

# *Asian Births in Massachusetts 1996-1997*

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## Technical Foreword

### Focus of this report

This is a report about Asian births in Massachusetts and includes all births in 1996 and 1997 to women residing in Massachusetts who identified their ancestry on the birth certificate as one of the groups with origins in the continent of Asia. These ancestry/ethnicity groups include: *Asian Indian, Cambodian, Chinese, Filipino, Japanese, Korean, Laotian, Pakistani, Thai, and Vietnamese*.<sup>1</sup> Data for these subgroups are presented for a variety of perinatal indicators statewide and for individual communities with high numbers of Asian births. For mothers of Chinese ethnicity (the largest group), data is further categorized and presented by the mother's place of birth. The comparison group for these analyses is White non-Hispanic mothers who are not of Asian ancestry. Note that the ethnicity of an infant is based upon the self-reported ethnicity of the infant's mother.

The purpose of this report is to provide data describing characteristics of births to Asian women in Massachusetts. It is not within the scope of this report to provide more complex analyses of birth outcomes among women of Asian ancestries. As such, this report does not provide measures of statistical significance. Rather, this report presents important baseline data on perinatal health outcomes of Asian women and infants in Massachusetts for 1996-1997.

The first edition of the report "Chinese and Southeast Asian Births," published in 1993, covered four years of birth data from 1987 to 1990 and focused on births to mothers of Chinese, Vietnamese, Cambodian and Laotian ethnicities. Since the late 1980s, the number of annual births among all Asian ancestry groups has increased considerably in Massachusetts, from 2,498 in 1987 to 3,876 in 1997. The *Asian Births Report Task Force*, comprising representatives from the community of Asian health service providers and researchers, considered whether to replicate the earlier report by focusing on births to mothers only of Chinese and Southeast Asian ancestries or to expand the content of the report to include a broader focus. The Task Force recommended using the most inclusive list of subgroups, providing the maximum amount of information for program planners, community advocates and policy makers throughout the Commonwealth. We have used data for all subgroups where there was an adequate number of births to support analysis.

### 1998-1999 Supplement

Accompanying this report is a supplement that provides a summary of data on Asian Births in Massachusetts during 1998-1999, the most recent data available.

### Changes in birth data

*Asian Births in Massachusetts 1996-1997* 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.

In this publication, the term "Asian and Pacific Islander" refers to the 1990 U.S. Census race category. It is not used interchangeably with the term "Asian," which does not include Pacific Islanders. Both terms appear throughout Chapter 1, but refer to two distinct classifications.

There are a few limitations to using 1990 census data. Although the 1990 census data is the most recent data currently available, it does not reflect changes in the population during the past 10 years. Second, there are known inaccuracies in census counts, particularly for Asian and Pacific Islanders. As measured by the net undercount, census-taking accuracy has shown an historic improvement from over 4 percent in 1950, to near 3 percent in 1960 and 1970 to a level of below 2 percent for the 1980 and 1990 censuses<sup>1</sup>. The Census Bureau has historically used two approaches to measuring the undercount. One method uses birth and death records, immigration records and previous censuses to estimate the true population. This estimate is compared to the census count to measure the difference. The Census Bureau also conducts special surveys to measure the undercount. A scientific sample of census blocks are reinterviewed independently of the census enumeration. The results of these interviews are checked against the census records on an individual basis to see who was missed and who was counted in error. However, underlying the steady improvement in the national average undercount is a persistent differential undercount for Hispanic Americans, Native Americans, Blacks, and Asian and Pacific Islanders. These groups tend to be undercounted more than White non-Hispanics due to social and geographic factors.

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1. Births to women listing their ancestry as "Hawaiian" (21 births) or "Other Asian/Pacific Islander" (365 births) for the period 1996-1997 are not included in this report.

2. *1993 Research Conference on Undercounted Ethnic Populations*. U.S. Bureau of the Census web page, <http://www.census.gov/>.

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# EXECUTIVE SUMMARY

## Overall Implications

In Massachusetts, the Asian and Pacific Islander population is large and heterogeneous. There is more variation within the different Asian groups than between the Asian population overall and other race categories such as White non-Hispanics. These differences within the Asian population have substantial implications for program development and health policy.

Cambodian and Vietnamese mothers appear to be at a disadvantage when compared with other Asian groups; these mothers are more likely to be younger, less educated, and less likely to breastfeed than White non-Hispanic mothers and other Asian mothers. In addition, Vietnamese and Cambodian mothers had the lowest percentages of adequate prenatal care and the highest percentages of public funding for this care, compared with other Asian groups as well as White non-Hispanics. Both Vietnamese and Cambodian mothers prefer to converse in their native languages rather than in English.

## Demographics

According to 1998 population estimates from the Massachusetts Institute for Social and Economic Research (MISER), there are 182,960 Asian and Pacific Islanders living in Massachusetts, constituting about 3% of the total population in the Commonwealth. According to 1990 Census data, the Chinese population comprises the largest group with approximately 37% of all Asian and Pacific Islanders in Massachusetts. The next three largest groups are Asian Indian (14%), Vietnamese (11%), and Cambodian (10%).

The Asian and Pacific Islander population is the fastest growing population group in Massachusetts. While the overall population growth in Massachusetts was only 5% between 1980 and 1990, the Asian and Pacific Islander population grew 171%, from 52,615 to 143,392. For the period between 1990 and 1998, the Asian and Pacific Islander population continues to be the fastest growing population (26%) in Massachusetts. This growth varied substantially by geographic location within Massachusetts.

According to 1990 Census data, the Asian and Pacific Islander population is mostly concentrated in Boston, followed by Lowell, Cambridge, Quincy and Worcester. Yet within these communities, the distribution of Asian and Pacific Islander ethnic groups varies enormously. For instance, in Quincy and Boston, the largest group is Chinese (75% and 55%, respectively), while in Lowell, 56% of the Asian and Pacific Islander population is Cambodian.

Educational attainment is skewed among Asian and Pacific Islanders. Based on 1990 Census data, they have a higher percentage of college graduates compared with the state overall but also a higher percentage of persons with less than a high school education. In addition, Asian and Pacific Islanders had a lower average household income in 1990 and a higher proportion below the poverty level than the statewide averages.

## **Births**

During 1996 and 1997, there were 6,960 births among Massachusetts women of Asian ancestry, constituting 4.3% of all births in the state. The majority of these births occurred among women of Chinese ancestry (31%), followed by Vietnamese (18%), Cambodian (14%) and Asian Indian (14%).

The average annual number of births to Massachusetts women of Vietnamese and Chinese ancestries increased between the periods 1987-1990 and 1996-1997 by 39% and 21%, respectively. In contrast, average annual births to Cambodian and Laotian women declined by 22% and 20%, respectively, between these two time periods.

Almost half of all Asian births in Massachusetts were concentrated among residents of 7 cities: Boston (16%), Lowell (11%), Quincy (5%), Worcester (5%), Malden (4%), Lynn (3%) and Cambridge (3%). Over one-third of all Asian births in the state occurred at three hospitals: Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, and Lowell General Hospital (13%, 13%, and 10%, respectively).

### ***Maternal Demographics***

Massachusetts mothers of Chinese ancestry were more likely to be older and married than White non-Hispanic mothers. For instance, 5% of Chinese mothers were under the age of 25, compared with 17% of White non-Hispanic mothers. In contrast, Laotian (46%), Cambodian (43%), and Vietnamese (32%) mothers were more likely to be under 25 years old than White non-Hispanic mothers were. 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<sup>1</sup>. Vietnamese and Cambodian mothers preferred their native languages to English.

Marked variation in maternal age, education and marital status exists among Chinese mothers according to place of birth. For instance, Chinese mothers born in the United States and Vietnam were more likely to be under 25 years old and unmarried than other Chinese mothers. Massachusetts mothers of Chinese ancestry born in Vietnam and the People's Republic of China were more likely to have less than a high school education and less likely to prefer English than Chinese women born elsewhere.

### ***Maternal Risk Factors***

During 1996 and 1997, mothers of Asian ancestry were less likely to smoke prior to pregnancy than White non-Hispanic mothers (3% vs. 22%). Likewise, Asian mothers were less likely to smoke during pregnancy than White non-Hispanic mothers (2% vs. 14%).

Several maternal medical conditions were more frequently mentioned on birth certificates of infants born to Asian mothers compared with White non-Hispanic mothers in 1996 and 1997. These conditions were anemia, diabetes, and hepatitis B carrier. Delivery by Cesarean section was reported less frequently among Chinese mothers than among White non-Hispanics, with the exception of Hong Kong-born and Vietnamese-born Chinese mothers. Filipino and Thai mothers had higher percentages of delivery by Cesarean section than White non-Hispanic mothers did.

### ***Prenatal Care***

Adequacy of prenatal care varied between Asian ancestry groups. The percentage of Asian mothers receiving adequate prenatal care ranged from 45% to 79%. Southeast Asian women had considerably lower percentages of adequate prenatal care; Cambodian women had the lowest percentage (45.1%).

Source of payment for prenatal care varied substantially by mother's ancestry. Forty-six percent of Vietnamese mothers and approximately half of Cambodian mothers had prenatal care paid with public funds, compared with only 7% of Japanese mothers and 23% of Chinese mothers.

Asian mothers were more likely to receive their prenatal care at physicians' offices (range of 41% to 75%) than at hospital clinics or community health centers. The percentages of Asian mothers receiving prenatal care percentages at physicians' offices were lower than for White non-Hispanic mothers (82%). Asian mothers used hospital clinics more often (range of 11% to 25%) than White non-Hispanic mothers did (7%).

### ***Breastfeeding***

Vietnamese, Laotian and Cambodian mothers reported the lowest percentages of breastfeeding or intent to breastfeed (41%, 40% and 35%, respectively). Asian Indian, Korean, Thai, Filipino, Japanese and Pakistani mothers had high percentages (all above 80%) of breastfeeding or intent to breastfeed compared with White non-Hispanic mothers (68%).

### ***Low Birthweight***

Infant birthweight varied not only across Asian ethnicities but within as well. While Chinese mothers overall had one of the lowest percentages of low birthweight infants (weighing less than 5.5 pounds) in Massachusetts (4.9%), Chinese women born in the U.S. had a higher percentage of low birthweight infants (8.4%). Low birthweight percentages were at least 8.5% for Pakistani, Laotian, Cambodian, Asian Indian and Thai mothers.

### ***Preterm Births***

The percentages of preterm births (births before 37 weeks of gestation) also varied by ethnic group. Overall, percentages were highest for Southeast Asian mothers, ranging from approximately 6-10%. Chinese mothers had a lower percentage of preterm births than White non-Hispanic mothers (4.9% and 6.6%, respectively), except for Chinese mothers born in the United States, who had a higher percentage (7.2%) than White non-Hispanic mothers.

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1. 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?"



## **Chapter 1**

# **Demographic Profile of Asians and Pacific Islanders in Massachusetts: 1980-1998**





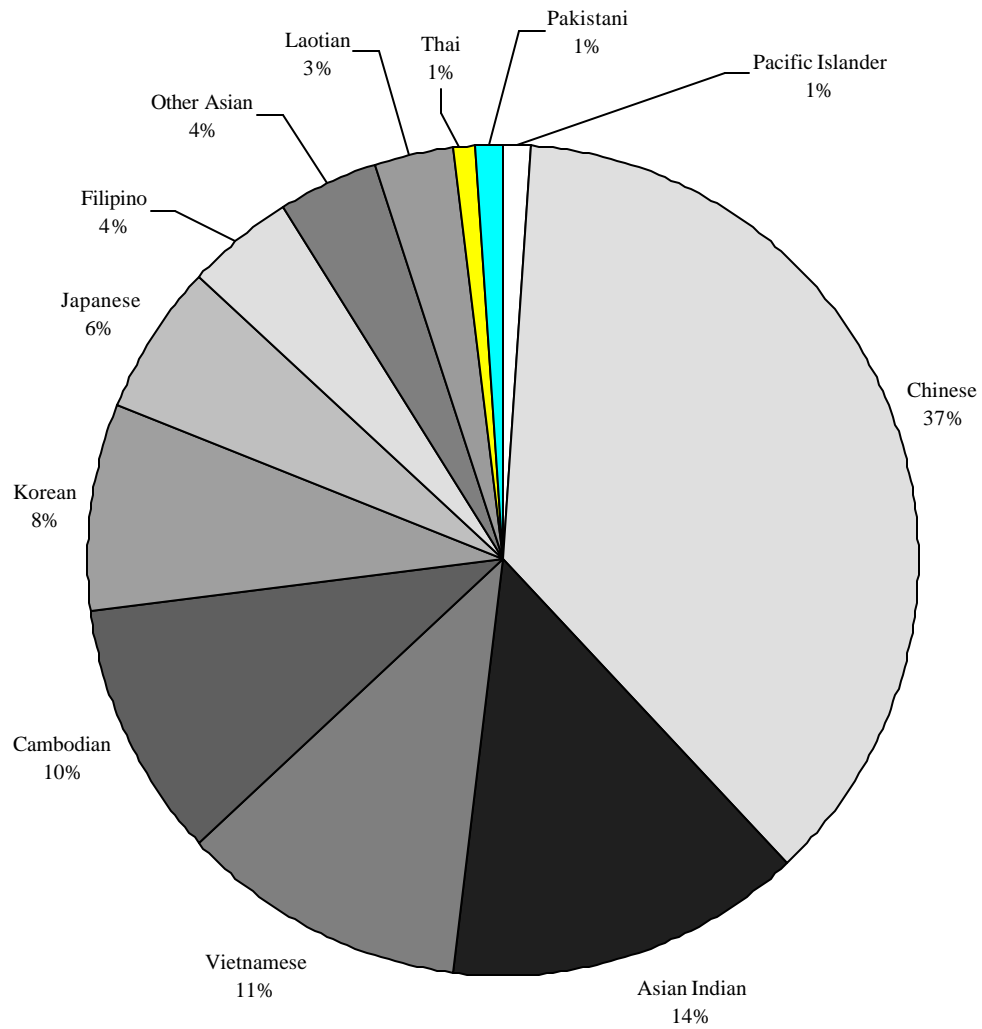
***How many Asian and Pacific Islanders<sup>1</sup> currently live in Massachusetts?***

According to 1998 population estimates, there are 182,960 Asian and Pacific Islanders living in Massachusetts, representing approximately 3% of the total population in the Commonwealth. Based on 1990 Census data, the largest ethnic subgroup is the Chinese, comprising approximately 37% of all Asian and Pacific Islanders in Massachusetts. In addition, 14% of all Asian and Pacific Islanders are Asian Indian; 11% are Vietnamese; 10% are Cambodian; 8% are Korean; 6% are Japanese; 4% are Filipino; 3% are Laotian; and Thai, Pakistani and Pacific Islander each represent 1% (Figure 1.1).

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<sup>1</sup> In 1990, the four race categories used by the federal government were: white, black, American Indian, and a combined category of Asian and Pacific Islander. Therefore, the population data based on the U.S. Census presented in Chapter 1 are for this combined race category whereas the birth data presented in Chapters 2-6 are only for Asian women. Both terms appear throughout this Chapter but they refer to two distinct classifications. (Please note that under revised federal government definitions beginning with the 2000 U.S. Census, there are five race categories: white, black, American Indian, Asian, and Native Hawaiian/Pacific Islander.)

**Figure 1.1 Distribution of Asian and Pacific Islander Population**  
Massachusetts: 1990



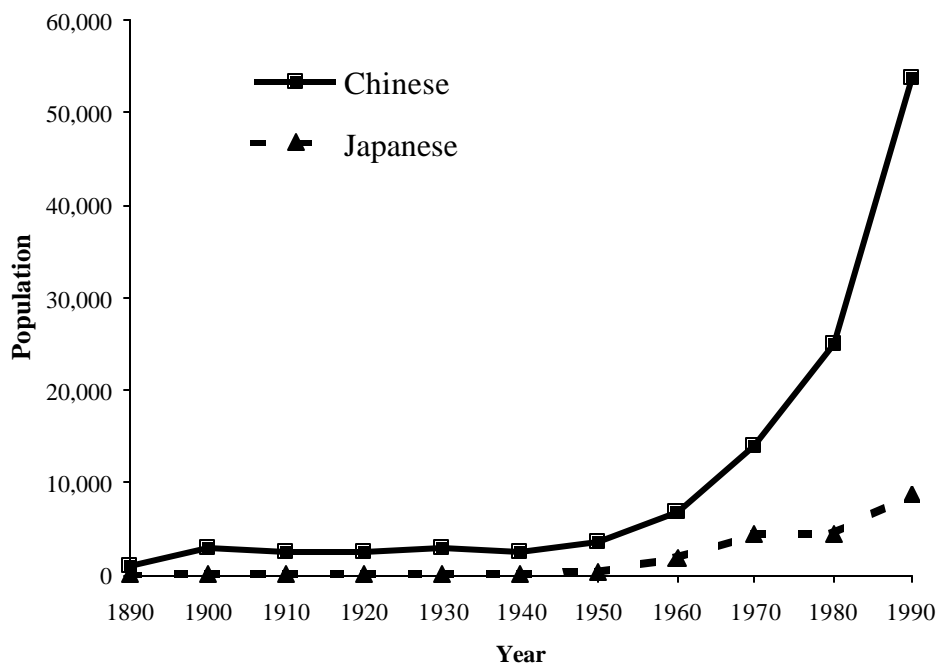
Source: U.S. Bureau of the Census (See Appendix Table A1.1 for additional data.)

*How has the Asian and Pacific Islander population changed over the past century?*

It is difficult to track long-term trends in the growth of the Asian and Pacific Islander population in Massachusetts because of limitations in the collection and reporting of race and ethnicity data in the U.S. Census. While many of the race and ethnicity categories changed from decade to decade, data for Chinese and Japanese were collected consistently throughout the last century, enabling examination of longer-term trends for these particular groups.

In 1890, there were 984 Chinese and 18 Japanese residing in the Commonwealth and by 1950, there were 3,627 Chinese and 384 Japanese. The second half of the twentieth century brought exponential growth in the Chinese population; by the 1990 U.S. Census, there were 53,792 Chinese living in Massachusetts. The Japanese population also experienced a large population increase during this time period; by 1990, there were 8,784 Japanese residents of Massachusetts (Figure 1.2). By comparison, the total Massachusetts population in 1890 was 2,238,943 and rose steadily to 4,690,514 in 1950 and to 6,016,425 in 1990.

**Figure 1.2 Trends in the Chinese and Japanese Population  
Massachusetts: 1890-1990**



Source: U.S. Bureau of the Census

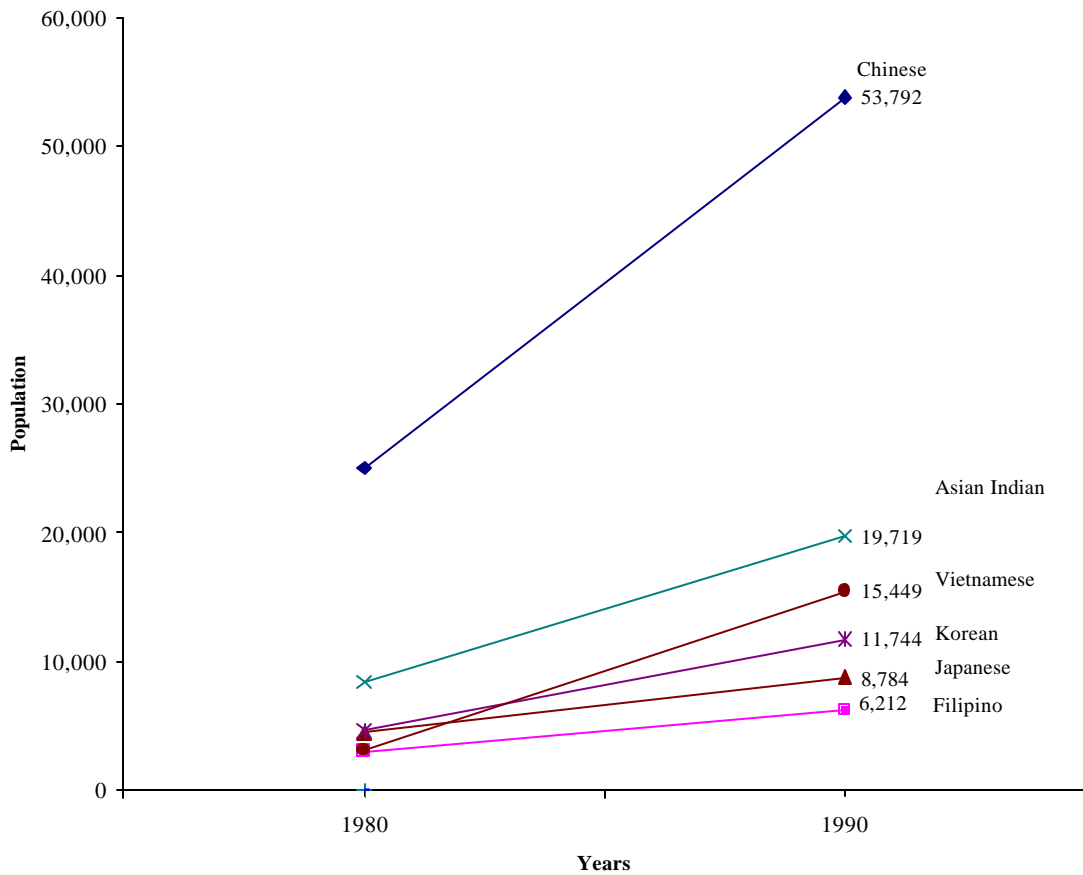
In addition to the increases in the Chinese and Japanese populations in Massachusetts over the last century, another indication of growth in the Asian and Pacific Islander population is the change in the number of ethnic categories that have appeared on the U.S. Census. In 1900, Chinese and Japanese were the only two Asian ethnic categories that were collected and reported in the U.S. Census. By the 1990 U.S. Census, there were 9 specified Asian and Pacific Islander ethnic groups as well as an open-ended option allowing for additional self-identification. Consequently, data were reported for 13 Asian and Pacific Islander ethnic groups in tabulations of the 1990 U.S. Census.

***What was the level of growth in the Asian population between 1980 and 1990?***

From 1980 to 1990, the total Asian population grew from approximately 52,615 to 143,392. The Chinese population more than doubled (from 25,015 in 1980 to 53,792 in 1990), and the Vietnamese population tripled (from 3,172 to 15,449) (Figure 1.3).

**Figure 1.3 Trends in Asian Populations**

Massachusetts: 1980-1990



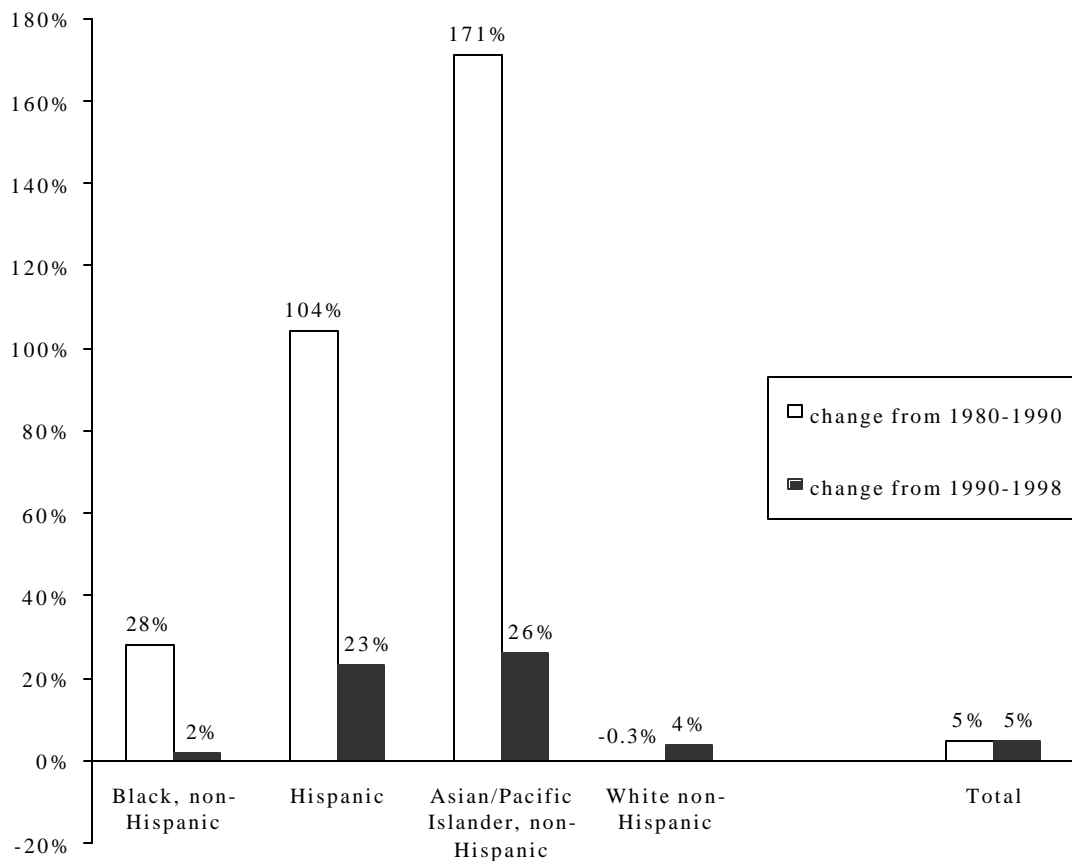
Source: U.S. Bureau of the Census (See Appendix Table A1.3 for additional data.)

