Other).

Glossary

Anemia

Hemoglobin level of less than 13.0g/dL, or a hemocrit of less than 39%.

Adequacy of Prenatal Care

The Index of Adequacy of Prenatal Care (based on the Kessner Index) has five categories (adequate, intermediate, inadequate, no prenatal care, and unknown), based on the trimester in which prenatal care began and the number of prenatal visits. It is a quantitative measure and is not a measure of quality of care. The general classification scheme for full-term infants is as follows:

Category	Trimester Care Began	Number of Visits
Adequate	1	9 or more
Intermediate	1	5-8
	2	5 or more
Inadequate	1	1-4
	2	1-4
	3	1 or more
No prenatal care	--	0
Unknown	Unknown	unknown

This classification is adjusted for gestational age to allow for proper classification of premature births.

Birthweight

The weight of an infant recorded at the time of delivery. It may be recorded in either pounds/ounces or grams. If recorded in pounds/ounces, it is converted to grams for use in this report.

1 pound = 453.6 grams

1,000 grams = 2 pounds and 3 ounces

Birthweight Categories

Low birthweight (LBW): An infant's weight of less than 2,500 grams (5.5 pounds) recorded at birth.

Very low birthweight (VLBW): An infant's weight of less than 1,500 grams (3.3 pounds) recorded at birth.

Breastfeeding

Mother was or was intending to breastfeed at the time the birth certificate was completed.

Cesarean Section or C-Section

Primary: A mother's first Cesarean section delivery.

Repeat: A Cesarean delivery that has been preceded by at least one Cesarean delivery.

Cesarean Section Rates

$$\text{Total C-section rate} = \frac{\text{Number of C-section births}}{\text{Number of births}} \times 100$$

Diabetes

Metabolic disorder characterized by excessive discharge of urine and persistent thirst; includes juvenile onset, adult onset, and gestational diabetes during pregnancy.

Early Gestational Age or Preterm

Infants born before the mother completed the 37th week of pregnancy.

Eclampsia

A medical condition that affects women during or shortly after pregnancy. The condition may involve hypertension, edema, proteinuria, convulsions and coma.

Education

The level of education completed is provided on the birth certificate by the mother. The analysis of education presented in this report is limited to women 20 years of age and older.

Ethnicity

See the section in the Technical Notes titled: Assignment of an Infant's Race/Ethnicity

Gestational Age

Gestational age refers to the number of weeks the infant was in utero. Infants born before the mother completed the 37th week of pregnancy are considered early gestational age or preterm.

HMO

Health Maintenance Organization

Healthy Start

A Massachusetts-funded program providing services and financing for prenatal care to low-income pregnant women who lack health insurance but do not qualify for Medicaid.

Hepatitis B Carrier

An individual with ongoing evidence of infection with hepatitis B virus, as determined by the presence of hepatitis B surface antigen in the blood, likely to be more than six months after an acute episode of hepatitis B virus infection.

Hypertension

This includes both chronic and pregnancy-related hypertension (or high blood pressure).

Jaundice

A condition characterized by high levels of bilirubin (a bilirubin count greater than 10) and a yellowing of the patient's skin.

Language Preference

Information on the mother's language preference is collected from the mother at the time of birth, based on the birth certificate question, "In what language does the mother prefer to read or discuss health-related materials?"

Live Birth

A live birth is any infant who breathes or shows any other evidence of life (such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles) after separation from the mother's uterus, regardless of the duration of gestation.

Low Birthweight (LBW)

See Birthweight Categories.

MISER

MISER is the acronym for the Massachusetts Institute for Social and Economic Research. MISER, which is the official state data center designated by the U.S. Census Bureau, produces annual population estimates for intercensal years. MISER produces estimates of the combined Asian/Pacific Islander/American Indian population. These estimates are then modified by the Bureau of Health Statistics, Research & Evaluation of the Massachusetts Department of Public Health to create separate estimates for the Asian and Pacific Islander population and the American Indian population.

NCHS

National Center for Health Statistics (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention).

Non-U.S.-Born

Not born in the United States, its possessions or protectorates. (Those born in Puerto Rico, the U.S. Virgin Islands, and Guam are considered U.S.-born.)

Pediatric Provider

Information is collected on the birth certificate regarding whether or not the mother has already identified a pediatric provider for her newborn.

Private Insurance

Blue Cross/Blue Shield, commercial insurance, and health maintenance organizations (HMOs)

Public Insurance

Medicaid, Medicare, Healthy Start and other government programs.

Occurrence Birth

A birth occurring in the Commonwealth of Massachusetts, regardless of the residency of the mother. For individual cities/towns, an occurrence birth represents any birth occurring in that city/town, regardless of the residence of the mother. See Resident Birth.

Parity

The total number of live infants ever born to a woman, including the current birth.

Plurality

The number of births to a woman produced in the same gestational period. A singleton is the birth of one infant, twins represent the birth of two infants, etc.

Race

See the section in the Technical Notes titled: Assignment of an Infant's Race/Ethnicity.

Resident Birth

The birth of an infant whose mother reports that her usual place of residence is in Massachusetts. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Vital statistics data may be presented in terms either of residence or of occurrence. All data in this publication are resident data. Resident data include all events that occur to residents of the Commonwealth, wherever they occur. Occurrence data include all events that occur within the state, whether to residents or nonresidents. There is an exchange agreement among the 50 states, District of Columbia, Puerto Rico, Virgin Islands, Guam, and Canada that provides for exchange of copies of birth and death records. These records are used for statistical purposes, only, and allow each state or province to track the births and deaths of its residents.

Small for Gestational Age

The measurement of “small for gestational age” refers to the weight of the infant after taking into consideration the number of completed weeks of pregnancy.

Smoking

Information on smoking status, both before pregnancy and during pregnancy, is provided on the birth certificate by the mother.

U.S.-Born

Born in the United States, its possessions, or its protectorates. Those born in Puerto Rico, the US Virgin Islands, and Guam are considered U.S.-born.

Very Low Birthweight (VLBW)

See Birthweight Categories.