***How does the growth since 1980 in the Asian and Pacific Islander population compare with that of other population groups in Massachusetts?***

The Asian and Pacific Islander population is the fastest growing population group in Massachusetts. From 1980 to 1990, overall population growth in Massachusetts was 5%, but the Asian and Pacific Islander community grew 171%. In comparison, the Hispanic population grew 104% during the 1980's, and the Black non-Hispanic population grew 28%. The White non-Hispanic population held steady. Although population growth slowed for all racial groups from 1990-1998, the largest increases were still observed among Asian and Pacific Islanders with a 26% growth rate as compared to 23% among Hispanics, 4% among White non-Hispanics, 2% among Black non-Hispanics and 5% for the population as a whole (Figure 1.4).

**Figure 1.4 Percentage Population Change by Race and Hispanic Ethnicity**

Massachusetts 1980-1990 and 1990-1998



Source: U.S. Bureau of the Census for 1980 and 1990 data, and Massachusetts Institute for Social and Economic Research (MISER)/MDPH Bureau of Health Statistics Research & Evaluation for 1998 data (See Glossary in the Appendix for a description of MISER).

### ***Where do Asian and Pacific Islanders primarily reside?***

Boston had the largest Asian and Pacific Islander population in Massachusetts in 1990, followed by Lowell, Cambridge, Quincy, and Worcester. In 1990, there were twelve communities in Massachusetts with 2,000 or more Asian and Pacific Islander residents (Table A1.1). Among these communities, Lowell had the highest percentage of Asian and Pacific Islanders: one out of nine residents of Lowell was Asian and Pacific Islander. Six Massachusetts communities had Asian and Pacific Islander populations totaling 5% to 10% of their populations: Cambridge, 8.4%; Brookline, 8.4%; Amherst, 7.9%; Quincy, 6.6%; Boston, 5.3%; and Malden, 5.2%. Also, Revere, Chelsea and Fitchburg had rapidly growing Asian populations, as evidenced by the number of Asian births in these communities. (See Chapter 2 for more detail about births in those communities.)

As reported in Table A1.1, the distribution of Asian and Pacific Islander ethnic groups varied enormously from community to community in Massachusetts in 1990. In Quincy and Boston, a majority of the Asian and Pacific Islander population was Chinese (75% and 55 %, respectively). In Lowell, 56% of the Asian and Pacific Islander population was Cambodian, and 14% was Laotian. In Worcester, 50% of the Asian and Pacific Islander population was Vietnamese.

From 1990 to 1998 (the most current year population estimate), the growth of the Massachusetts Asian and Pacific Islander population varied substantially from community to community (Table A1.2). In some communities, the overall population growth was low or even declined during this time period (data not shown), while the Asian and Pacific Islander population experienced dramatic increases. For example, in Lynn, the overall population increased by only 3% while the total Asian and Pacific Islander population grew by 44%. Similarly, Amherst had an overall population increase of 16% between 1990 and 1998, whereas the total Asian and Pacific Islander population grew by 48%.

Table A1.3 presents data for the State and for communities that experienced large population increases for selected Asian ethnic groups between 1980 and 1990. Quincy and Malden showed the largest increases in the Chinese population, increasing by 1,257% and 1,167%, respectively. The largest increases in the Vietnamese population were in Lynn, Randolph, Malden, and Framingham.

### ***What was the age distribution of the Asian and Pacific Islander population in Massachusetts in 1990?***

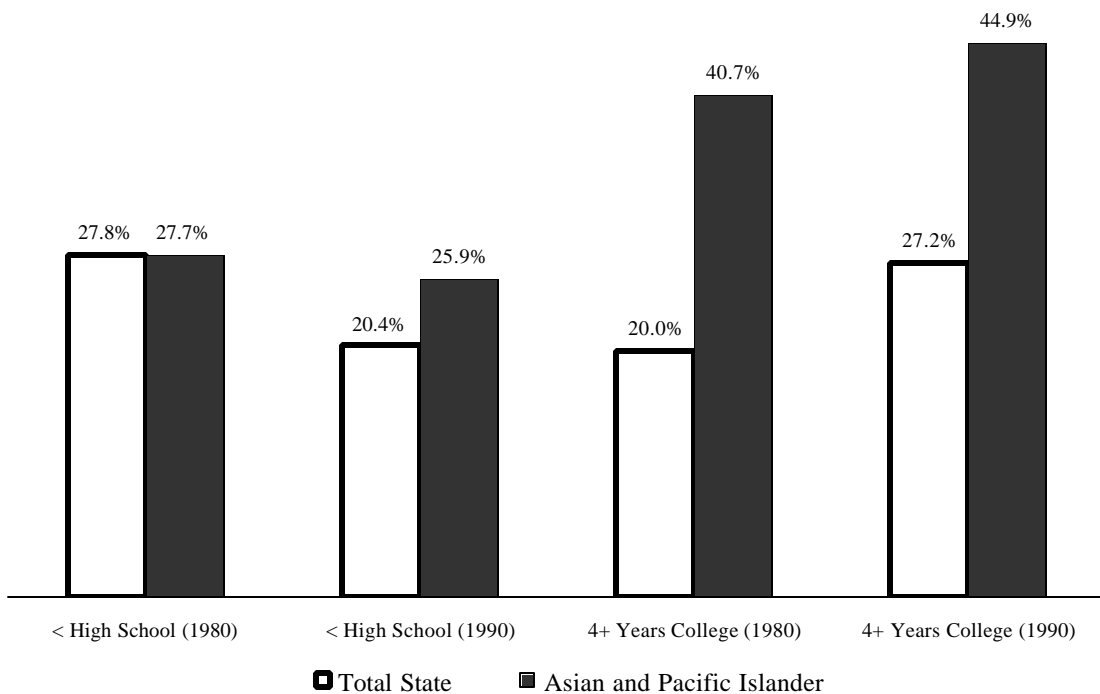
In 1990, the Asian and Pacific Islander population in Massachusetts was slightly younger than the total state population. Sixty-eight percent of the Asian and Pacific Islander population was younger than age 35, compared with fifty-two percent of the state population as a whole (Table A1.4).

The youngest Asian ethnic group in 1990 was Cambodians, with 53% under age 20, followed by Laotians, with 47% under age 20. Slightly less than 27% of the Chinese population was less than 20 years old, which was similar to the statewide proportion of 26%.

***How does the education level of the Asian and Pacific Islander population in Massachusetts in 1980 and 1990 compare with that of the state as a whole?***

Patterns of educational attainment differ for Asian and Pacific Islanders compared with the Massachusetts population overall. In Massachusetts in 1980, the percentage of the Asian and Pacific Islander population 25 years and older that had not graduated from high school was similar to the statewide percentage; however, over 40% of all Asian and Pacific Islanders attended at least four years of college, compared with only 20% of the state population. By 1990, the percentage of Asian and Pacific Islanders who had not graduated high school decreased slightly, though less than for the state as a whole. At the same time, a higher percentage (45%) of Asian and Pacific Islanders in Massachusetts attended at least four years of college, compared with only 27% of the state population (Figure 1.5).

**Figure 1.5 Educational Attainment of Asian and Pacific Islanders, Ages 25 Years and Above  
Massachusetts: 1980 and 1990**



Source: U.S. Bureau of the Census

***How does the socioeconomic level of Asian and Pacific Islanders in Massachusetts compare with the statewide level?***

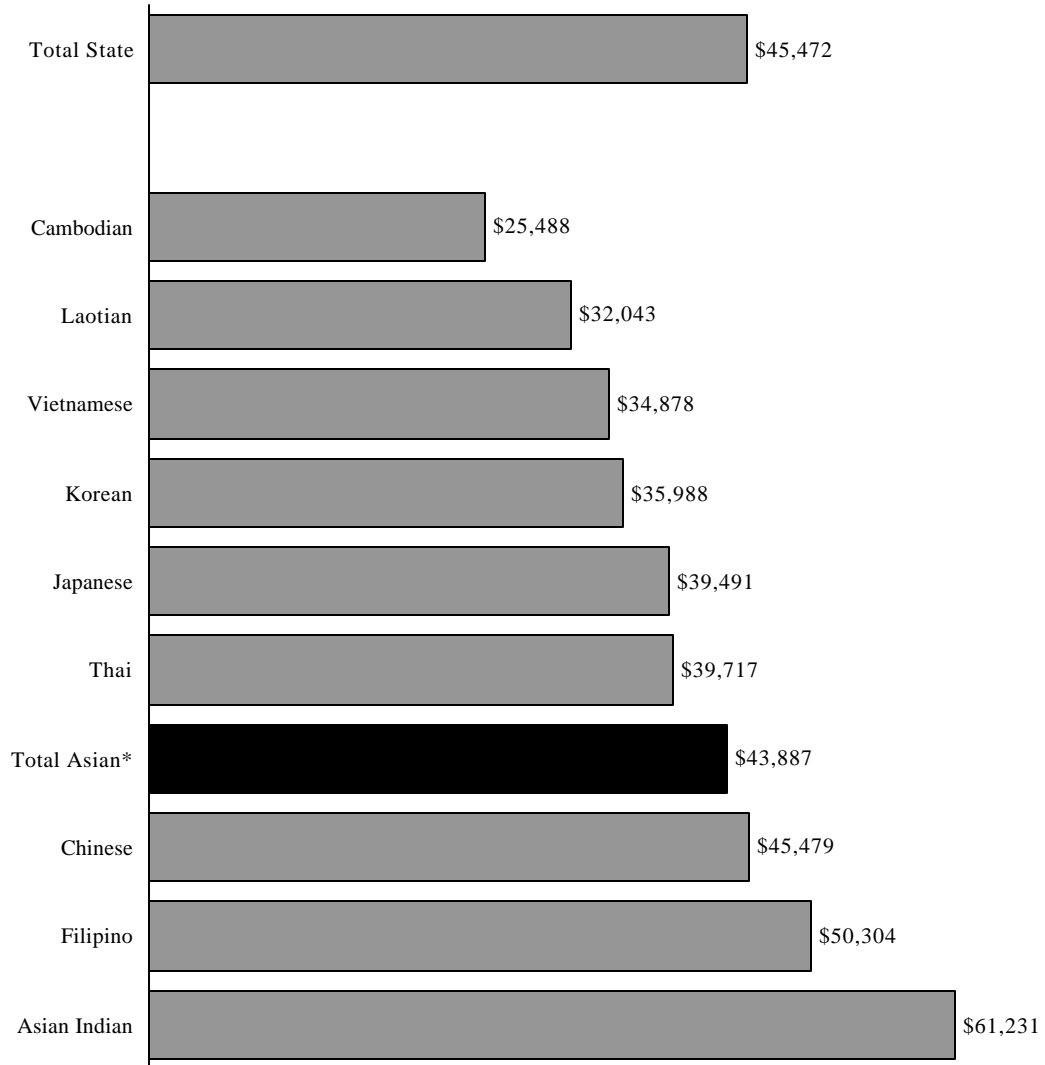
Economic indicators comparing Asian and Pacific Islanders to the state as a whole for 1980 are mixed. On one hand, the average household income for Asian and Pacific Islanders was slightly higher than for Massachusetts residents overall. However, a much higher proportion of Asian and Pacific Islanders remained below the poverty level as compared with Massachusetts as a whole. This disparity increased from 1979 to 1989, with the percentage of persons living in poverty statewide decreasing by 7%, while the percentage of Asian and Pacific Islanders living in poverty increased by 21%. During the decade of the 1980s, the average annual household income for Asian and Pacific Islanders rose 111%, compared with an increase of 119% for the state as a whole. Due to this slightly lower growth rate for Asian and Pacific Islanders, by 1989, their average annual household income was slightly lower than for the state as a whole (\$43,887 and \$45,472, respectively) (Table A1.5).

Clearly, wide variation in economic status exists within the Asian population. According to the 1990 U.S. Census, the mean household income of the Asian population (not including Pacific Islanders) for the prior year (1989) was \$43,950, while the same economic indicator for the state as a whole was slightly higher, at \$45,472. The highest mean household income was observed among Asian Indians (\$61,231), and the lowest was among Cambodians (\$25,488) (Figure 1.6).

The Asian and Pacific Islander population continued in 1990 to have a higher percentage of persons with incomes below the poverty level (19.7%) when compared with the state overall (8.9%). Nearly half of the Cambodian population (46.4%) was living below the poverty level in 1989. However, a slightly lower percentage of Asian and Pacific Islanders were unemployed (6.4%) compared to the state population as a whole (6.7%) (Table A1.5).



**Figure 1.6 Mean Household Income of Asians**  
Massachusetts: 1989



\*This group does not include Pacific Islanders.

Source: U.S. Bureau of the Census (See Appendix Table A1.5 for additional data.)

## *Summary*

In summary, the Asian and Pacific Islander population in Massachusetts has grown dramatically since 1950. In Massachusetts, there is a large and heterogeneous Asian and Pacific Islander population.

In 1990, 12 Massachusetts communities had an Asian and Pacific Islander population greater than 2,000 persons, accounting for almost 60% of all Asian and Pacific Islanders in the state. The Asian and Pacific Islander population was younger than the state as a whole. By 1998, 17 communities had Asian and Pacific Islander populations of at least 2,000.

The Asian and Pacific Islander population was also characterized by a dichotomous pattern in education and socioeconomic status. While the proportion of Asian and Pacific Islanders (ages 25 years and older) attending at least four years of college was much higher than the state as a whole, the proportion of Asian and Pacific Islanders with low educational attainment was above the state average as well.

Income and poverty data indicate enormous variation in the Asian community. Asian and Pacific Islanders in 1979 had a slightly higher average annual household income and a higher percentage of persons below the poverty level than were reported for the statewide population. By the time of the 1990 census, the average household income for Asian and Pacific Islanders had fallen slightly below the statewide level, and the proportion below poverty for Asian and Pacific Islanders had increased to more than twice the percentage for the state as a whole.

## **Chapter 2**

### **Recent Trends in Asian Births in Massachusetts: 1996-1997**

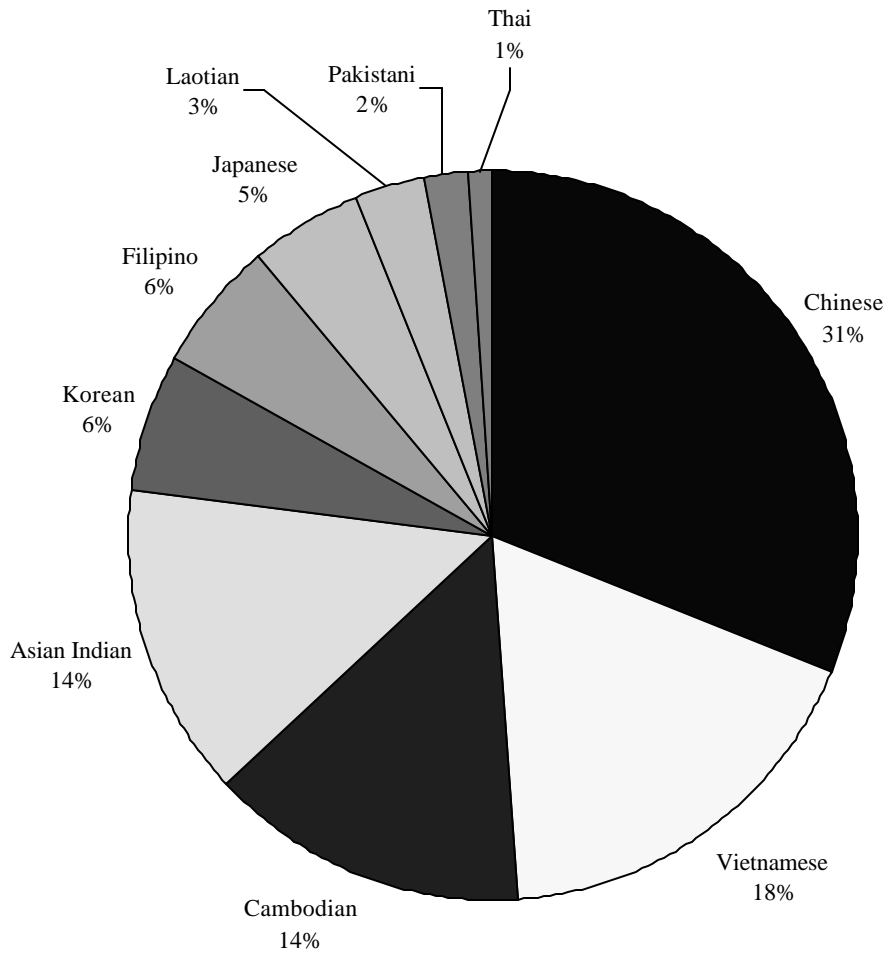


*What is the ethnic distribution of births among Asian women in Massachusetts?*

In 1996 and 1997, the majority of Asian births occurred among women of Chinese, Vietnamese, Cambodian, and Asian Indian ancestry. The remaining Asian ethnic groups contributed from 1 to 6 percent of Asian births in Massachusetts during these two years.

**Figure 2.1 Percentage of Asian Births by Ethnicity**

Massachusetts: 1996-1997



Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation (BHSR&E) (See Appendix Table A2.1.)

***How many Asian births are there in Massachusetts?***

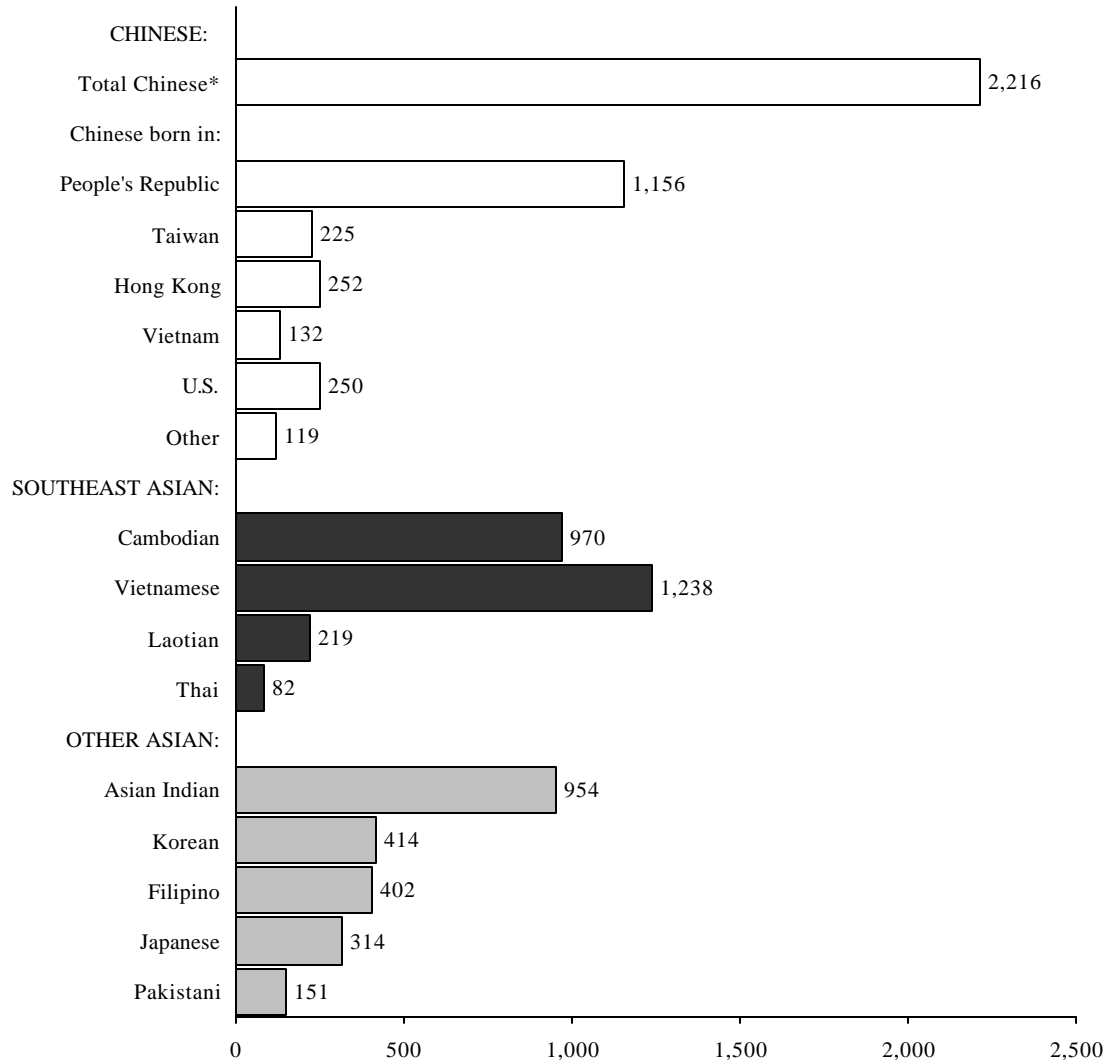
From 1996 through 1997, there were 2,216 births among Massachusetts women of Chinese ancestry. These mothers were born in many different places: 1,156 in the People's Republic of China, 252 in Hong Kong, 250 in the U.S., 225 in Taiwan, 132 in Vietnam, and 119 in other places throughout the world.

Among Southeast Asians, there were 1,238 births to Vietnamese women, 970 births to Cambodian women, 219 to Laotian women and 82 to Thai women.

Among other Asian ethnic groups there were 954 births to Asian Indian women, 414 to Korean women, 402 to Filipino women, 314 to Japanese women, and 151 to Pakistani women (Figure 2.2).

**Figure 2.2 Number of Asian Births by Ethnicity and Mother's Place of Birth**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.1.)

\*Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

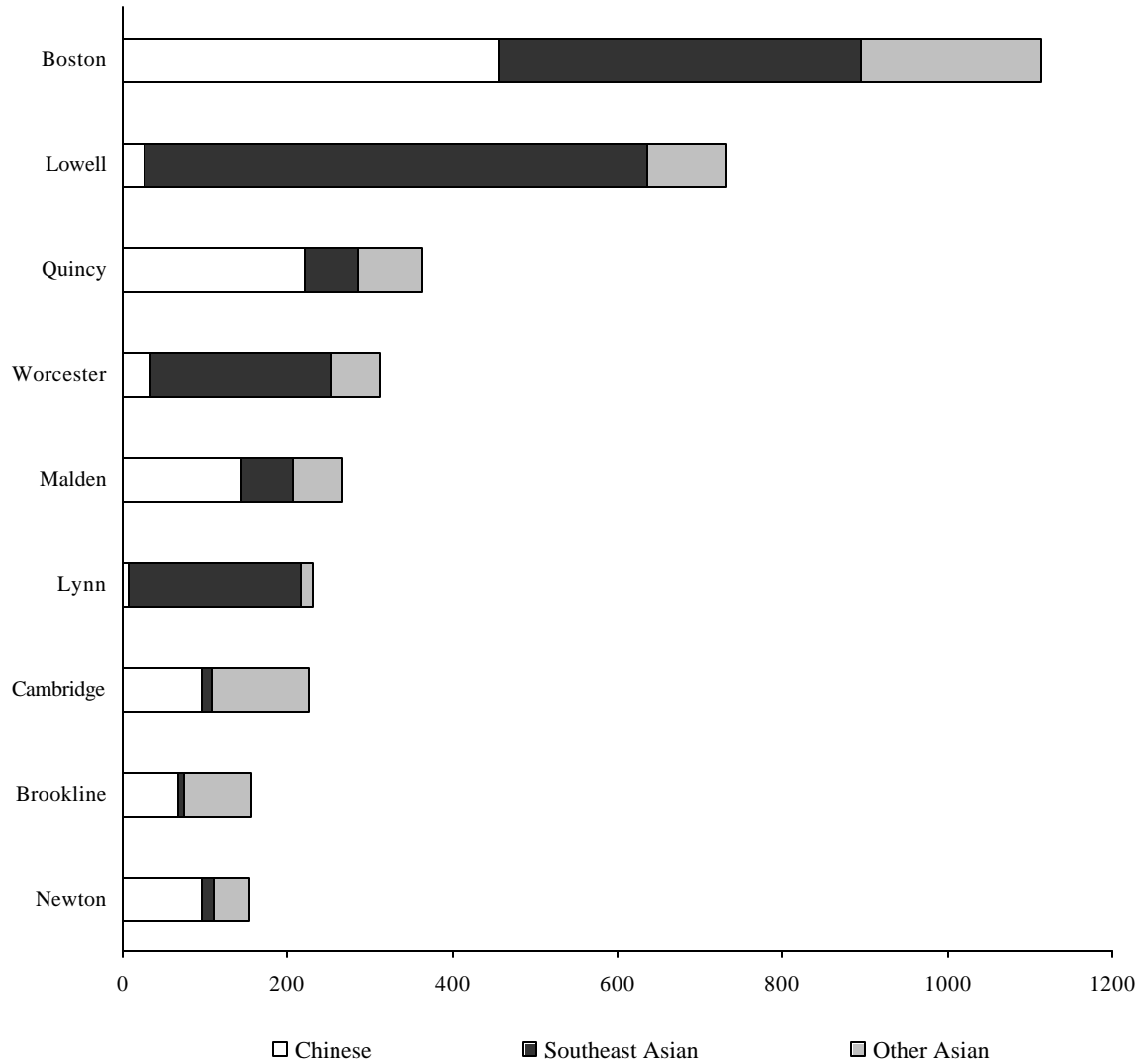
*In Massachusetts, where do Asian mothers live?*

Almost six out of every ten Asian births in Massachusetts during 1996 and 1997 were concentrated among residents of 13 cities and towns. Among Chinese residents of these 13 Massachusetts cities and towns, the majority of women who gave birth in 1996 and 1997 resided in Boston (455); this was followed by Quincy (221), Malden (143), Newton (97) and Cambridge (96). Cambodian mothers lived mainly in Lowell (483), Lynn (155), and Boston (24). Vietnamese mothers lived in Boston (393) and Worcester (198), with smaller populations in Springfield (68), Quincy (60), Malden (49), Lowell (47), and Lynn (37). Laotian mothers lived in Lowell (73), Lynn (16), and Springfield (16). Asian Indian mothers lived in Lowell (79), Boston (61), Waltham (51) and Framingham (47), with more than half of Asian Indian mothers (519) residing in other cities and towns in Massachusetts. The largest concentration of Japanese mothers was in Boston (61), and Brookline (38), while Korean mothers were most often residents of Boston (40) and Cambridge (46). Filipino mothers most often lived in Boston (40) and Quincy (23), while the largest concentration of Pakistani mothers lived in Boston (18). The distribution of Chinese, Southeast Asian, and other Asian births by mother's place of residence is shown for selected communities in Figure 2.3.



**Figure 2.3 Number of Chinese, Southeast Asian and Other Asian Births by Maternal Residence, in Selected Communities\***

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.1.)

\* Cities and towns with 150 or more Asian births from 1996-1997.

Note: Southeast Asian = Cambodian, Vietnamese, Laotian, Thai.

Other Asian = Asian Indian, Korean, Filipino, Japanese, Pakistani.

***Comparing 1987-1990 with 1996-1997, what were the trends in the number of births among Asian women in Massachusetts?***

Data are available to compare changes in the number of recorded births between two time periods (1987-1990 and 1996-1997) for the Chinese, Vietnamese, Cambodians and Laotians. From the earlier time period to the later time period, the average annual number of births among Chinese women increased 21%, from 914 to 1,108. The average annual number of births among Vietnamese women rose 39% between the two time periods, while births among Cambodian and Laotian women declined by 22% and 21%, respectively.

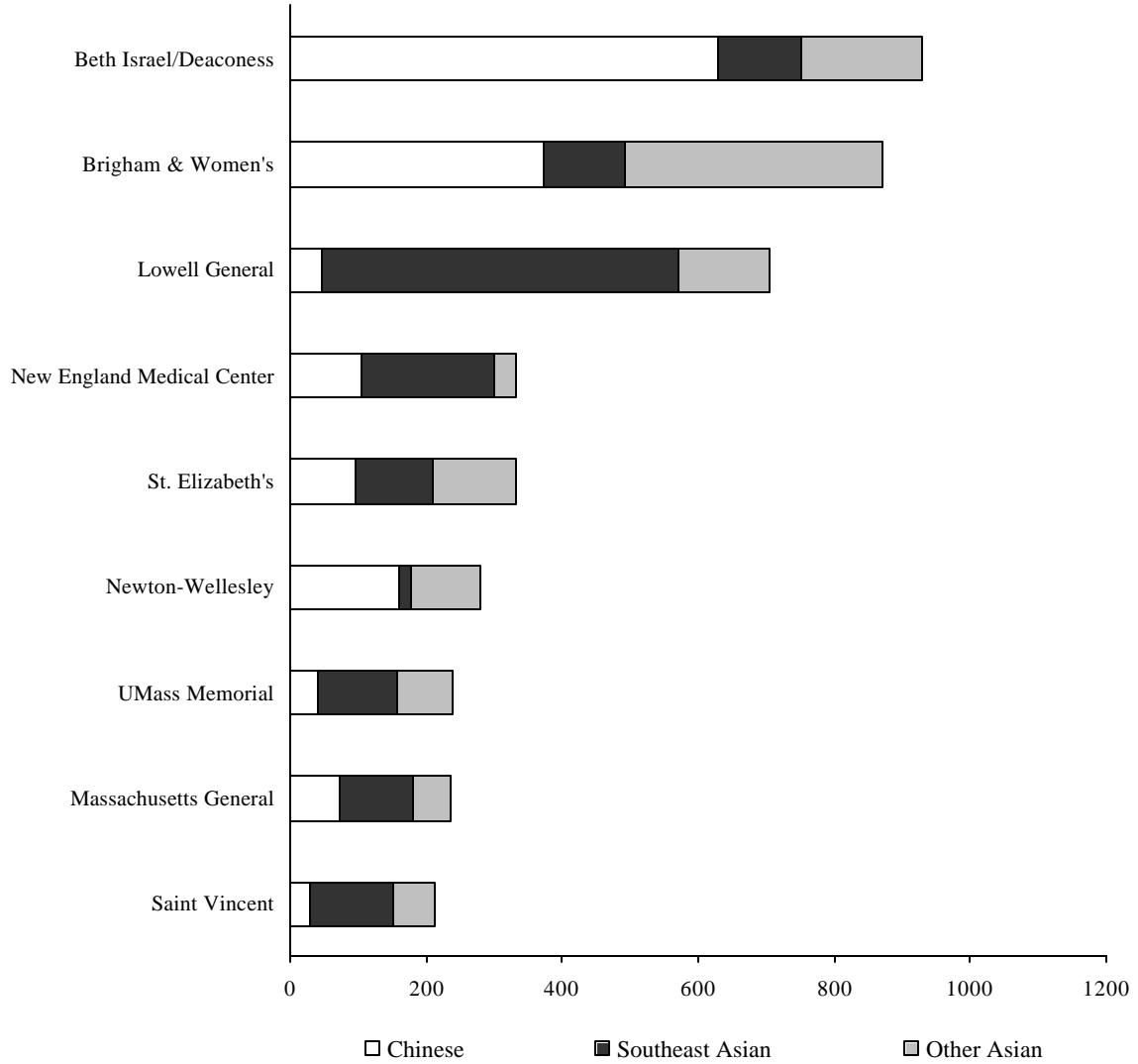
***In which hospitals do Asian mothers deliver their infants?***

From 1996 through 1997, Beth Israel Deaconess Medical Center had the highest number of births for Chinese women (628). Other hospitals with large numbers of Chinese births were Brigham and Women's Hospital (373), Newton-Wellesley Hospital (161), and New England Medical Center (104).

Among Southeast Asian women, the largest number of Cambodian women delivered their infants at Lowell General Hospital (427). Three hospitals recorded at least 90 deliveries by Vietnamese mothers: New England Medical Center (178), Saint Vincent Hospital (115), and Beth Israel Deaconess Hospital (94). The largest numbers of Laotian infants were delivered at Lowell General Hospital (57) and Leominster Hospital (48). Among other Asian ethnic groups, the largest numbers of Asian Indian births were recorded at Brigham and Women's Hospital (112) and Lowell General Hospital (103). The largest numbers of Korean (100), Filipino (51), and Japanese (92) women also delivered at Brigham and Women's Hospital from 1996-1997 (Figure 2.4).

**Figure 2.4 Number of Chinese, Southeast Asian and Other Asian Births at Selected Hospitals\***

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.2.)

\* Hospitals with 200 or more Asian births from 1996-1997.

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

## **Chapter 3**

### **Demographic Characteristics of Asian Mothers: 1996-1997**



### *How old are Asian mothers?*

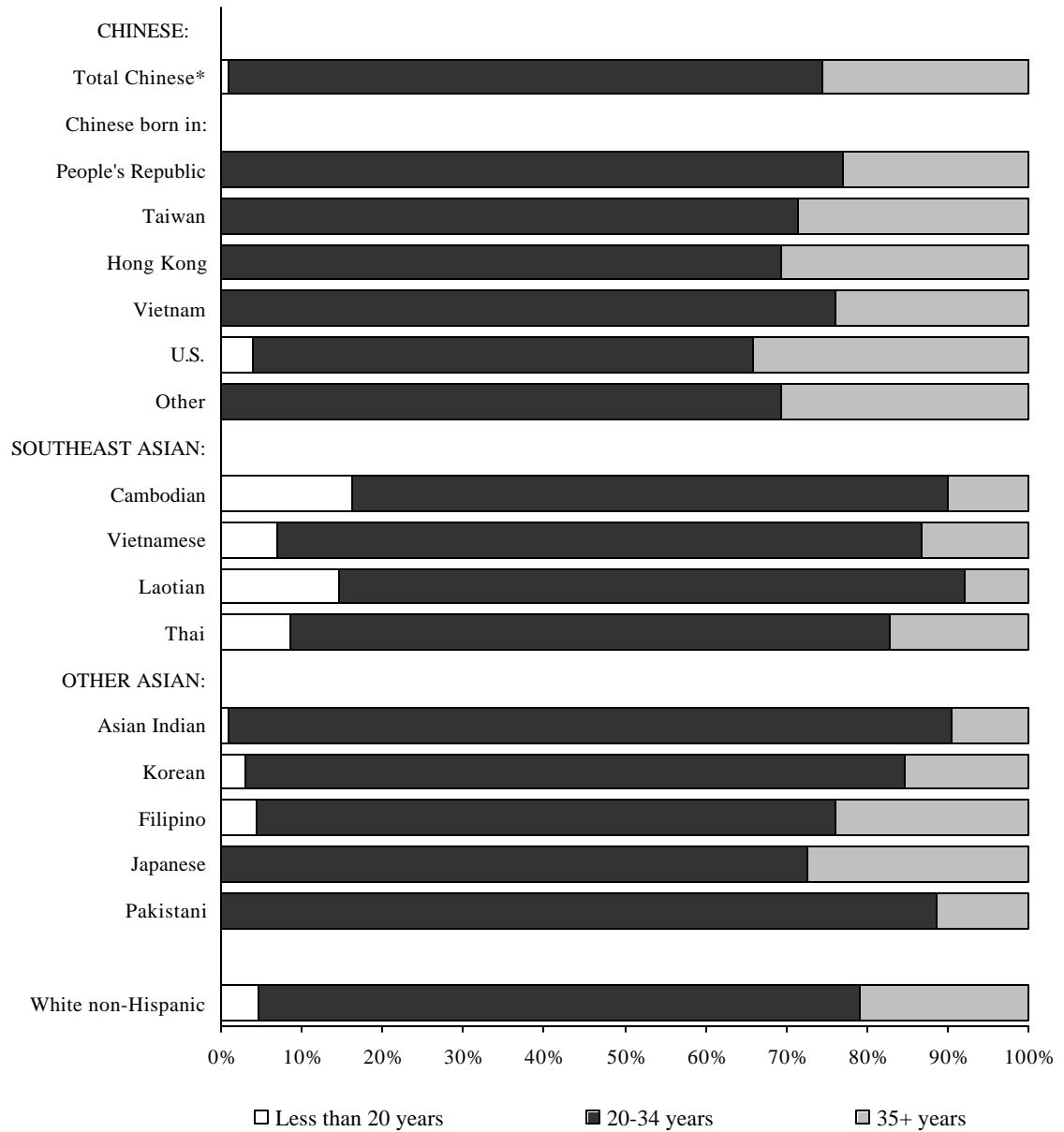
During 1996 and 1997, Chinese and Japanese mothers were more likely to give birth at age 35 years or older than either White non-Hispanic mothers or other Asian women. Over 25% of Chinese women and 27% of Japanese women who gave birth in Massachusetts in 1996-97 were age 35 years or older, compared to 21% of White non-Hispanic mothers. Among other Asian women the percent of births to women age 35 and older ranged from a low of 8% among Laotian women to a high of 24% among Filipino women.

Among Chinese mothers, the age distribution by country of mother's birth showed some variation. Chinese mothers born in Vietnam and in the People's Republic tended to be younger than Chinese mothers born in Taiwan, Hong Kong, the United States, and other countries.

Southeast Asian mothers were younger than White non-Hispanic mothers and Chinese mothers, regardless of where the Chinese mothers were born. Over 16% of Cambodian mothers, 15% of Laotian mothers, and 7% of Vietnamese mothers were under 20 years of age, compared to 5% of White non-Hispanic mothers and 1 % of Chinese mothers. The percentage of mothers under age 20 among other Asian ancestry groups ranged from 1% for Asian Indians to approximately 5% among Filipinos (Figure 3.1).

**Figure 3.1 Age Distribution of Asian and White Non-Hispanic Mothers by Ethnicity**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3.)

\*Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

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

### *Are there differences in educational attainment among Asian mothers?*

The large gap in educational attainment noted between Chinese mothers and Southeast Asian mothers in the 1987-1990 time period appears to have narrowed during the later time period. During the years 1996-1997, 86% of Chinese mothers had at least a high school education, compared to 62% for all Southeast Asian mothers combined (Cambodian, Vietnamese, Laotian, and Thai). These figures represent significant increases from 1987-1990, when the respective percentages were 69% for Chinese mothers and 19% for Southeast Asian mothers. Educational attainment was uniformly high among Asian Indians, Koreans, Filipinos, and Japanese, with 97% to 99% of these mothers reporting at least a high school education. Approximately 96% of White non-Hispanic mothers reported having at least a high school education (Figure 3.2).

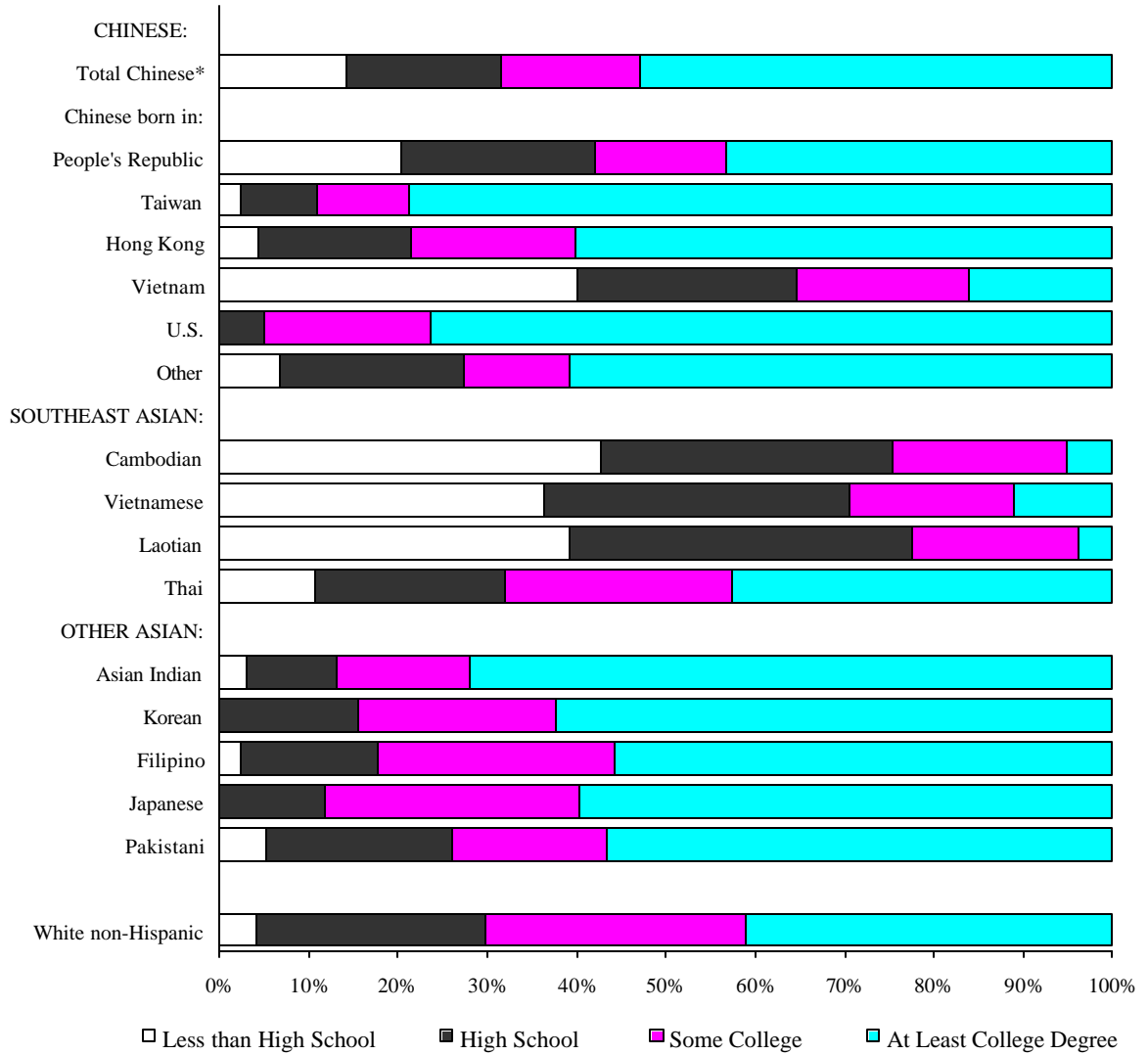
A higher percentage of Southeast Asian mothers had less than a high school education (range: 11% to 39 %) compared with 14% of Chinese mothers and 4 % of White non-Hispanic mothers. Chinese mothers born in Taiwan and the U.S. had the lowest percentages of having less than a high school education (2% and 0%, respectively), while Chinese women born in the People's Republic and Vietnam had the highest percentages (20% and 40%, respectively).

Attainment of higher education (at least a college degree) varied between groups. At least 60% of Asian Indian (72%), Korean (62%), and Japanese mothers (60%) had at least a college degree, compared to 53% of Chinese mothers and 41% of White non-Hispanic mothers. Southeast Asian mothers had the lowest percentages of attaining a college degree or higher (range: 4% to 11%), except for Thai mothers (43%). Chinese mothers born in Taiwan and the U.S. had the highest percentages of attaining at least a college degree (81% and 76%, respectively).



**Figure 3.2 Percent Distribution of Educational Level Completed  
Among Asian and White Non-Hispanic Mothers by  
Ethnicity, Ages 20 Years and Above**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3.)

\*Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

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

***What proportion of Asian mothers are not married? How does the marital status distribution among Asian women compare with data for White non-Hispanic mothers?***

A low proportion of Chinese (4%), Pakistani (4%), and Asian Indian (2%) mothers were unmarried in 1996 and 1997 when they delivered their infants, in contrast with 55% of Cambodian mothers, 36% of Vietnamese mothers, 35% of Laotian mothers, and 21% of Thai mothers during the same time period. The percentages of Filipino, Korean, and Japanese mothers who were unmarried were 12%, 10%, and 7%, respectively. About 18% of White non-Hispanic mothers were not married at the time of delivery. Some differences in reporting of marital status may be attributed to different cultural interpretations of the question.

***What proportion of Asian mothers prefer to communicate in their native language instead of English<sup>1</sup>? How do data on Asian women compare with data for White non-Hispanic mothers?***

Among Massachusetts residents of Chinese ancestry in 1996-97, more than 60% of those born in the People's Republic or in Vietnam preferred to converse in their native language rather than English. For Chinese women born in Taiwan or Hong Kong the percentage dropped to approximately 35%, while only 2% of U.S.-born Chinese women preferred Chinese. Among Southeast Asians the percentages preferring their native languages were 63% for Cambodian mothers, 58% for Vietnamese, and 56% for Laotians. Only 31% of Thai women preferred to communicate in their native language. For other Asian ancestry groups, the percentage of women preferring their native language ranged from a low of 7% among Filipino women to a high of 41% among Japanese women. The percentage of White non-Hispanic women who preferred to communicate in a language other than English was 2% (Figure 3.3).

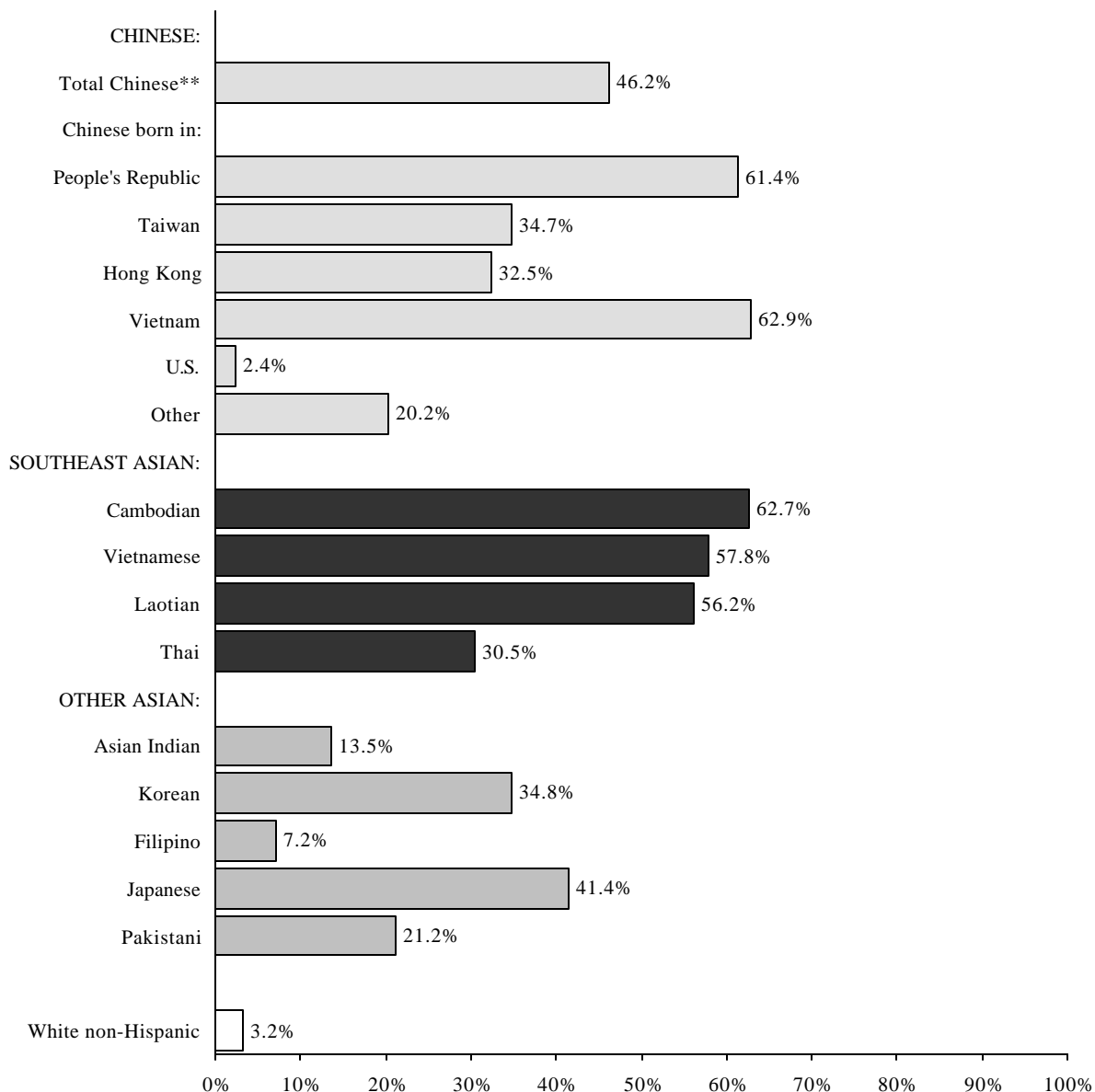
***What proportion of Asian mothers are non-U.S.-born? How do data on Asian women compare with data for White non-Hispanic mothers?***

In 1996 and 1997, the vast majority of Chinese, Southeast Asians, and other Asian mothers were born outside of the United States. The percentage of non-U.S.-born women ranged from a low of 81% for Japanese women to a high of 99% for Vietnamese women. The percentage of White non-Hispanic women who were born outside the United States was 7% (Figure 3.4).

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1. 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?"

**Figure 3.3 Percentage Preferring a Language\* Other than English  
Among Asian and White Non-Hispanic  
Mothers by Ethnicity**  
Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3.)

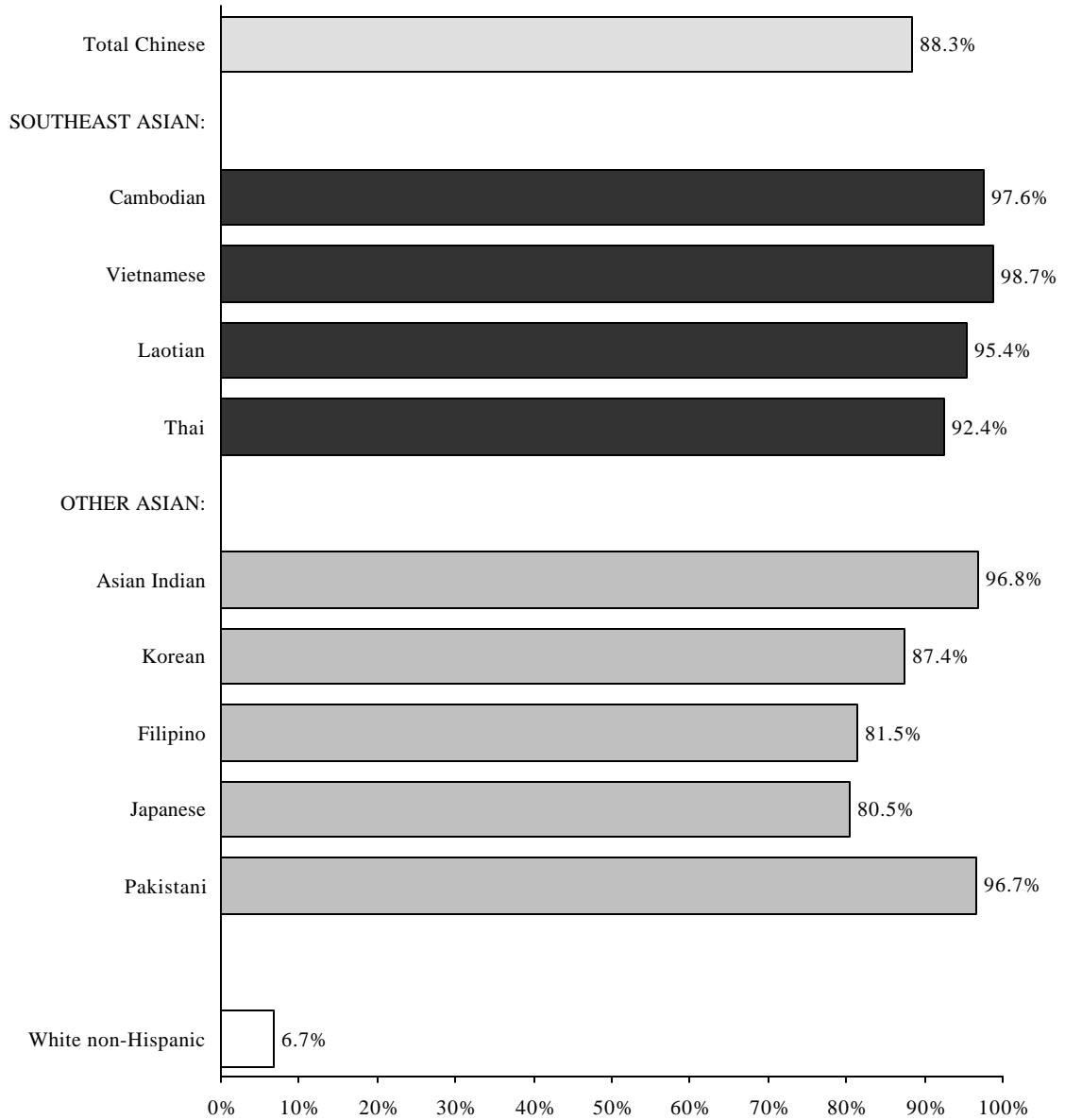
\* Information on the mother's language preference is collected from the mother at the time of birth, based on the birth certificate question, "In what language does the mother prefer to read or discuss health-related materials?"

\*\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

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

**Figure 3.4 Percentage of Non-U.S.-Born\*  
Asian and White Non-Hispanic Mothers  
by Ethnicity**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3.)

\* Not born in the United States, its possessions or protectorates. (See glossary for full definition.)

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

## **Chapter 4**

### **Medical and Other Risk Characteristics of Asian Mothers: 1996-1997**



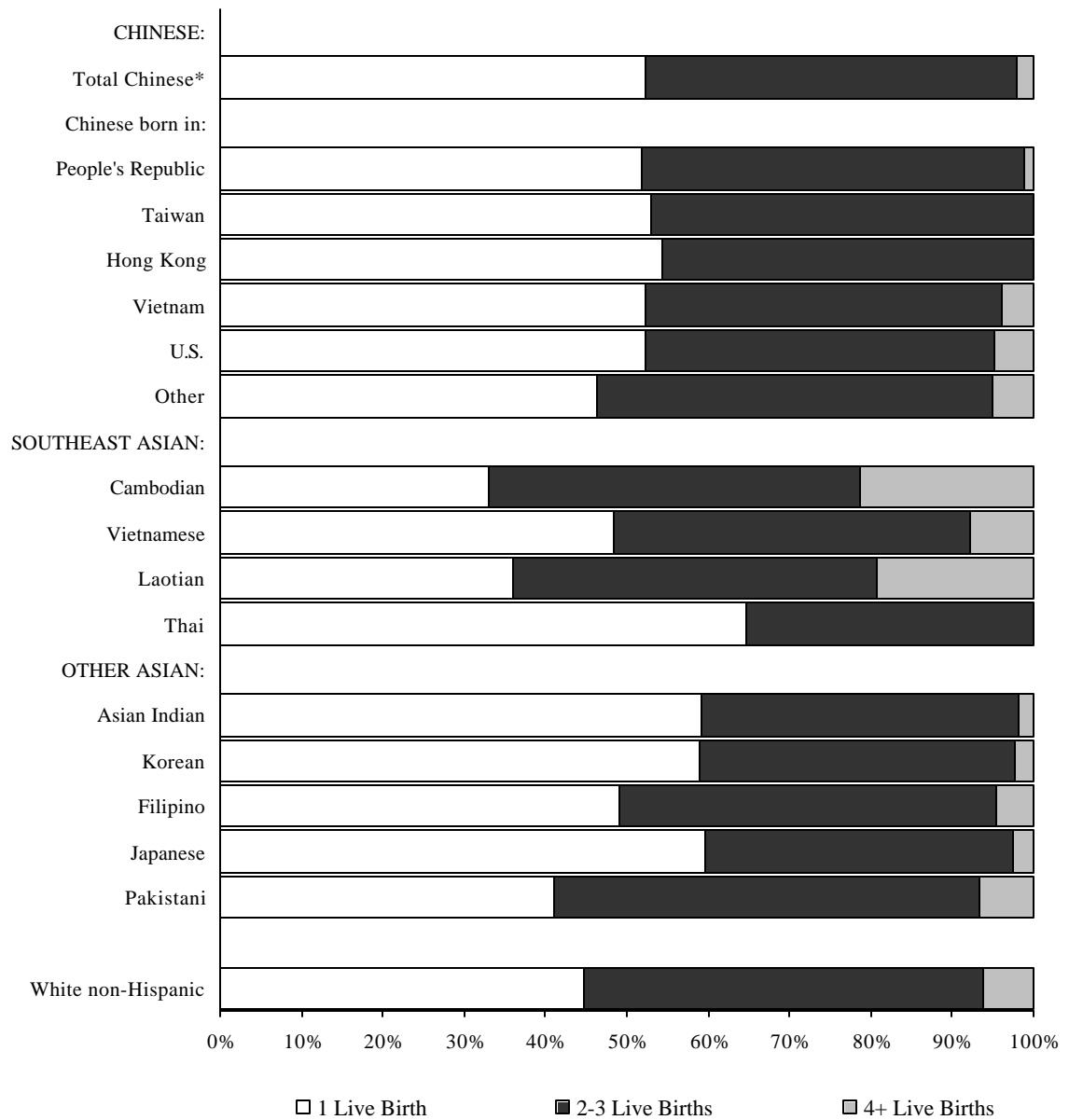
***Do Asian mothers differ in the total number of live births they have ever had?***

During 1996 and 1997, Chinese women giving birth were generally older than other Asian women, and slightly more than half (52%) of these women were having their first child. This did not greatly vary by place of birth. The proportions of first live births among Southeast Asian women were lower, with the exception of Thai mothers, who had the highest percentage of first births (62%). For other Asian ancestry groups, percentages were variable. Asian Indian, Korean, and Japanese mothers had higher percentages (approximately 60%) while those for Filipino and Pakistani mothers were lower (49%, 41%). The percentage was also lower among White non-Hispanic mothers (45%).

From one-third to one-half of the mothers gave birth to their second child, with the highest percentages among Pakistani and White non-Hispanic mothers (52% and 49%, respectively). The proportion of women reporting four or more live births was more variable, with Cambodian and Laotian mothers having the highest percentages (20% and 19%, respectively). In contrast, these percentages ranged from 2-8% for all other Asian groups and White non-Hispanic mothers (Figure 4.1).

**Figure 4.1 Percent Distribution of Total Number of Live Births to Asian Mothers by Ethnicity and Place of Birth**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3.)

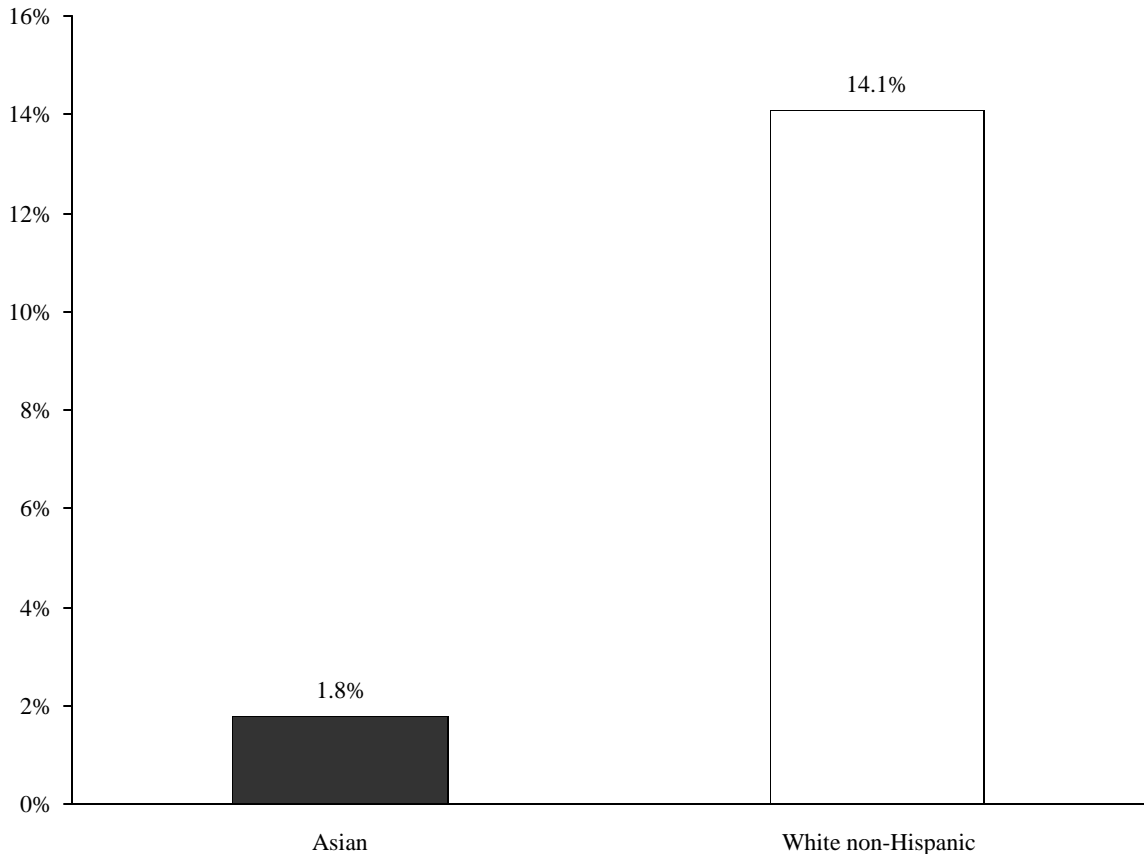
\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.



***What proportion of Asian mothers smoked cigarettes prior to and during pregnancy?***

In 1996 and 1997, Asian mothers were far less likely to smoke both prior to and during pregnancy than White non-Hispanic mothers (Figure 4.2). Among Chinese mothers, only 2% reported smoking prior to pregnancy, dropping to 1% during pregnancy. Among other Asian mothers, percentages were highest among Korean, Filipino, and Japanese mothers (approximately 9% prior to pregnancy and dropping to 4% or less during pregnancy). A much higher percentage of White non-Hispanic mothers smoked: 22% prior to pregnancy, dropping to 14% during pregnancy. Among the Chinese mothers, the U.S.-born had the highest percentage of smokers.

**Figure 4.2 Percentage of Asian and White Non-Hispanic Mothers Who Smoked During Pregnancy**  
Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3.)

***Which medical conditions are most commonly reported for Asian mothers?***

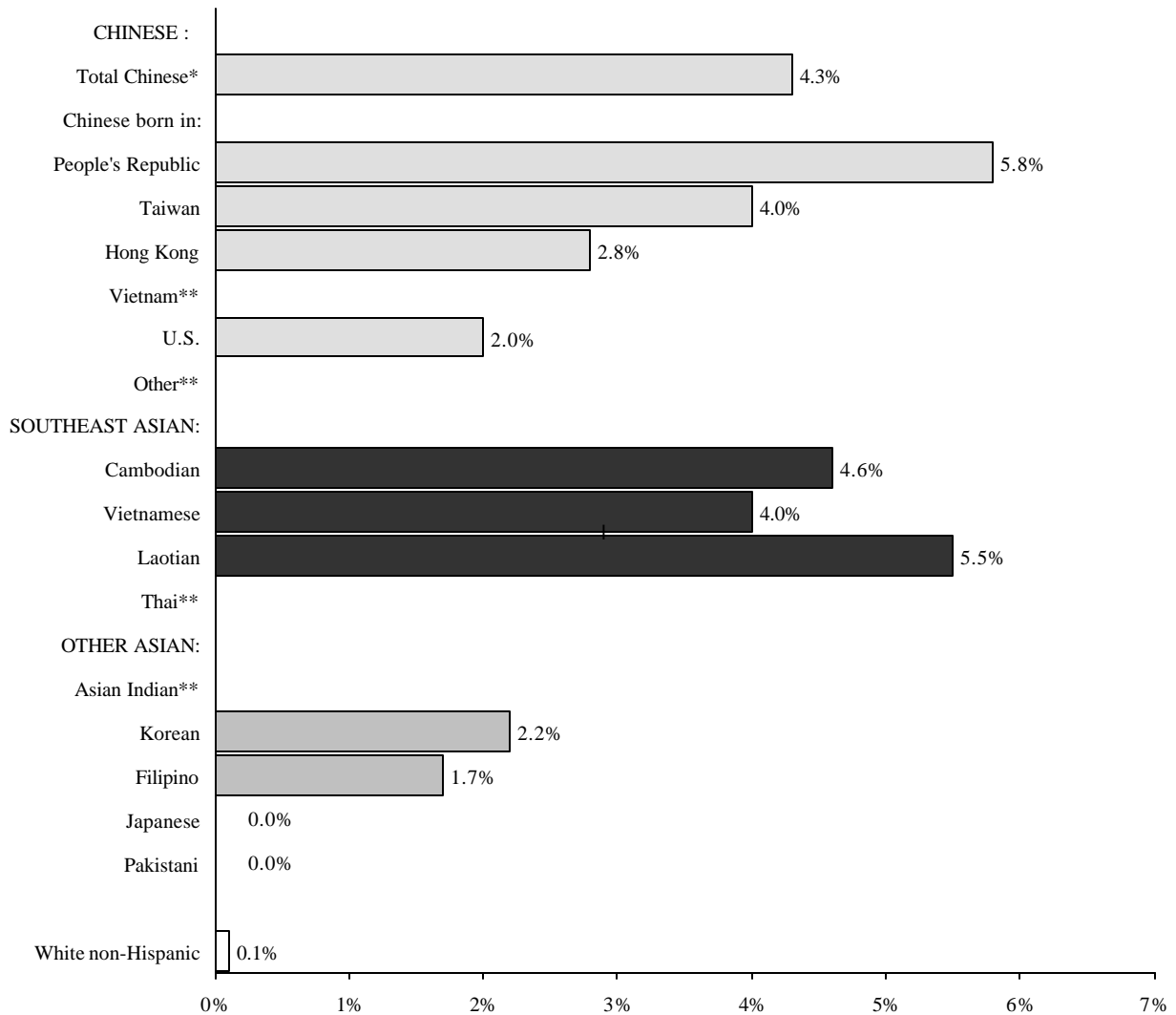
Overall, the prevalence of medical risk factors was similar between Asian and White non-Hispanic mothers in 1996 and 1997. However, anemia, diabetes, and hepatitis B carrier were mentioned more frequently on the birth certificates of infants born to Asian mothers than on the birth certificates of infants born to White non-Hispanic mothers.

Only 0.1% of White non-Hispanic mothers were hepatitis B carriers, compared to approximately 4% of Chinese mothers. Percentages among Southeast Asian mothers were comparable to those for Chinese mothers (except for Thai mothers, none of whom were hepatitis B carriers), ranging from 4% for Vietnamese mothers to 6% for Laotian mothers. The highest percentage of hepatitis B was among Chinese mothers born in the People's Republic of China (6%) (Figure 4.3).

Almost 6% of Chinese mothers, as compared to 3% of White non-Hispanic mothers, had diabetes reported (including both gestational and other diabetes). Among Chinese mothers, the proportion reported to have diabetes was particularly high among those born in Taiwan (10%) and Hong Kong (8%). Percentages among Southeast Asian mothers were lower, ranging from 0% (Thai) to 4% (Laotian). Among the other Asian ancestry groups, percentages were highest for Asian Indian and Pakistani mothers (approximately 8.5%) (Figure 4.4).

**Figure 4.3 Percentage of Asian Mothers who were Hepatitis B Carriers by Ethnicity and Place of Birth**

Massachusetts: 1996-97



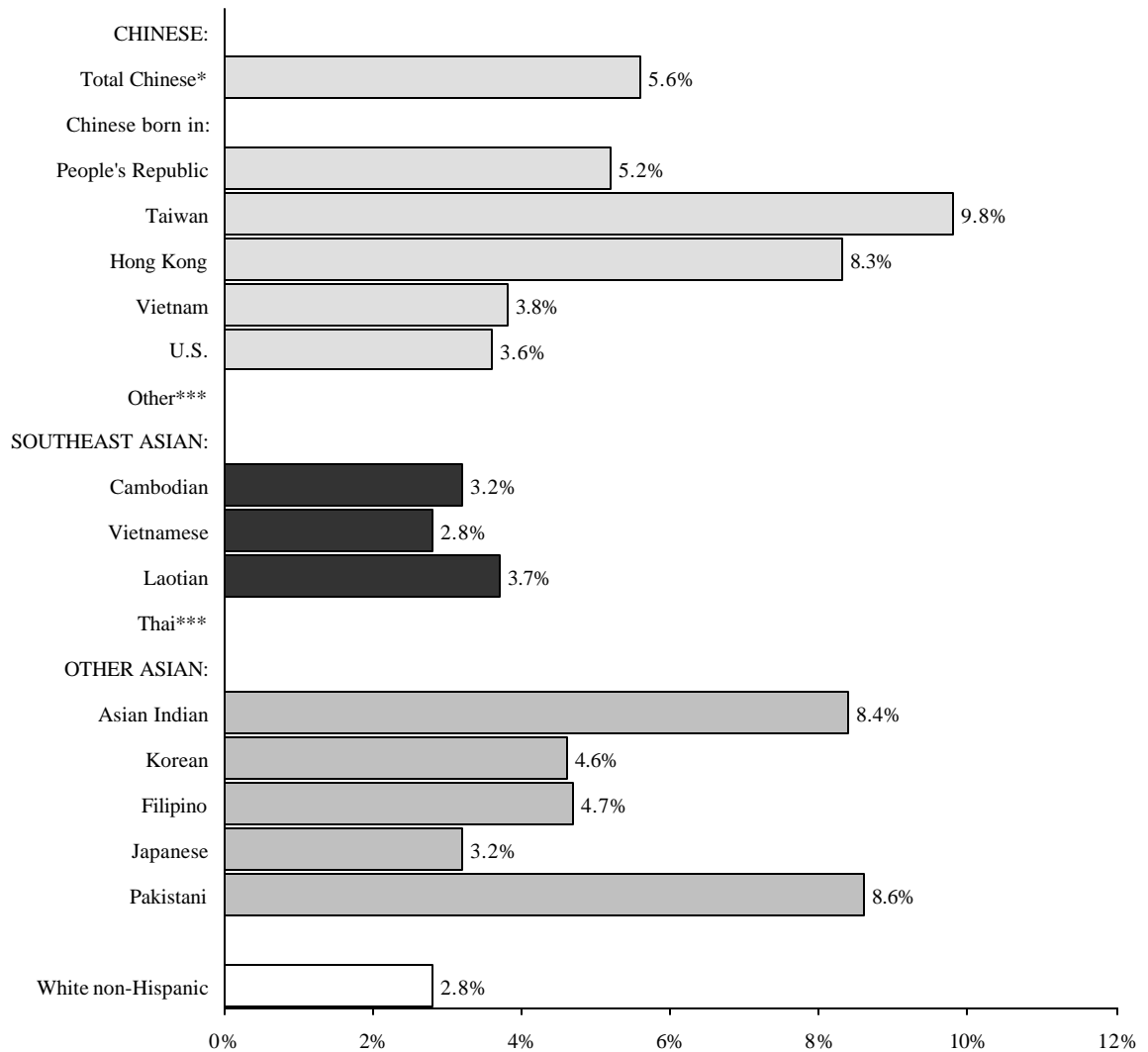
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3.)

\*Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\* Percentages for Asian Indian, Thai, and Chinese mothers born in Vietnam and "Other" are based on fewer than five events and therefore excluded.

**Figure 4.4 Percentage of Asian Mothers with Diabetes\*\* by Ethnicity and Place of Birth**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\*Includes both gestational and other diabetes.

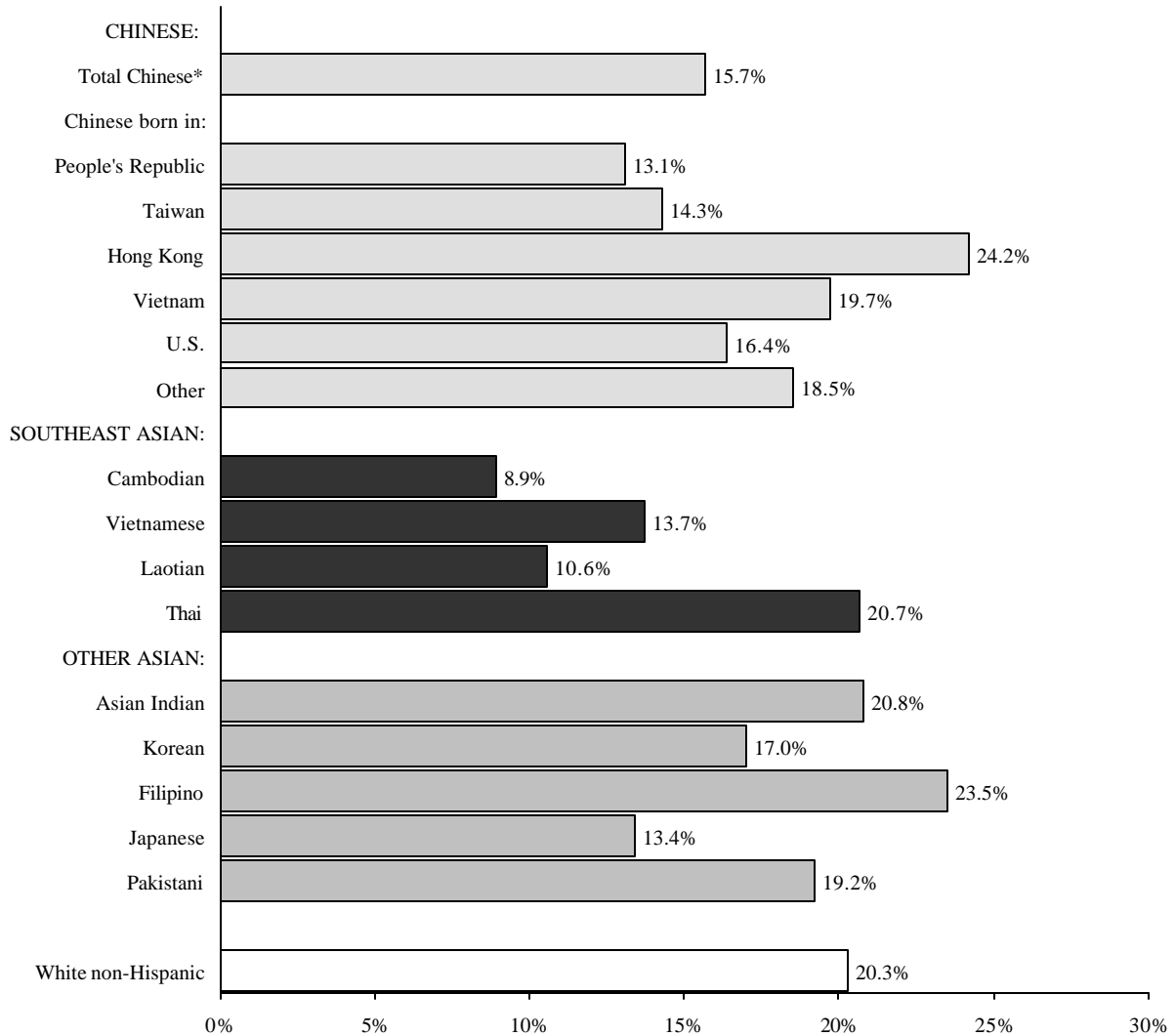
\*\*\* Percentages for Thai and Chinese mothers born in "Other" are based on fewer than five events and therefore excluded.

***What proportion of Asian mothers have Cesarean section deliveries? How does the proportion of Cesarean section deliveries vary among Asian women?***

During 1996 and 1997, delivery by Cesarean section was reported less frequently among Chinese mothers (16%) than among White non-Hispanics (20%), with the exception of Hong Kong-born mothers (24%). Southeast Asian mothers typically had lower proportions of delivery by Cesarean section, with the lowest percentages among Cambodian and Laotian mothers (9% and 11%, respectively). However, there was a high percentage of delivery by Cesarean section among Thai women (21%). Among other Asian ancestry groups, the proportion of delivery by Cesarean section was comparable to that of White non-Hispanic mothers (20%) for Asian Indian mothers (21%) and Pakistani mothers (19%). Filipino mothers had a higher percentage of deliveries by Cesarean section (24%) than White non-Hispanic mothers, while Korean and Japanese mothers had lower percentages (17% and 13%, respectively).

**Figure 4.5 Percentage of Asian Mothers with Infants Delivered by Cesarean Section\*\* by Ethnicity and Place of Birth**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\* Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.



## **Chapter 5**

### **Prenatal Care Among Asian Mothers: 1996-1997**





***What proportion of Asian women receive adequate<sup>1</sup> prenatal care? How does the proportion of mothers receiving adequate prenatal care vary among Asian mothers?***

During 1996 and 1997, similar proportions of Chinese women and White non-Hispanic women received adequate prenatal care: 79% and 83%, respectively. Among Chinese mothers, U.S.-born and Hong Kong-born women had the highest percentages of adequate prenatal care (86% and 83%, respectively), while the lowest percentage was among Chinese women born in Vietnam (72%).

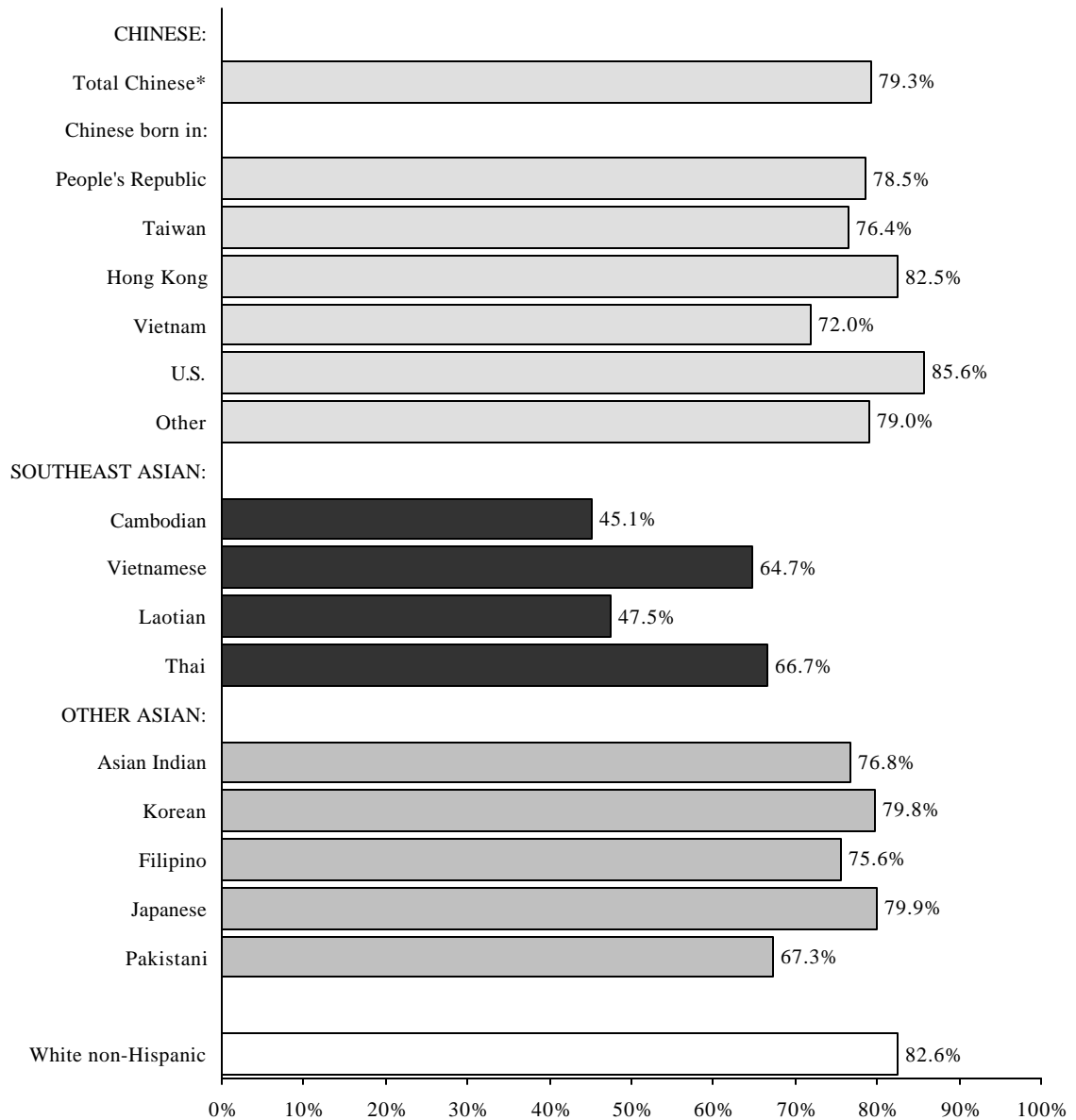
Percentages were lower among Southeast Asian mothers (ranging from 45% to 67%). In this group, Vietnamese and Thai mothers had the highest percentages of adequate prenatal care (65% and 67%, respectively). Only 45% and 48% of Cambodian and Laotian mothers, respectively, received adequate prenatal care. Other Asian mothers received adequate prenatal care at comparable percentages to Chinese mothers, with the exception of Pakistani mothers who had a lower percentage (67%) (Figure 5.1).

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<sup>1</sup>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.

Note: 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.

**Figure 5.1 Percent Distribution of Adequate Prenatal Care\*\*  
Among Asian Mothers by Ethnicity and Place of Birth**  
Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

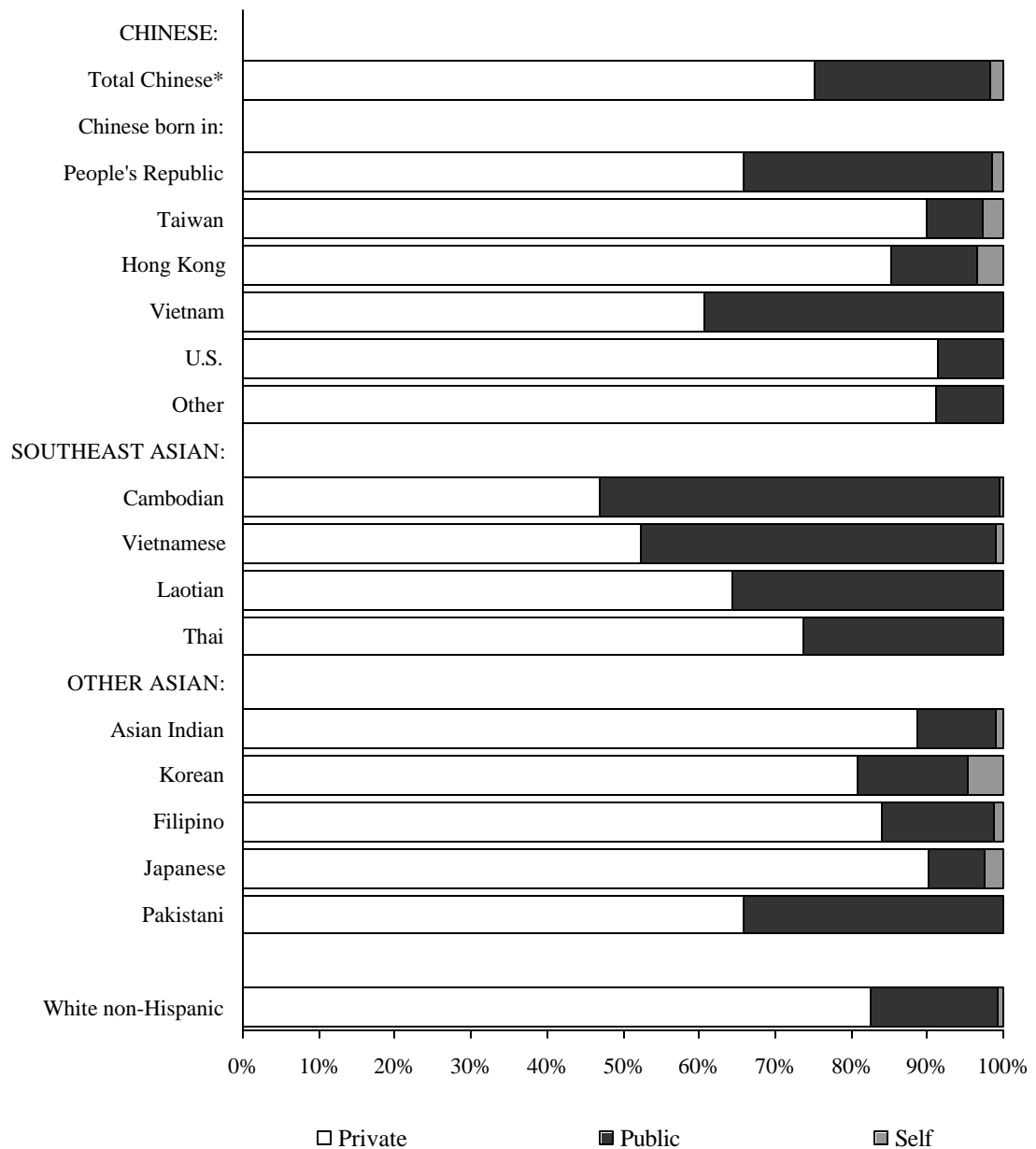
\*\* Excludes cases with unknown adequacy.

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.

***What kind of prenatal care health insurance do Asian mothers have?***

Private insurance (Blue Cross/Blue Shield, commercial insurance, and HMOs) was the source of payment for prenatal care for 75% of Chinese mothers and 81% of White non-Hispanic mothers for 1996 and 1997. Use of public funds for prenatal care was highest among Vietnamese and Cambodian mothers (45.7% and 51.4%, respectively). About two percent of Chinese mothers and Japanese mothers and 5% of Korean mothers paid for prenatal care themselves, compared to under 1% of White non-Hispanic mothers (Figure 5.2).

**Figure 5.2 Percent Distribution of Prenatal Care Payment Source\*\*  
Among Asian Mothers by Ethnicity and Place of Birth**  
Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\* Payment Sources: Private = Blue Cross, commercial insurance, HMO; Public = Medicaid/MassHealth, Medicare, Healthy start, free care, or other government source; Self = self-paid

### ***Where do Asian mothers receive prenatal care?***

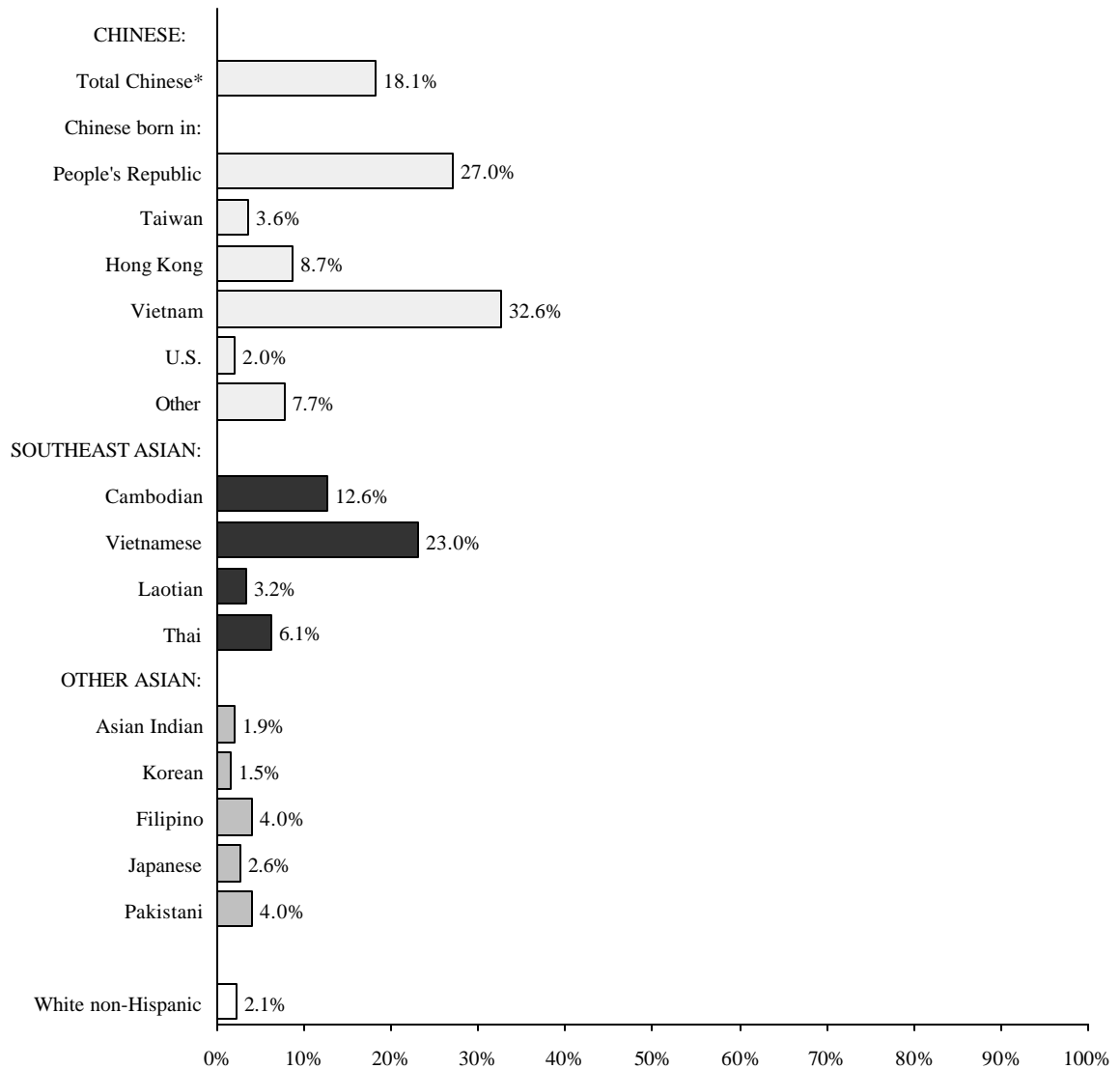
In 1996 and 1997, Asian women were most likely to receive their prenatal care at physicians' offices rather than hospital clinics, HMOs, or community health centers. Among Chinese women, prenatal care was most often obtained at a physician's office (55%), with community health centers (18%), HMO's (14%) and hospital clinics (13%) used less frequently (Figures 5.3-5.6). In contrast, 82% of White non-Hispanic women received their prenatal care at physicians' offices. Among Chinese mothers, those born in Taiwan (78%) and the U.S. (71%) had the highest proportions receiving prenatal care at physicians' offices, while the proportions were much lower among Chinese mothers born in the People's Republic (43%) and Vietnam (42%). The majority of Asian Indian (75%), Filipino (71%), Japanese (68%), Korean (67%), and Pakistani (63%) mothers received prenatal care at physicians' offices (Figure 5.5).

Among Southeast Asian women, the use of physicians' offices for prenatal care varied from 41% to 68%. Only 41% of Vietnamese mothers received their prenatal care in physicians' offices. Hospital clinic use for Southeast Asian mothers varied from 17% to 25%.

Use of hospital clinics and community health centers as the site of prenatal care varied widely by ethnicity and place of birth. Among Chinese women born in the People's Republic and Vietnam, these sites accounted for almost half of all prenatal care, while the proportion was considerably smaller for those mothers born in Taiwan, Hong Kong or the U.S., at less than 20% for these groups. Higher proportions of Vietnamese (47%) and Cambodian (37%) mothers also received prenatal care at either a hospital clinic or community health center (Figures 5.3 – 5.4).

At least 80% of all mothers named a pediatric provider. Percentages were lowest among Chinese mothers (80%), compared to 97% among White non-Hispanic mothers.

**Figure 5.3\*\* Percent Distribution of Community Health Center as Site of Prenatal Care Among Asian Mothers by Ethnicity and Place of Birth**  
 Massachusetts: 1996-97

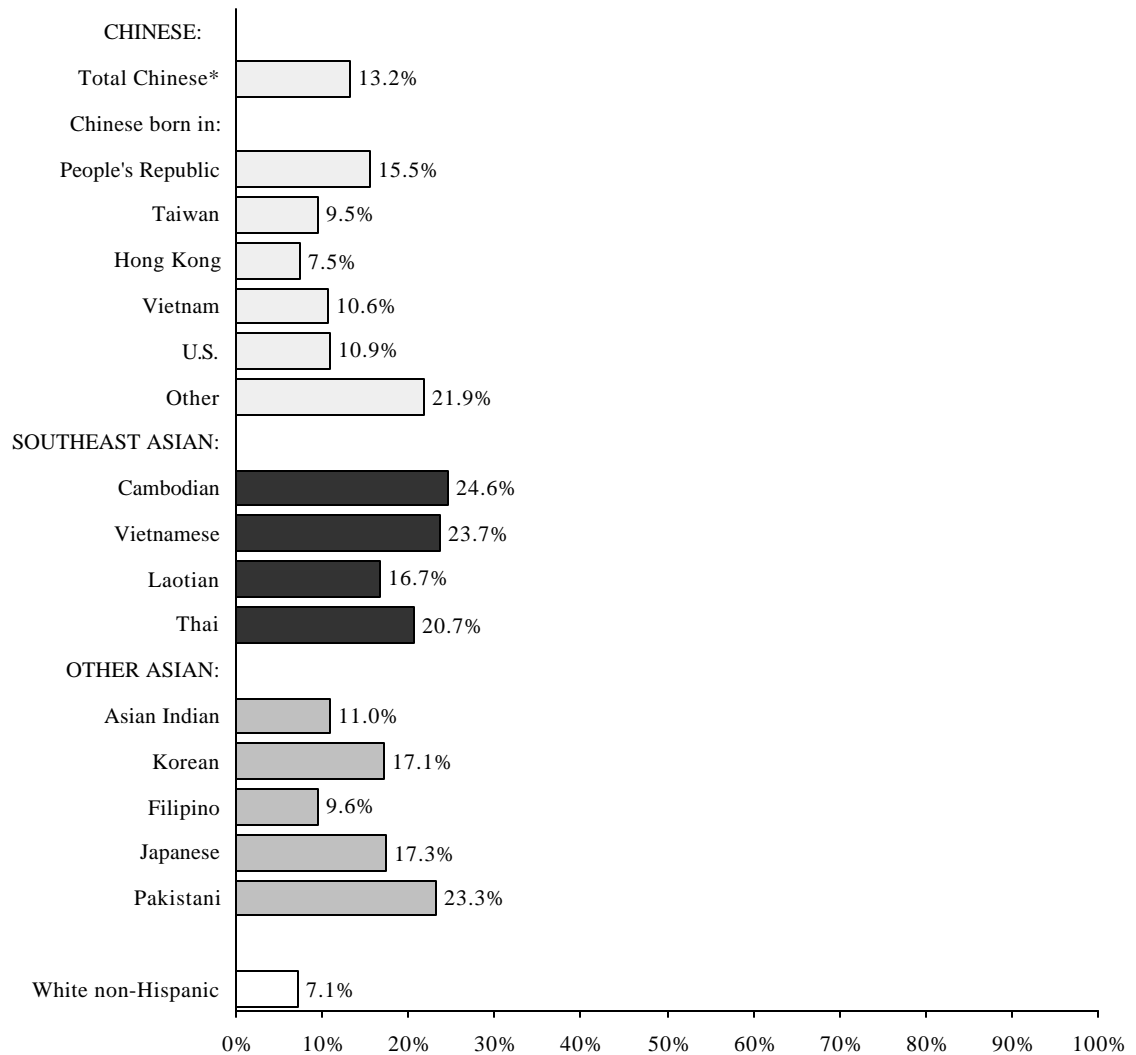


Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

\*Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\*See Figures 5.4 – 5.6 for other prenatal care sites.

**Figure 5.4\*\* Percent Distribution of Hospital Clinic as Site of Prenatal Care Among Asian Mothers by Ethnicity and Place of Birth**  
 Massachusetts: 1996-97



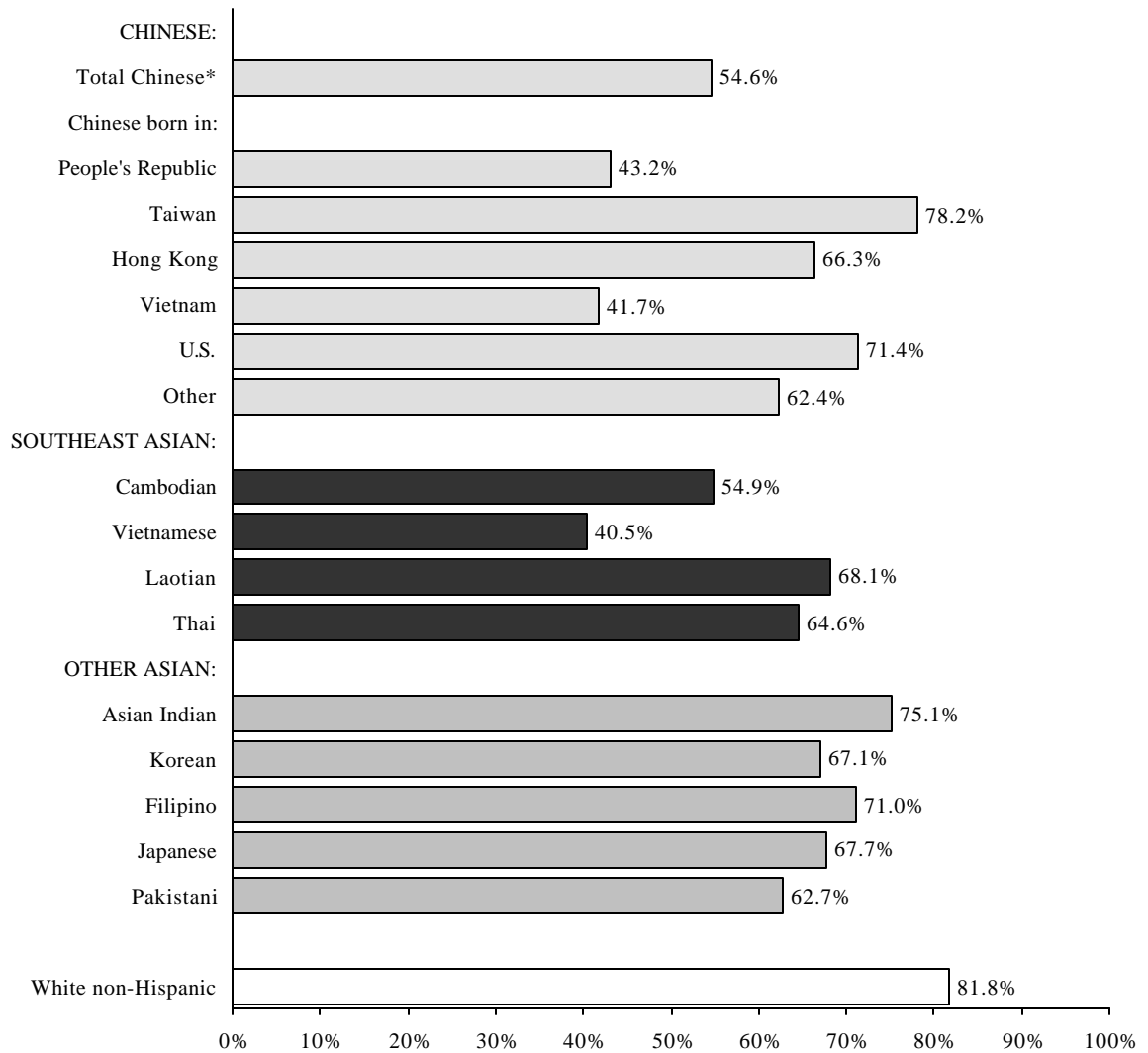
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\*See Figures 5.3 and 5.5 – 5.6 for other prenatal care sites.



**Figure 5.5\*\* Percent Distribution of Physician's Office as Site of Prenatal Care Among Asian Mothers by Ethnicity and Place of Birth**  
 Massachusetts: 1996-97



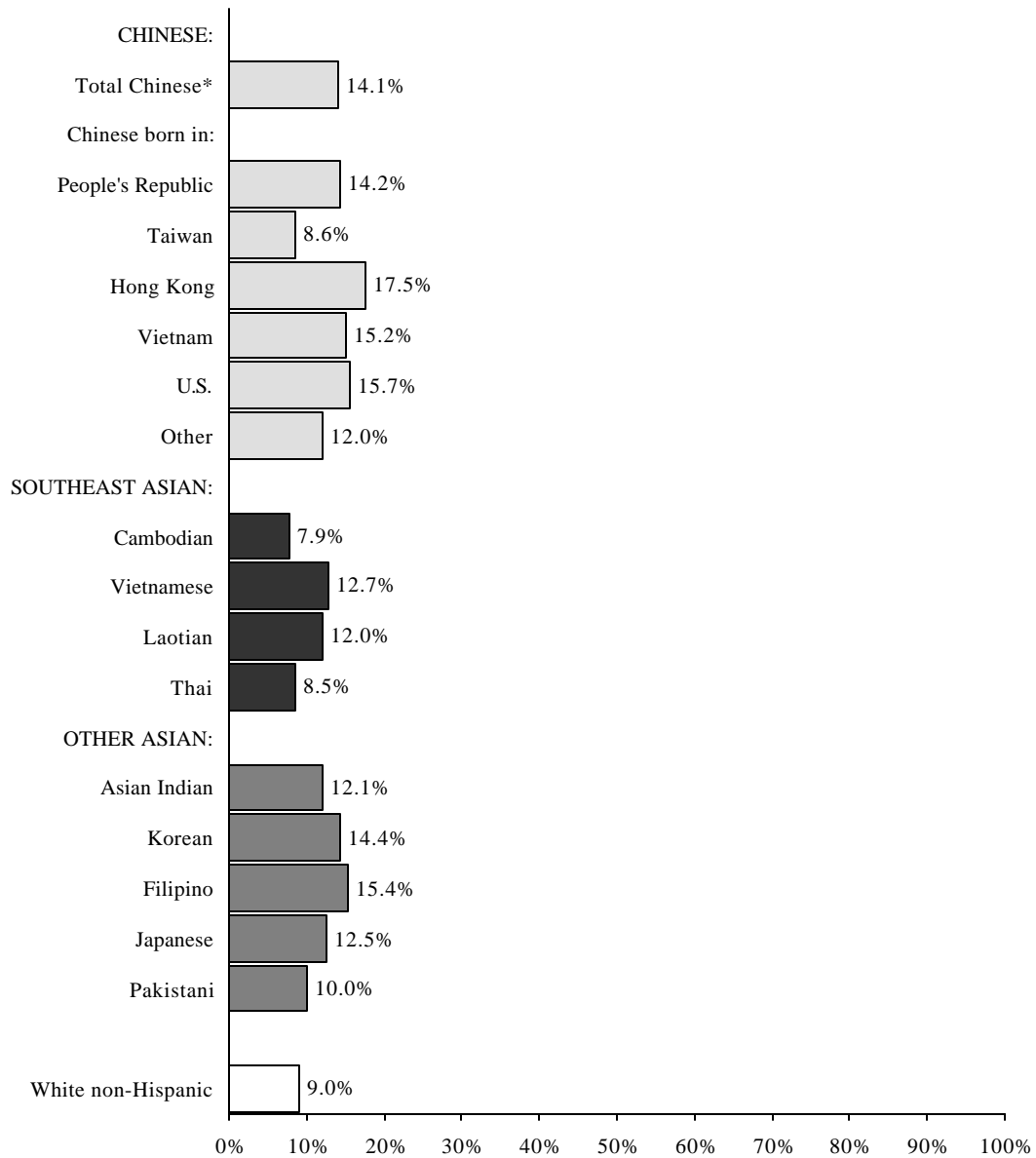
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\*See Figures 5.3- 5.4 and 5.6 for other prenatal care sites.

**Figure 5.6\*\* Percent Distribution of HMO and Other Facilities as Site of Prenatal Care Among Asian Mothers by Ethnicity and Place of Birth**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

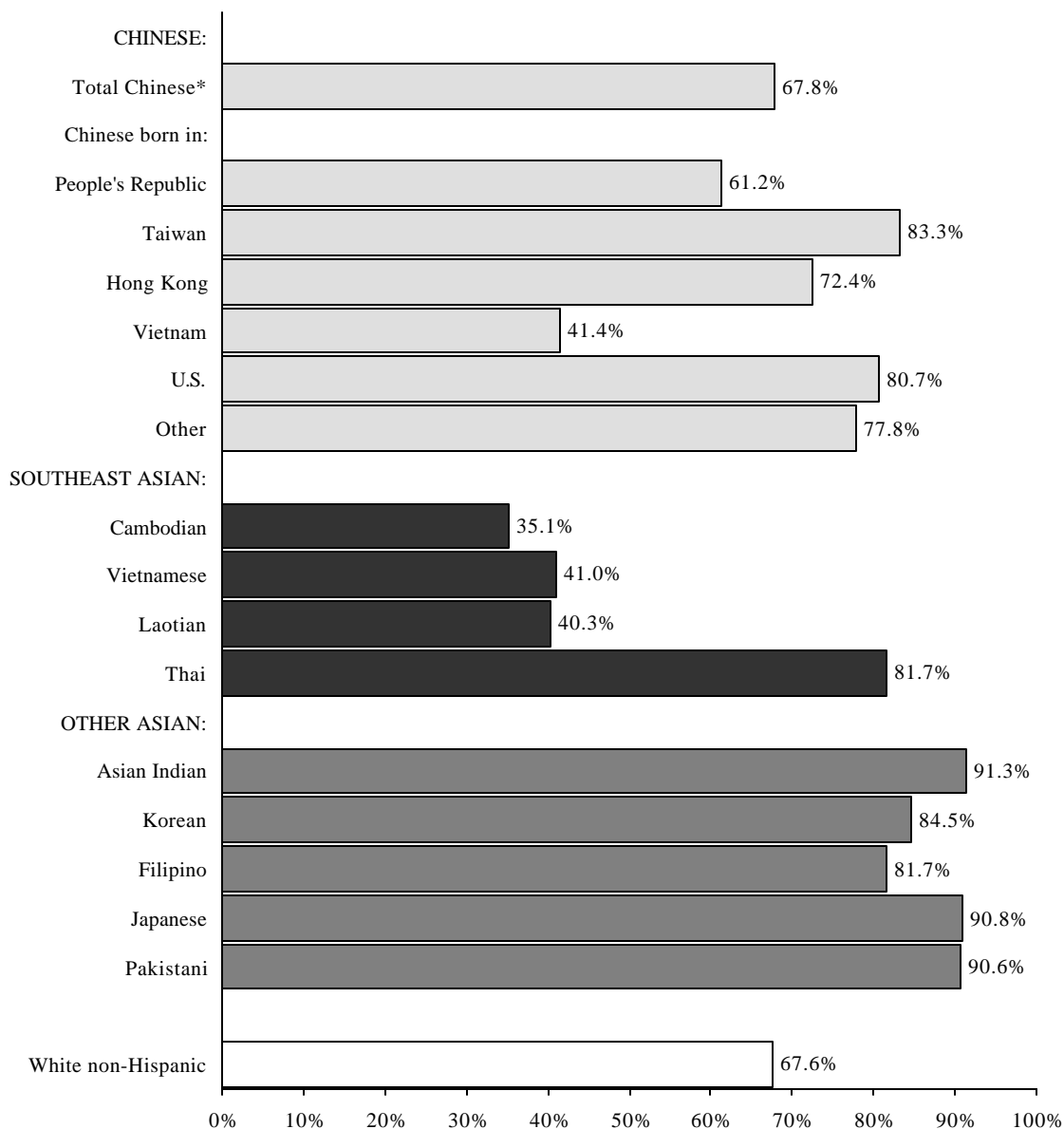
\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\*See Figures 5.3 – 5.5 for other prenatal care sites.

***How does the prevalence of breastfeeding (or intention to breastfeed) vary among Asian mothers?***

Breastfeeding or intention to breastfeed was similar among Chinese mothers and White non-Hispanic mothers (68%). Vietnamese, Laotian, and Cambodian mothers had the lowest percentages (41%, 40%, and 35%, respectively). Percentages were highest (over 90%) among Asian Indian, Japanese, and Pakistani mothers (Figure 5.7).

**Figure 5.7 Percent Distribution of Asian Mothers Who Intended to Breastfeed by Ethnicity and Place of Birth**  
Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown



## **Chapter 6**

# **Preterm Births and Low Birthweight among Children Born to Asian Mothers in Massachusetts: 1996-1997**



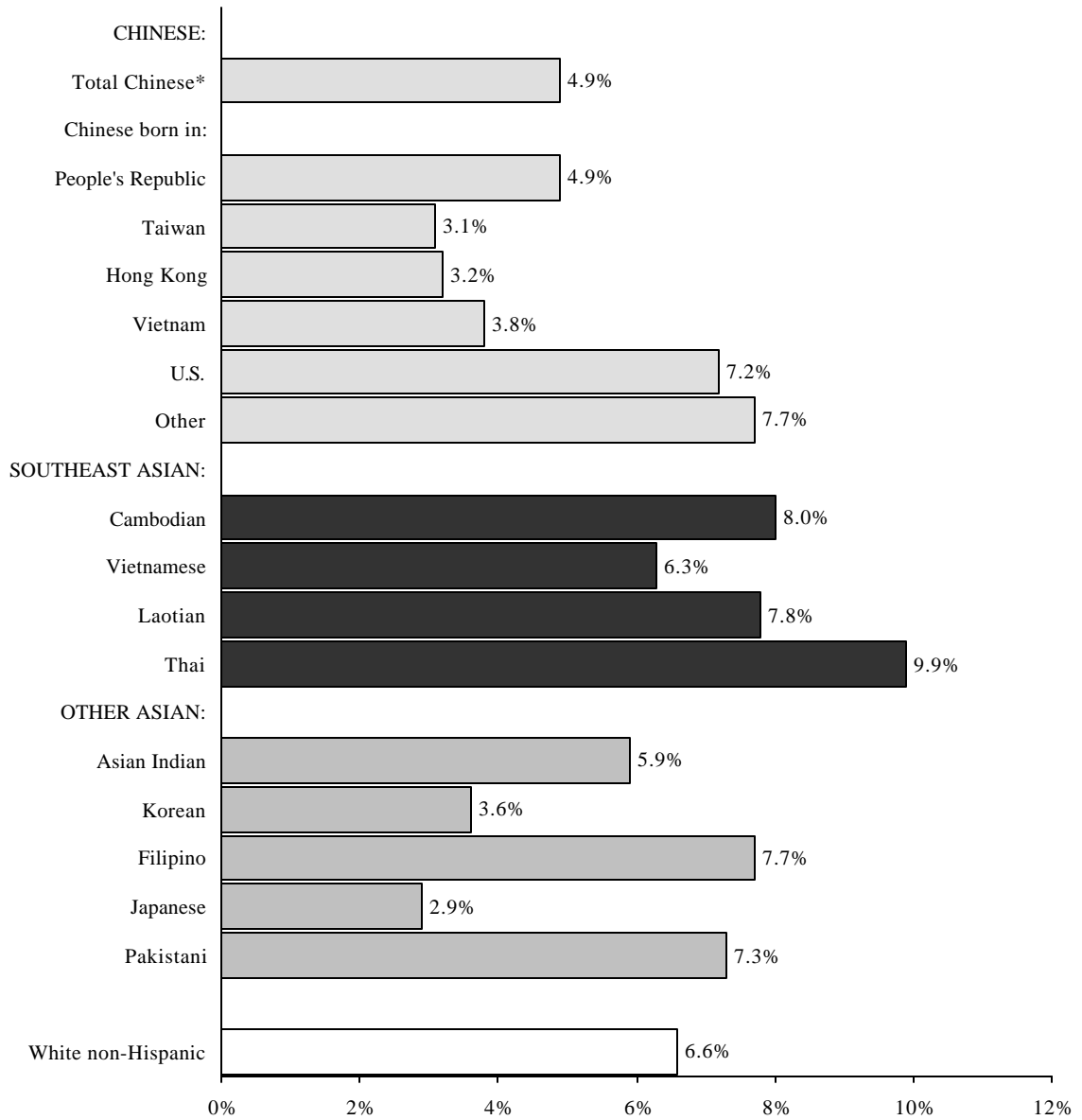
***What proportion of Chinese and Asian births occur before the completion of the 37th week of gestation (also known as early gestation or preterm births)?***

Infants born before the completion of the 37th week of gestation are at greater risk of illness and death than are infants who are born at full term. Among Chinese mothers, 5% delivered preterm infants during 1996 and 1997. U.S.-born Chinese mothers had a greater proportion of preterm births (7%), than did Chinese women who were born in the People's Republic, Vietnam, Hong Kong, or Taiwan (range: 3-5%). Overall, percentages of preterm births were higher for Southeast Asian mothers during this time period, ranging from 6% to 10%, and for other Asian ancestry groups, with the exception of Korean (4%) and Japanese (3%) mothers. Among White non-Hispanic mothers, 7% delivered their infants prematurely (Figure 6.1).



**Figure 6.1 Percent Distribution of Preterm\*\* Births Among Asian Mothers by Ethnicity and Place of Birth**

Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A6.1 & A6.3.)

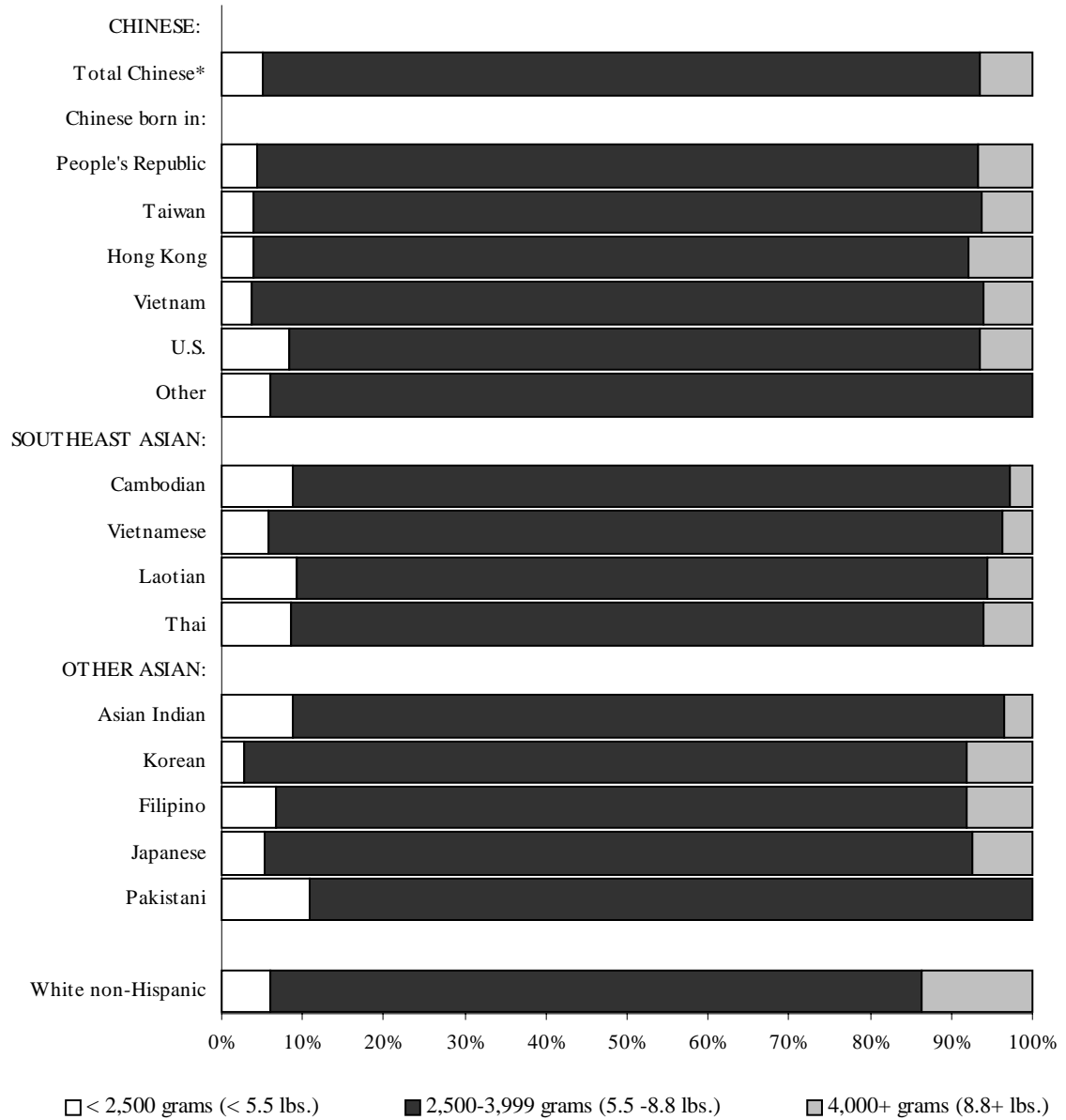
\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

\*\* Preterm is defined as gestational age less than 37 weeks.

***What proportion of Asian births are of low birthweight? Does the proportion of low birthweight vary among Asian groups?***

Low birthweight infants weighing less than 2,500 grams (5.5 pounds) are at increased risk of illness and death. Chinese women overall had one of the lowest percentages of low birthweight infants in Massachusetts (4.9%) in 1996-1997, although Chinese women born in the U.S. had one of the highest percentages of low birthweight infants (8.4%). Percentages were comparably high among infants born to Pakistani (10.6%), Cambodian (8.9%), Asian Indian (8.8%), and Thai (8.5%) mothers. Among White non-Hispanics, 6% of infants were low birthweight. Korean mothers had the lowest percentage of low birthweight infants (2.7%) (Figures 6.2 and 6.3).

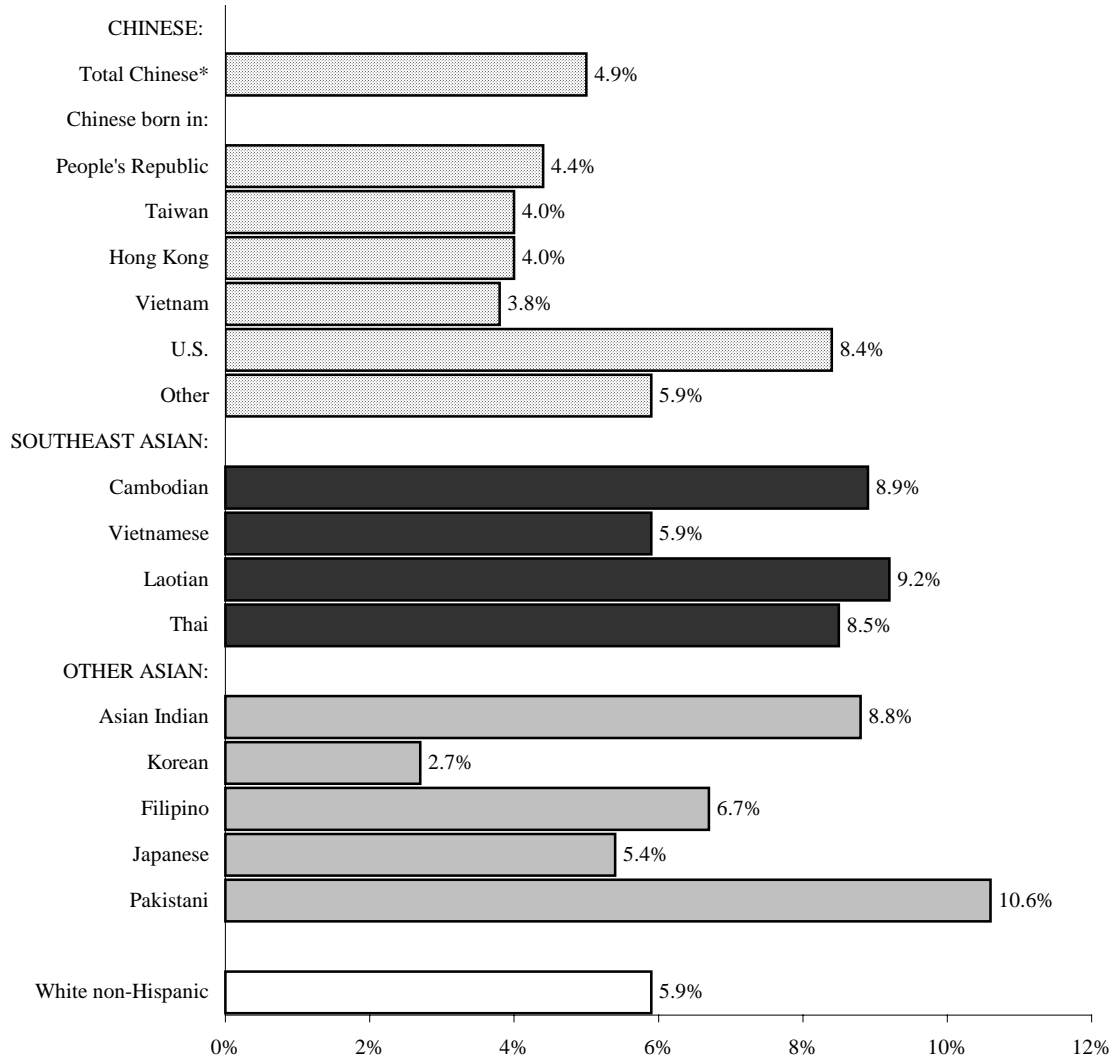
**Figure 6.2 Percent Distribution of Infant Birthweight Among Asian Mothers by Ethnicity and Place of Birth**  
 Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A6.1 & A6.3.)

\* Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.

**Figure 6.3 Percent Distribution of Low Birthweight\*\* Infants to Asian Mothers by Ethnicity and Place of Birth**  
 Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.5.)

\*Total includes 82 mothers of Chinese ancestry whose place of birth is unknown.  
 \*\* Low birthweight is defined as less than 2,500 grams (5.5 lbs.).

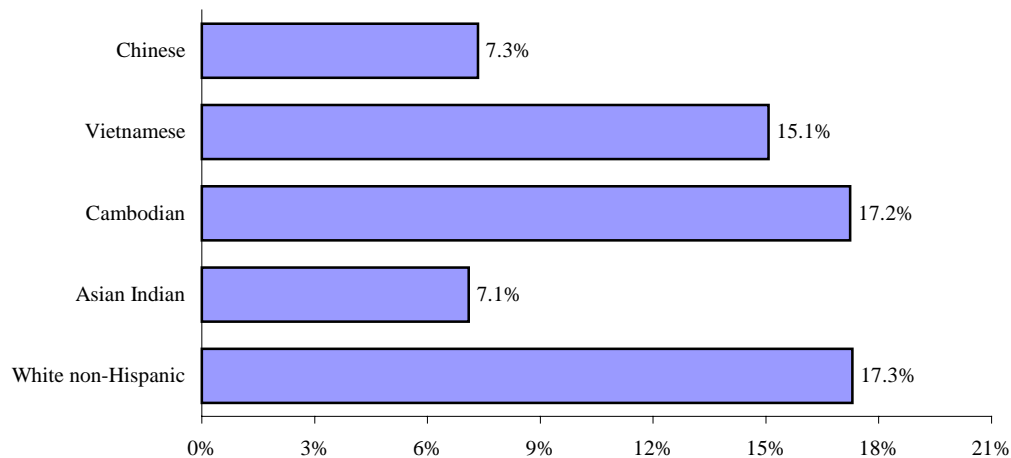
***Does the proportion of very low birthweight infants vary among Asian groups?***

Very low birthweight infants weigh less than 1,500 grams (3.3 pounds), and are at even greater risk of illness and death than low birthweight infants. From 1996 to 1997, the percentage of very low birthweight infants born to Vietnamese and Cambodian mothers (0.9% and 1.5%, respectively), was comparable to the percentage for White non-Hispanic infants, 1.0% (Appendix Table A6.1). Less than one half of a percent of infants born to Chinese mothers were very low birthweight.

Among all low birthweight infants (less than 2,500 grams) during the years 1996 through 1997, 17% of infants born to White non-Hispanic mothers, 17% born to Cambodian mothers, and 15% of infants born to Vietnamese mothers were very low birthweight. The percentages of Asian Indian and Chinese infants that were very low birthweight were lower, at approximately 7% (Figure 6.4).

Note: The detailed low birthweight analysis that follows (beginning with Figure 6.4) includes only those ancestry groups with sufficient numbers of low birthweight infants for the two year period, 1996-1997, to support analysis. These groups include: Chinese, Vietnamese, Cambodian, Asian Indian and White non-Hispanic; and there is no further breakdown by birthplace for mothers of Chinese ancestry.

**Figure 6.4 Percentage of Very Low Birthweight Infants\*  
Among All Low Birthweight Infants\*\*  
of Asian and White Non-Hispanic Mothers  
Massachusetts: 1996-97**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.12.)

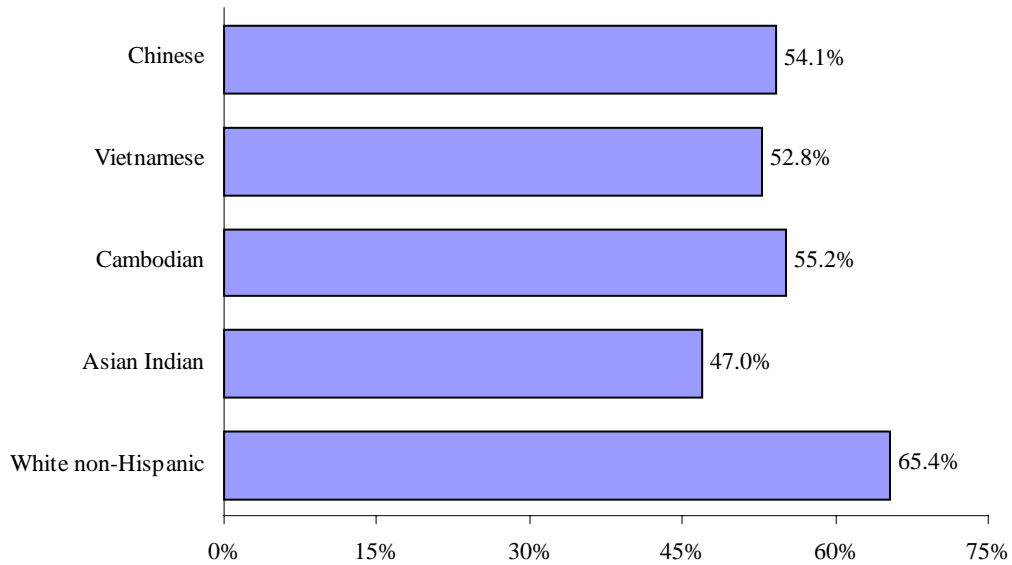
\* Infants with birthweight less than 1,500 grams (<3.3 lbs.)

\*\*Infants with birthweight less than 2,500 grams (<5.5 lbs.)

***What percentage of Asian women give birth to a low birthweight infant with a gestational period of less than 37 weeks?***

There was a tendency for most low birthweight infants to be preterm, regardless of the mother's ethnicity. During the years 1996-1997, low birthweight infants of Asian Indian women showed the lowest percent of early gestational age (47%), while the highest percent of early gestational age was observed among low birthweight infants of White non-Hispanic women (65%). Approximately 54% of Chinese low birthweight infants, 53% of Vietnamese low birthweight infants, and 55% of Cambodian low birthweight infants were preterm (Figure 6.5).

**Figure 6.5 Percentage of Infants with Gestational Age <37 weeks Among All Low Birthweight Infants\* of Asian and White Non-Hispanic Mothers**  
Massachusetts: 1996-97



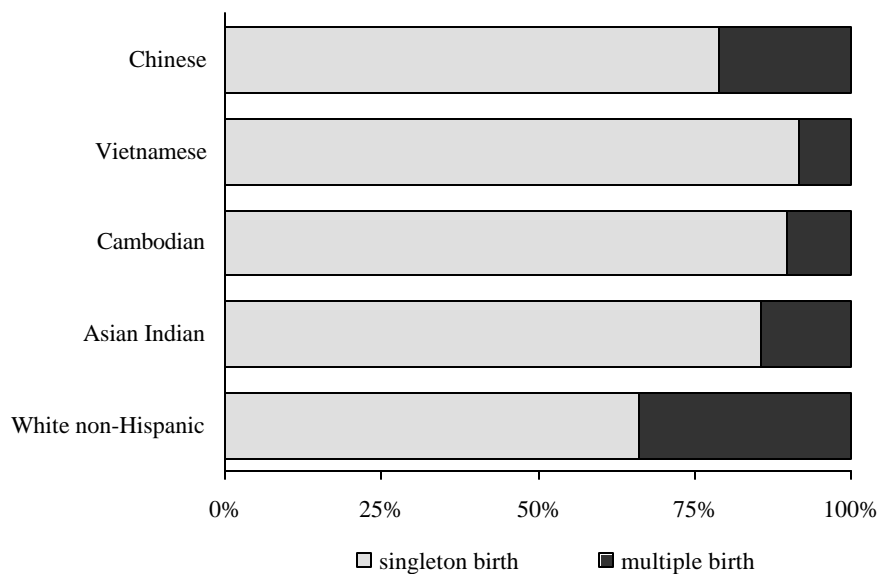
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.12.)

\*Infants with birthweight less than 2,500 grams (<5.5 lbs.)

*How is low birthweight related to plurality among Asian and White non-Hispanic women?*

During the years 1996 and 1997, the strongest relationship between plurality (i.e. multiple births, such as twins and triplets) and low birthweight was observed among White non-Hispanic women. More than 30% of low birthweight infants delivered by White non-Hispanic women were multiple births. By comparison, the proportion of multiple births among low birthweight infants was much smaller for Chinese (21%), Asian Indian (14%), Cambodian (10%) and Vietnamese (8%) women (Figure 6.6).

**Figure 6.6 Percent Plurality Distribution Among All Low Birthweight Infants\* of Asian and White Non-Hispanic Mothers**  
Massachusetts: 1996-97



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.8.)

\*Infants with birthweight less than 2,500 grams (<5.5 lbs.)





**APPENDIX I**  
**DETAILED TABLES**  
**FOR CHAPTERS 1-6**



**Table A1.1 Asian Populations in Selected Communities<sup>1</sup>: Massachusetts 1990**

Community	Total Asian/PI <sup>2</sup>	Asian										Total Population	Percent Asian/PI
		Chinese	Cambodian	Vietnamese	Laotian	Indian	Filipino	Japanese	Korean	Thai	Pakistani		
<b>State</b>	<b>143,392</b>	<b>53,792</b>	<b>14,050</b>	<b>15,449</b>	<b>3,985</b>	<b>19,719</b>	<b>6,212</b>	<b>8,784</b>	<b>11,744</b>	<b>1,424</b>	<b>1,282</b>	<b>6,016,425</b>	<b>2.4</b>
Boston	30,388	16,701	1,002	4,754	287	1,962	1,025	1,784	1,146	293	244	574,283	5.3
Lowell	11,493	779	6,475	743	1,553	1,150	76	41	180	47	25	103,439	11.1
Cambridge	8,081	3,616	23	216	8	1,386	250	734	1,302	61	113	95,802	8.4
Quincy	5,577	4,153	49	567	0	143	352	73	121	27	24	84,985	6.6
Worcester	4,770	694	170	2,391	187	557	122	178	231	64	8	169,759	2.8
Brookline	4,585	2,662	36	133	4	358	108	788	285	51	31	54,718	8.4
Newton	3,760	2,211	32	123	15	350	123	386	225	58	20	82,585	4.6
Lynn	3,003	153	1,758	381	320	97	64	34	53	17	0	81,245	3.7
Somerville	2,824	1,091	29	277	15	658	111	229	196	17	36	76,210	3.7
Malden	2,815	1,584	120	467	15	266	115	43	100	11	12	53,884	5.2
Amherst	2,773	1,219	192	113	5	461	61	202	357	9	17	35,228	7.9
Waltham	2,055	666	8	186	56	653	90	85	142	17	25	57,878	3.6

Source: U.S. Bureau of the Census.

<sup>1</sup> Communities with at least 2,000 Asian/Pacific Islander residents are included in this table.

<sup>2</sup> Asian/PI: the ethnic subgroups that appear in this table in addition to other Asian and Pacific Islanders such as Hmong, Burmese, and Samoan.

**Table A1.2 Percent Asian and Pacific Islander Population Change from 1990 to 1998 for Selected Communities<sup>1</sup>: Massachusetts**

<b>Community</b>	<b>Total Asian and Pacific Islander Population 1990</b>	<b>Total Asian and Pacific Islander Population 1998</b>	<b>% Population Change, 1990-98</b>
<b>State</b>	<b>143,392</b>	<b>182,960</b>	<b>+27.6 %</b>
Boston	30,388	36,917	21.5
Lowell	11,493	14,767	28.5
Cambridge	8,081	10,528	30.3
Quincy	5,577	7,410	32.9
Worcester	4,770	6,334	32.8
Brookline	4,585	6,085	32.7
Newton	3,760	4,727	25.7
Lynn	3,003	4,324	44.0
Somerville	2,824	3,667	29.9
Malden	2,815	3,835	36.2
Amherst	2,773	4,111	48.3
Waltham	2,055	2,846	38.5
Framingham	1,904	2,313	21.5
Lexington	1,876	2,245	19.7
Randolph	1,675	2,155	28.7
Springfield	1,636	2,112	29.1
Lawrence	1,358	2,029	49.4

Source: U.S. Bureau of the Census for 1990 data, and MISER/MDPH for 1998 data (See Glossary).

<sup>1</sup>Communities with at least 2,000 Asian and Pacific Islander residents in 1998 are included in this table.

**Table A1.3 Percentage Change in Asian Populations<sup>1</sup> from 1980 to 1990,  
Selected Massachusetts Communities**

Community	Chinese	Vietnamese	Asian Indian	Filipino	Japanese	Korean	Total Population
<b>State</b>	<b>115%</b>	<b>387%</b>	<b>135%</b>	<b>102%</b>	<b>95%</b>	<b>152%</b>	<b>+4.9%</b>
Boston	46	382	100	80	137	273	2.0
Lowell	245	666	573	153	46	283	11.9
Cambridge	130	222	97	98	21	164	0.5
Quincy	1257	772	17	124	62	218	0.3
Worcester	220	669	106	281	197	225	4.9
Brookline	38	359	50	23	238	108	-0.6
Newton	124	54	34	46	147	96	-1.2
Lynn	87	5343	203	191	26	130	3.5
Somerville	245	965	301	95	122	444	-1.5
Malden	1167	1930	280	211	330	317	0.9
Amherst	254	151	348	307	80	485	6.0
Waltham	199	343	200	329	77	137	-0.6
Framingham	172	1567	149	231	74	70	-0.2
Lexington	155	33	114	-3	236	89	-1.7
Randolph	664	2220	388	397	50	1100	6.6
Springfield	290	379	94	53	65	34	3.1
Revere	-44	800	53	5	106	263	0.9

Source: U.S. Bureau of the Census.

<sup>1</sup>Cambodian, Laotian, Thai, and Pakistani data are not available for 1980.

Note: Some of these percentage increases are based on very small numbers.

Refer to Appendix Table A1.1 for actual counts of persons of Asian ethnicities for selected Massachusetts communities.

**Table A1.4 Percent Age Distribution and Median Age of the Asian and Pacific Islander Population:  
Massachusetts 1990**

	Total Asian and Pacific Islanders	Chinese	Vietnamese	Cambodian	Laotian	Thai	Asian Indian	Korean	Filipino	Japanese	All Pacific Islanders	Total State
Age, in years												
< 20	33.8	26.7	40.9	52.8	47.4	26.3	30.0	42.9	27.1	24.5	35.3	25.7
20-24	11.6	10.2	11.7	9.2	10.4	14.9	12.0	14.3	13.5	13.6	14.4	8.5
25-29	11.5	11.6	11.2	7.4	11.0	12.8	13.3	10.1	12.9	15.3	13.5	9.3
30-34	11.1	11.7	11.2	7.6	9.7	12.0	11.5	9.4	11.0	15.3	10.4	9.0
35+	32.0	39.7	25.0	23.1	21.5	34.0	33.2	23.4	35.5	31.3	26.4	47.4
Median age	27.0	30.5	23.8	18.5	21.2	28.1	27.9	21.8	28.5	29.0	25.1	33.5

Source: U.S. Bureau of the Census.

**Table A1.5 Income and Poverty of the Asian and Pacific Islander Population:  
Massachusetts 1979 and 1989**

	Mean household income		Percent of persons below poverty <sup>1</sup>		Percent of persons below 125% poverty <sup>1</sup>		Percent of persons unemployed <sup>1</sup>	
	1979	1989	1979	1989	1979	1989	1979	1989
Total Asian and Pacific Islanders	\$20,847	\$43,887	16.3	19.7	22.4	23.5	4.6	6.4
Chinese	19,916	45,479	16.1	13.1	23.4	17.5	4.4	5.7
Vietnamese	12,525	34,878	41.6	34.4	51.6	38.6	8.0	8.8
Asian Indian	24,291	61,231	9.3	7.3	13.8	9.0	4.4	4.4
Korean	21,389	35,988	10.5	17.4	14.2	20.3	3.8	6.4
Filipino	27,237	50,304	9.1	11.2	10.7	12.7	4.2	3.8
Japanese	19,446	39,491	13.9	22.8	18.6	24.0	4.3	4.0
Cambodian	na	25,488	na	46.4	na	52.5	na	14.5
Laotian	na	32,043	na	25.8	na	34.0	na	11.4
Thai	na	39,717	na	24.0	na	27.9	na	11.0
Other Asian and Pacific Islanders	16,244	na	41.4	na	50.9	na	5.8	na
All Pacific Islanders	na	36,920	na	14.6	na	17.6	na	12.5
Total State	20,744	45,472	9.6	8.9	13.8	12.0	5.0	6.7

Source: U.S. Bureau of the Census.

<sup>1</sup> Economic data collected from the 1980 and 1990 census refer to income and employment status during the year prior to the Census (1979 and 1989).

Note: Data not available (na) for Cambodian, Laotian, Thai, and All Pacific Islander for 1980.  
Data not available (na) for Other Asian and Pacific Islanders for 1990.

**Table A2.1 Distribution of Asian Births by Community<sup>1</sup>: Massachusetts 1996-1997**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	TOTAL <sup>2</sup>
Boston	455	393	24	61	40	40	61	10	18	12	1,114
Lowell	27	47	483	79	6	6	2	73	3	6	732
Quincy	221	60	4	30	14	23	4	1	5	0	362
Worcester	34	198	13	28	5	10	9	6	7	1	311
Malden	143	49	10	33	10	7	3	1	6	4	266
Lynn	8	37	155	2	1	7	2	16	1	1	230
Cambridge	96	5	1	31	46	9	20	1	11	5	225
Brookline	67	3	3	17	22	4	38	1	1	1	157
Newton	97	9	3	19	5	2	11	0	6	2	154
Somerville	62	13	5	34	7	8	6	0	7	0	142
Waltham	52	13	2	51	7	5	4	2	3	2	141
Springfield	12	68	8	3	5	8	2	16	3	2	127
Framingham	41	5	0	47	3	5	2	1	7	1	112
Other towns	901	338	259	519	243	268	150	91	73	45	2,887
TOTAL	2,216	1,238	970	954	414	402	314	219	151	82	6,960

<sup>1</sup> Cities and towns with 100 or more Asian births from 1996 -1997.

<sup>2</sup> This column does not include 386 total births to mothers of Hawaiian or "Other Asian/Pacific Islander" ancestry.



**Table A2.2 Distribution of Asian Births by Hospital<sup>1</sup>: Massachusetts 1996-1997**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	Total Asian <sup>2</sup> Births	Total Births
Beth Israel Deaconess	628	94	16	62	38	29	40	4	7	10	928	10,082
Brigham and Women's	373	86	18	112	100	51	92	3	22	13	870	17,002
Lowell General	48	37	427	103	14	10	3	57	2	3	704	4,303
New England Medical	104	178	11	10	3	10	9	1	1	5	332	3,144
St. Elizabeth's	97	89	14	63	11	18	13	6	17	3	331	3,332
Newton-Wellesley	161	11	3	46	13	16	20	0	7	4	281	8,487
UMASS Memorial	42	95	9	49	7	15	8	7	5	3	240	7,594
Mass. General	74	34	69	14	10	10	19	0	4	3	237	3,848
Saint Vincent	30	115	4	34	4	10	7	2	7	1	214	4,022
Metrowest	55	10	0	77	15	12	15	1	6	3	194	5,055
Baystate	33	57	13	10	12	21	5	14	11	3	179	10,043
Mount Auburn	66	10	5	38	13	16	5	3	7	3	166	2,297
Winchester	54	16	2	54	7	11	8	0	6	2	160	4,158
Melrose-Wakefield	46	48	13	28	6	7	5	2	0	1	156	2,587
North Shore	11	33	64	3	0	10	5	12	0	0	138	3,455
Beverly	18	6	60	11	15	10	6	4	2	2	134	5,326
Emerson	62	5	4	22	11	11	10	0	0	4	129	2,930
Quincy	55	39	1	6	7	10	0	1	2	1	122	1,472
Leominster	14	18	4	11	13	6	1	48	4	1	120	3,095
Boston Medical	11	59	5	12	5	3	3	2	6	1	107	3,079
Cooley-Dickinson	39	2	16	15	17	6	6	0	0	1	102	1,871
Saints Memorial	6	8	59	6	0	2	0	16	1	3	101	909
Malden	17	34	12	9	15	3	1	0	2	1	94	930

(continued on next page)

**Table A2.2 continued. Distribution of Asian Births by Hospital<sup>1</sup>: Massachusetts 1996-1997**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	Total Asian <sup>2</sup> Births	Total Births
Lawrence General	9	35	25	9	9	1	0	0	3	0	91	2,585
South Shore	18	11	2	12	9	14	3	0	3	1	73	6,283
Charlton Memorial	4	3	45	3	3	5	0	1	5	0	69	3,013
Caritas Good Samaritan	14	13	10	5	8	6	0	7	0	2	65	2,623
Boston Regional	13	9	4	12	6	6	3	0	1	1	55	2,443
Cambridge	11	4	3	22	7	2	1	0	4	1	55	1,248
Sturdy Memorial	9	2	24	6	1	5	0	0	1	1	49	1,470
Caritas Norwood	6	5	1	24	2	4	2	0	1	1	49	2,069
Deaconess / Waltham	8	2	0	21	0	1	1	1	2	0	36	546
Other Hospitals	80	70	27	45	33	61	23	27	12	4	379	29,193
<b>TOTAL</b>	<b>2,216</b>	<b>1,238</b>	<b>970</b>	<b>954</b>	<b>414</b>	<b>402</b>	<b>314</b>	<b>219</b>	<b>151</b>	<b>82</b>	<b>6,960</b>	<b>160,494</b>

<sup>1</sup>Hospitals with 35 or more Asian births from 1996 - 1997.

<sup>2</sup>This column does not include 386 total births to mothers of Hawaiian or "Other Asian/Pacific Islander" ancestry.

**Table A2.3 Hospital Distribution<sup>1</sup> of Births to Mothers of Chinese Ancestry  
by Mother's Birthplace: Massachusetts 1996-1997**

BIRTHPLACE:	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other	Total <sup>2</sup>
Beth Israel/Deaconess	420	28	66	51	43	18	628
Brigham and Women's	198	25	56	6	44	17	373
Newton-Wellesley	29	20	38	5	49	11	161
New England Medical	77	2	3	11	6	5	104
St. Elizabeth's	39	7	18	6	12	6	97
Mass General	37	7	4	2	10	8	74
Mount Auburn	24	16	4	4	8	7	66
Emerson	13	13	5	3	12	6	62
Metrowest	21	12	6	1	12	3	55
Quincy	31	1	13	4	3	1	55
Winchester	28	11	5	2	3	5	54
Lowell General	13	12	2	6	3	3	48
Melrose-Wakefield	31	4	6	4	0	1	46
UMASS Memorial	21	8	0	1	9	3	42
Cooley-Dickinson	25	6	4	1	0	3	39
Other hospitals	149	53	22	25	36	22	312
TOTAL	1,156	225	252	132	250	119	2,216

<sup>1</sup> Hospitals with 35 or more Chinese births from 1996 - 1997.

<sup>2</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

**Table A3.1 Percent Distribution of Mother's Demographic Characteristics by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic <sup>1</sup>
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
U.S. born	11.7	1.3	2.4	3.2	12.6	18.5	19.5	4.6	3.3	7.6	93.3
Age, in years											
<18	0.5	2.5	9.6	0.6	-- <sup>2</sup>	2.2	-- <sup>2</sup>	10.0	0.0	-- <sup>2</sup>	1.5
18-19	0.6	4.5	6.7	-- <sup>2</sup>	2.4	2.2	-- <sup>2</sup>	4.6	0.0	-- <sup>2</sup>	3.2
20-24	4.1	24.6	26.6	11.4	9.9	10.4	8.0	31.5	12.6	12.2	11.8
25-29	24.0	33.4	31.0	44.1	38.2	23.6	20.7	26.9	44.4	23.2	26.5
30-34	45.4	21.8	16.2	33.9	33.6	37.6	43.3	19.2	31.8	39.0	36.2
35-39	21.5	8.8	6.7	8.6	12.8	18.9	22.0	6.8	9.9	13.4	17.6
40+	4.0	4.4	3.2	1.0	2.4	5.0	5.1	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	3.2
Education completed <sup>3</sup>											
less than high school	14.2	36.5	42.8	3.0	-- <sup>2</sup>	2.3	-- <sup>2</sup>	39.3	5.3	10.7	4.2
high school	17.4	34.2	32.6	10.1	15.5	15.4	11.7	38.3	20.7	21.3	25.5
some college	15.4	18.4	19.5	15.0	22.0	26.6	28.5	18.6	17.3	25.3	29.2
college graduate	27.3	8.3	4.4	34.6	38.0	42.7	41.1	3.3	38.0	17.3	28.9
more than college	25.7	2.7	0.8	37.4	24.0	13.0	18.4	-- <sup>2</sup>	18.7	25.3	12.2
Marital status											
married	95.7	64.5	45.5	98.2	90.1	87.6	93.3	65.3	96.0	79.3	81.7
not married	4.3	35.5	54.5	1.8	9.9	12.4	6.7	34.7	4.0	20.7	18.3
Language preference											
English	54.9	42.3	37.5	87.3	66.3	94.2	59.5	43.8	79.3	69.5	98.5
Cambodian	-- <sup>2</sup>	0.4	60.8	0.0	0.0	0.0	0.0	0.0	0.0	-- <sup>2</sup>	0.0
Cantonese	24.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-- <sup>2</sup>	0.0
Lao	-- <sup>2</sup>	0.0	-- <sup>2</sup>	0.0	0.0	0.0	0.0	40.2	-- <sup>2</sup>	0.0	0.0
Mandarin	10.4	-- <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-- <sup>2</sup>	-- <sup>2</sup>
Vietnamese	0.6	55.1	-- <sup>2</sup>	-- <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0	-- <sup>2</sup>
Other	9.7	1.0	1.3	12.4	33.7	5.8	40.5	16.0	20.0	25.6	1.5

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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 A3.2 Distribution of Mother's Demographic Characteristics by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic <sup>1</sup>
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
U.S. born	250	16	23	29	52	73	61	10	5	6	112,085
Age, in years											
<18	10	31	93	6	3	9	1	22	0	4	1,846
18-19	13	56	65	3	10	9	2	10	0	3	3,886
20-24	90	305	258	109	41	42	25	69	19	10	14,208
25-29	531	413	301	421	158	95	65	59	67	19	31,861
30-34	1,007	270	157	323	139	151	136	42	48	32	43,556
35-39	476	109	65	82	53	76	69	15	15	11	21,225
40+	89	54	31	10	10	20	16	2	2	3	3,869
Education completed <sup>2</sup>											
less than high school	311	419	342	28	2	9	1	72	8	8	4,801
high school	381	393	261	95	62	59	36	70	31	16	29,193
some college	337	211	156	142	88	102	88	34	26	19	33,460
college graduate	598	95	35	327	152	164	127	6	57	13	33,140
more than college	564	31	6	353	96	50	57	1	28	19	14,009
Marital status											
married	2,121	799	441	937	373	352	293	143	145	65	98,446
not married	95	439	529	17	41	50	21	76	6	17	21,991
Language preference											
English	1,193	522	362	825	270	373	184	96	119	57	117,634
Cambodian	4	5	587	0	0	0	0	0	0	1	0
Cantonese	527	12	0	0	0	0	0	0	0	1	0
Lao	0	0	2	0	0	0	0	88	1	0	0
Mandarin	226	3	0	0	0	0	0	0	0	2	1
Vietnamese	13	680	2	3	0	0	0	0	0	0	2
Other	210	12	13	117	137	23	125	35	30	21	1,842

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> 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 A3.3 Percent Distribution of Demographic Characteristics for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE						Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other		
Number of Births	1,156	225	252	132	250	119	2,216	120,451
Age, in years								
<18	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	0.0	2.4	0.0	0.5	1.5
18-19	-- <sup>2</sup>	-- <sup>2</sup>	0.0	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	0.6	3.2
20-24	4.7	-- <sup>2</sup>	2.0	7.6	5.2	-- <sup>2</sup>	4.1	11.8
25-29	29.7	20.4	15.1	24.2	13.2	18.5	24.0	26.5
30-34	42.3	48.9	52.0	43.2	43.6	47.1	45.4	36.2
35-39	18.9	24.4	27.0	19.7	28.8	25.2	21.5	17.6
40+	4.1	3.6	3.6	3.8	5.2	5.0	4.0	3.2
Education completed <sup>3</sup>								
less than high school	20.3	2.3	4.4	40.0	0.0	6.8	14.2	4.2
high school	21.7	8.6	17.1	24.6	5.0	20.5	17.4	25.5
some college	14.7	10.4	18.3	19.2	18.8	12.0	15.4	29.2
college graduate	19.4	32.6	42.2	13.8	43.8	37.6	27.3	28.9
more than college	23.9	46.2	17.9	-- <sup>2</sup>	32.5	23.1	25.7	12.2
Marital status								
married	97.1	96.0	97.6	87.9	90.4	95.0	95.7	81.7
not married	2.9	4.0	2.4	12.1	9.6	5.0	4.3	18.3
Language preference								
English	39.5	66.2	68.5	38.0	98.4	81.2	54.9	98.5
Cambodian	0.0	0.0	0.0	0.0	0.0	-- <sup>2</sup>	-- <sup>2</sup>	0.0
Cantonese	34.8	-- <sup>2</sup>	23.8	45.0	-- <sup>2</sup>	9.4	24.3	0.0
Mandarin	12.7	26.1	-- <sup>2</sup>	-- <sup>2</sup>	0.0	-- <sup>2</sup>	10.4	-- <sup>2</sup>
Vietnamese	-- <sup>2</sup>	0.0	0.0	8.5	0.0	0.0	0.6	-- <sup>2</sup>
Other	12.9	6.8	7.3	7.0	-- <sup>2</sup>	5.1	9.7	1.5

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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 A3.4 Distribution of Demographic Characteristics for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE						Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other		
Number of Births	1,156	225	252	132	250	119	2,216	120,451
Age, in years								
<18	1	2	1	0	6	0	10	1,846
18-19	4	2	0	2	4	1	13	3,886
20-24	54	2	5	10	13	4	90	14,208
25-29	343	46	38	32	33	22	531	31,861
30-34	489	110	131	57	109	56	1,007	43,556
35-39	218	55	68	26	72	30	476	21,225
40+	47	8	9	5	13	6	89	3,869
Education completed <sup>2</sup>								
less than high school	234	5	11	52	0	8	311	4,801
high school	249	19	43	32	12	24	381	29,193
some college	169	23	46	25	45	14	337	33,460
college graduate	223	72	106	18	105	44	598	33,140
more than college	275	102	45	3	78	27	564	14,009
Marital status								
married	1,123	216	246	116	226	113	2,121	98,446
not married	33	9	6	16	24	6	95	21,991
Language preference								
English	446	147	170	49	244	95	1,193	117,634
Cambodian	0	0	0	0	0	4	4	0
Cantonese	393	2	59	58	2	11	527	0
Mandarin	143	58	1	2	0	1	226	1
Vietnamese	2	0	0	11	0	0	13	2
Other	146	15	18	9	2	6	210	1,842

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> 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 A4.1 Percent Distribution of Maternal Risk Factors by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
Parity											
1	52.4	48.3	33.0	59.2	58.9	49.0	59.6	36.1	41.1	62.2	44.7
2-3	45.6	43.8	45.6	39.0	38.6	46.5	37.9	44.7	52.3	34.1	49.2
4+	2.0	7.9	21.4	1.8	2.4	4.5	2.5	19.2	6.6	-- <sup>1</sup>	6.1
Smoking prior to pregnancy											
yes	1.9	1.9	4.0	0.7	9.9	9.4	9.2	5.5	-- <sup>1</sup>	-- <sup>1</sup>	22.4
no	98.1	98.1	96.0	99.3	90.1	90.6	90.8	94.5	98.0	95.1	77.6
Smoking during pregnancy											
yes	0.9	1.3	3.6	-- <sup>1</sup>	4.6	4.0	3.2	2.7	0.0	-- <sup>1</sup>	14.1
no	99.1	98.7	96.4	99.7	95.4	96.0	96.8	97.3	100.0	96.3	85.9
Cesarean section <sup>2</sup>											
yes	15.7	13.7	8.9	20.8	17.0	23.5	13.4	10.6	19.2	20.7	20.3
no	84.3	86.3	91.1	79.2	83.0	76.5	86.6	89.4	80.8	79.3	79.7
Maternal conditions:											
anemia	1.2	1.8	2.8	1.8	-- <sup>1</sup>	1.7	-- <sup>1</sup>	-- <sup>1</sup>	4.0	-- <sup>1</sup>	1.2
hypertension <sup>3</sup>	2.1	1.2	0.9	3.8	2.4	3.7	1.6	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	3.8
diabetes <sup>4</sup>	5.6	2.8	3.2	8.4	4.6	4.7	3.2	3.7	8.6	-- <sup>1</sup>	2.8
hepatitis B carrier	4.3	4.0	4.6	-- <sup>1</sup>	2.2	1.7	0.0	5.5	0.0	-- <sup>1</sup>	0.1
eclampsia	0.6	-- <sup>1</sup>	-- <sup>1</sup>	0.6	-- <sup>1</sup>	1.5	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	0.0	0.8
Previous preterm or small for gestational age infant											
yes	0.6	0.7	1.2	0.5	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	4.0	0.0	0.9
no	99.4	99.3	98.8	99.5	99.3	99.2	99.7	99.5	96.0	100.0	99.1

<sup>1</sup> Percentages based on fewer than five events are excluded.

<sup>2</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>3</sup> Includes both chronic and pregnancy-related hypertension.

<sup>4</sup> Includes both gestational and other diabetes.

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 A4.2 Distribution of Maternal Risk Factors by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
Parity											
1	1,161	598	320	565	244	197	187	79	62	51	53,845
2-3	1,011	542	442	372	160	187	119	98	79	28	59,205
4+	44	98	208	17	10	18	8	42	10	3	7,401
Smoking prior to pregnancy											
yes	42	24	38	7	40	37	28	12	3	4	26,669
no	2,129	1,208	923	938	366	358	278	207	147	78	92,596
Smoking during pregnancy											
yes	19	16	35	3	19	16	10	6	0	3	16,904
no	2,193	1,220	931	950	395	385	301	213	151	79	103,289
Cesarean section <sup>1</sup>											
yes	348	170	86	198	70	94	42	23	29	17	24,397
no	1,864	1,067	884	752	342	306	271	194	122	65	95,746
Maternal conditions:											
anemia	26	22	27	17	4	7	2	3	6	1	1,476
hypertension <sup>2</sup>	46	15	9	36	10	15	5	2	3	3	4,565
diabetes <sup>3</sup>	124	35	31	80	19	19	10	8	13	3	3,340
hepatitis B carrier	96	50	45	2	9	7	0	12	0	2	91
eclampsia	13	3	4	6	2	6	3	2	4	0	920
Previous preterm or small for gestational age infant											
yes	14	9	12	5	3	3	1	1	6	0	1,058
no	2,191	1,228	954	942	409	396	308	216	145	82	118,500

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Includes both chronic and pregnancy-related hypertension.

<sup>3</sup> Includes both gestational and other diabetes.

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

**Table A4.3 Percent Distribution of Maternal Risk Factors for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE						Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other		
Number of Births	1,156	225	252	132	250	119	2,216	120,451
Parity								
1	51.8	52.4	53.6	52.3	52.4	46.2	52.4	44.7
2-3	47.0	46.7	44.8	43.9	42.8	48.7	45.6	49.2
4+	1.2	-- <sup>2</sup>	-- <sup>2</sup>	3.8	4.8	5.0	2.0	6.1
Smoking prior to pregnancy								
yes	-- <sup>2</sup>	-- <sup>2</sup>	2.0	0.0	11.3	-- <sup>2</sup>	1.9	22.4
no	99.6	99.6	98.0	100.0	88.0	95.0	96.1	76.9
Smoking during pregnancy								
yes	-- <sup>2</sup>	0.0	-- <sup>2</sup>	0.0	6.4	0.0	0.9	14.1
no	99.8	100.0	99.6	100.0	93.6	100.0	99.1	85.9
Cesarean section <sup>3</sup>								
yes	13.1	14.3	24.2	19.7	16.4	18.5	15.7	20.3
no	86.9	85.7	75.8	80.3	83.6	81.5	84.3	79.7
Maternal conditions:								
anemia	1.6	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	1.2	1.2
hypertension <sup>4</sup>	2.0	-- <sup>2</sup>	3.2	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	2.1	3.8
diabetes <sup>5</sup>	5.2	9.8	8.3	3.8	3.6	-- <sup>2</sup>	5.6	2.8
hepatitis B carrier	5.8	4.0	2.8	-- <sup>2</sup>	2.0	-- <sup>2</sup>	4.3	0.1
eclampsia	0.4	0.0	-- <sup>2</sup>	0.0	-- <sup>2</sup>	0.0	0.6	0.8
Previous preterm or small for gestational age								
yes	0.7	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	0.6	0.9
no	99.3	99.5	99.6	98.5	99.6	99.2	99.4	99.1

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>4</sup> Includes both chronic and pregnancy-related hypertension.

<sup>5</sup> Includes both gestational and other diabetes.

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 A4.4 Distribution of Maternal Risk Factors for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE						Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other		
Number of Births	1,156	225	252	132	250	119	2,216	120,451
Parity								
1	599	118	135	69	131	55	1,161	53,845
2-3	543	105	113	58	107	58	1,011	59,205
4+	14	2	4	5	12	6	44	7,401
Smoking prior to pregnancy								
yes	4	1	5	0	28	4	42	26,669
no	1,123	222	242	129	220	113	2,129	92,596
Smoking during pregnancy								
yes	2	0	1	0	16	0	19	16,904
no	1,150	225	251	132	234	119	2,193	103,289
Cesarean section <sup>2</sup>								
yes	151	32	61	26	41	22	348	24,397
no	1,003	191	191	106	209	97	1,864	95,746
Maternal conditions:								
anemia	18	1	1	1	1	1	26	1,476
hypertension <sup>3</sup>	23	4	8	4	2	1	46	4,565
diabetes <sup>4</sup>	60	22	21	5	9	3	124	3,340
hepatitis B carrier	67	9	7	3	5	2	96	91
eclampsia	5	0	3	0	3	0	13	920
Previous preterm or small for gestational age								
yes	8	1	1	2	1	1	14	1,058
no	1,146	220	248	130	248	118	2,191	118,500

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>3</sup> Includes both chronic and pregnancy-related hypertension.

<sup>4</sup> Includes both gestational and other diabetes.

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

**Table A5.1 Percent Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
Adequate prenatal care <sup>1</sup>	79.3	64.7	45.1	76.8	79.8	75.6	79.9	47.5	67.3	66.7	82.6
Payment source <sup>2</sup>											
private	74.5	51.3	46.0	87.3	79.9	82.7	88.7	62.5	64.0	70.0	81.1
public	22.7	45.7	51.4	10.2	14.1	14.5	7.3	34.7	33.3	25.0	16.2
self	1.8	1.0	0.5	1.0	4.7	1.3	2.3	-- <sup>3</sup>	-- <sup>3</sup>	-- <sup>3</sup>	0.8
Site of care											
physician's office	54.6	40.5	54.9	75.1	67.1	71.0	67.7	68.1	62.7	64.6	81.8
hospital clinic	13.2	23.7	24.6	11.0	17.1	9.6	17.3	16.7	23.3	20.7	7.1
community health center	18.1	23.0	12.6	1.9	1.5	4.0	2.6	3.2	4.0	6.1	2.1
HMO/other	14.1	12.7	7.9	12.1	14.4	15.4	12.5	12.0	10.0	8.5	9.0
Breastfeeding <sup>4</sup>											
yes	67.8	41.0	35.1	91.3	84.5	81.7	90.8	40.3	90.6	81.7	67.6
no	32.2	59.0	64.9	8.7	15.5	18.3	9.2	59.7	9.4	18.3	32.4
Pediatric provider named?											
yes	79.7	89.3	97.7	95.9	94.2	95.0	91.4	97.3	96.0	92.7	96.9
no	20.3	10.7	2.3	4.1	5.8	5.0	8.6	2.7	4.0	7.3	3.1

<sup>1</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>2</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>3</sup> Percentages based on fewer than five events are excluded.

<sup>4</sup> 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 A5.2 Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity:  
Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
Adequate prenatal care <sup>1</sup>	1,755	791	434	730	328	303	251	103	101	54	99,152
Payment source <sup>2</sup>											
private	1,606	630	443	816	322	326	266	135	96	56	96,261
public	489	561	495	95	57	57	22	75	50	20	19,279
self	38	12	5	9	19	5	7	1	4	3	990
Site of care											
physician's office	1,200	496	527	710	275	282	212	147	94	53	97,751
hospital clinic	290	290	236	104	70	38	54	36	35	17	8,464
community health center	397	282	121	18	6	16	8	7	6	5	2,466
HMO/other	311	156	76	114	59	61	39	26	15	7	10,764
Breastfeeding <sup>3</sup>											
yes	1,464	502	338	861	344	322	276	87	135	67	80,371
no	696	723	626	82	63	72	28	129	14	15	38,512
Pediatric provider named?											
yes	1,766	1,106	948	915	390	382	287	213	145	76	116,724
no	450	132	22	39	24	20	27	6	6	6	3,727

<sup>1</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>2</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>3</sup> 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 A5.3 Percent Distribution of Prenatal and Postnatal Care Characteristics for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE						Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other		
Number of Births	1,156	225	252	132	250	119	2,216	120,451
Adequate prenatal care <sup>2</sup>	78.5	76.4	82.5	72.0	85.6	79.0	79.3	82.6
Payment source <sup>3</sup>								
private	65.2	88.6	84.5	59.7	90.3	86.3	74.5	81.1
public	32.4	7.3	11.4	38.8	8.5	8.5	22.7	16.2
self	1.4	2.7	3.3	-- <sup>4</sup>	-- <sup>4</sup>	-- <sup>4</sup>	1.8	0.8
Site of care								
physician's office	43.2	78.2	66.3	41.7	71.4	62.4	54.6	81.8
hospital clinic	15.5	9.5	7.5	10.6	10.9	21.9	13.2	7.1
community health center	27.0	3.6	8.7	32.6	2.0	7.7	18.1	2.1
HMO/other	14.2	8.6	17.5	15.2	15.7	12.0	14.1	9.0
Breastfeeding <sup>5</sup>								
yes	61.2	83.3	72.4	41.4	80.7	77.8	67.8	67.6
no	38.8	16.7	27.6	58.6	19.3	22.2	32.2	38.8
Pediatric provider named?								
yes	70.8	93.8	88.9	70.5	93.6	91.6	66.2	96.9
no	29.2	6.2	11.1	29.5	6.4	8.4	20.3	3.1

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>3</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>4</sup> Percentages based on fewer than five events are excluded.

<sup>5</sup> 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 A5.4 Distribution of Prenatal and Postnatal Care Characteristics for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE							Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other			
Number of Births	1,156	225	252	132	250	119	2,216	120,451	
Adequate prenatal care <sup>2</sup>	904	172	208	95	214	94	1,755	99,152	
Payment source <sup>3</sup>									
private	730	194	207	77	223	101	1,606	96,261	
public	363	16	28	50	21	10	489	19,279	
self	16	6	8	1	1	4	38	990	
Site of care									
physician's office	496	172	167	55	177	73	1,200	97,751	
hospital clinic	178	21	19	14	27	21	290	8,464	
community health center	310	8	22	43	5	9	397	2,466	
HMO/other	163	19	44	20	39	14	311	10,764	
Breastfeeding <sup>4</sup>									
yes	688	184	178	53	196	91	1,464	80,371	
no	437	37	68	75	47	26	696	38,512	
Pediatric provider named?									
yes	818	211	224	93	234	109	1,766	116,724	
no	338	14	28	39	16	10	450	3,727	

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>3</sup> Payment Source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>4</sup> 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 A6.1 Percent Distribution of Infant Characteristics by Mother's Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
Birthweight (g)											
< 1,500	0.4	0.9	1.5	0.6	-- <sup>1</sup>	1.2	0.0	2.3	-- <sup>1</sup>	0.0	1.0
1,500 - 2,499	4.6	5.0	7.4	8.2	2.4	5.5	5.4	6.9	7.9	8.5	4.9
2,500 - 3,999	88.5	90.3	88.2	87.7	89.1	85.1	87.2	85.3	87.4	85.4	80.5
4,000+	6.6	3.8	2.8	3.5	8.2	8.2	7.3	5.5	-- <sup>1</sup>	6.1	13.6
Gestational age (weeks)											
< 37	4.9	6.3	8.0	5.9	3.6	7.7	2.9	7.8	7.3	9.9	6.6
37-42	94.7	92.8	91.7	94.1	95.1	91.5	96.8	92.2	92.1	90.1	93.0
43+	0.4	0.9	-- <sup>1</sup>	0.0	1.2	-- <sup>1</sup>	-- <sup>1</sup>	0.0	-- <sup>1</sup>	0.0	0.4
Sex of infant: female	49.1	48.4	49.8	48.3	45.2	44.0	45.9	41.6	46.4	42.7	48.7
Abnormal condition of newborn jaundice	9.2	10.0	13.6	13.5	11.1	12.4	9.2	15.5	13.9	7.3	11.5
	4.0	3.7	3.7	5.0	5.1	5.0	5.2	6.0	3.3	-- <sup>1</sup>	3.9

<sup>1</sup> 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 A6.2 Distribution of Infant Characteristics by Mother's Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	Korean	Filipino	Japanese	Laotian	Pakistani	Thai	White Non-Hispanic
Number of Births	2,216	1,238	970	954	414	402	314	219	151	82	120,451
Birthweight (g)											
< 1,500	8	11	15	6	1	5	0	5	4	0	1,233
1,500 - 2,499	101	62	72	78	10	22	17	15	12	7	5,894
2,500 - 3,999	1,958	1,115	856	835	369	342	273	185	132	70	96,787
4,000+	145	47	27	33	34	33	23	12	3	5	16,331
Gestational age (weeks)											
< 37	108	78	77	56	15	31	9	17	11	8	7,864
37-42	2,089	1,144	883	892	392	367	301	200	139	73	111,464
43+	9	11	3	0	5	3	1	0	1	0	485
Sex of infant: female	1,089	599	483	461	187	177	144	91	70	35	58,662
Abnormal condition of newborn	204	124	132	129	46	50	29	34	21	6	13,892
jaundice	88	46	36	47	21	20	16	13	5	3	4,668

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

**Table A6.3 Percent Distribution of Infant Characteristics for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	CHINESE						Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other		
Number of Births	1,156	225	252	132	250	119	2,216	120,451
Birthweight (g)								
< 1,500	0.4	-- <sup>2</sup>	0.0	0.0	-- <sup>2</sup>	-- <sup>2</sup>	0.4	1.0
1,500 - 2,499	4.0	3.6	4.0	3.8	8.0	5.0	4.6	4.9
2,500 - 3,999	88.8	89.8	88.1	90.2	85.2	90.8	88.5	80.5
4,000+	6.8	6.2	7.9	6.1	6.4	-- <sup>2</sup>	6.6	13.6
Gestational age (weeks)								
< 37	4.9	3.1	3.2	3.8	7.2	7.7	4.9	6.6
37-42	94.7	96.9	96.4	95.5	92.0	92.3	94.7	93.0
43+	0.4	0.0	-- <sup>2</sup>	-- <sup>2</sup>	-- <sup>2</sup>	0.0	0.4	0.4
Sex of infant: female	46.5	55.6	48.8	50.0	52.0	51.3	49.1	48.7
Abnormal condition of newborn jaundice	7.3	12.4	9.1	8.3	13.2	12.6	9.2	11.5
	3.0	5.0	4.8	-- <sup>2</sup>	5.6	5.9	4.0	3.9

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

<sup>2</sup> 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 A6.4 Distribution of Infant Characteristics for Mothers of Chinese Ancestry by Maternal Birthplace: Massachusetts 1996-1997.**

BIRTHPLACE:	<u>CHINESE</u>							Total <sup>1</sup>	White Non-Hispanic
	People's Republic	Taiwan	Hong Kong	Vietnam	U.S.	Other			
Number of Births	1,156	225	252	132	250	119	2,216	120,451	
Birthweight (g)									
< 1,500	5	1	0	0	1	1	8	1,233	
1,500 - 2,499	46	8	10	5	20	6	101	5,894	
2,500 - 3,999	1,023	202	222	119	213	108	1,958	96,787	
4,000+	78	14	20	8	16	4	145	16,331	
Gestational age (weeks)									
< 37	56	7	8	5	18	9	108	7,864	
37-42	1,089	217	242	126	230	108	2,089	111,464	
43+	5	0	1	1	2	0	9	485	
Sex of infant: female	537	125	123	66	130	61	1,089	58,662	
Abnormal condition of newborn									
jaundice	84	28	23	11	33	15	204	13,892	
	35	11	12	3	14	7	88	4,668	

<sup>1</sup> Totals include 82 mothers of Chinese ancestry whose place of birth is unknown.

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

**Table A6.5 Number and Percent Low Birthweight by Ethnicity:  
Massachusetts 1996-1997**

Ethnicity group	Birthweight			
	<1,500 <sup>1</sup> (g)		<2,500 <sup>2</sup> (g)	
	Percent	Number	Percent	Number
Chinese: Total	0.4	8	5.0	109
Chinese by Birthplace:				
People's Republic	0.4	5	4.4	51
Taiwan	-- <sup>3</sup>	1	4.0	9
Hong Kong	0.0	0	4.0	10
Vietnam	0.0	0	3.8	5
U.S.	-- <sup>3</sup>	1	8.4	21
Other	-- <sup>3</sup>	1	5.9	7
Vietnamese	0.9	11	5.9	73
Cambodian	1.5	15	8.9	87
Asian Indian	0.6	6	8.8	84
Korean	-- <sup>3</sup>	1	2.7	11
Filipino	1.2	5	6.7	27
Japanese	0.0	0	5.4	17
Laotian	2.3	5	9.2	20
Pakistani	-- <sup>3</sup>	4	10.6	16
Thai	0.0	0	8.5	7
White Non-Hispanic	1.0	1,233	5.9	7,127

<sup>1</sup> An infant weighing less than 1,500 grams (3.3 lbs) at birth is defined as very low birthweight.

<sup>2</sup> An infant weighing less than 2,500 grams (5.5 lbs) at birth is defined as low birthweight.

<sup>3</sup> Percentages based on fewer than five events are excluded.

Note: Percentages are calculated based only on those births with known birthweight.

**Table A6.6 Percent Distribution of Low Birthweight Infants by Demographic Characteristics of Mothers by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non- Hispanic
Low birthweight infants	109	73	87	84	7,127
Age, in years					
<18	-- <sup>1</sup>	-- <sup>1</sup>	18.4	-- <sup>1</sup>	2.0
18-19	0.0	12.3	9.2	0.0	3.8
20-24	5.5	27.4	25.3	19.0	11.3
25-29	20.2	20.5	24.1	41.7	23.5
30-34	48.6	21.9	13.8	29.8	33.5
35-39	21.1	9.6	5.7	7.1	21.3
40+	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	4.6
Education completed <sup>2</sup>					
less than high school	16.7	35.5	44.3	-- <sup>1</sup>	6.4
high school	14.8	33.9	23.0	12.0	28.6
some college	17.6	17.7	27.9	15.7	28.9
college graduate	30.6	11.3	-- <sup>1</sup>	38.6	24.5
more than college	20.4	-- <sup>1</sup>	-- <sup>1</sup>	28.9	11.7
Marital status					
married	96.3	60.3	34.5	94.0	77.2
not married	-- <sup>1</sup>	39.7	65.5	6.0	22.8
Language preference					
English	57.0	41.1	32.2	88.0	98.6
Cambodian	0.0	-- <sup>1</sup>	63.2	0.0	0.0
Cantonese	24.3	0.0	0.0	0.0	0.0
Mandarin	5.6	0.0	0.0	0.0	0.0
Vietnamese	0.0	56.2	0.0	-- <sup>1</sup>	0.0
Other	13.1	0.0	-- <sup>1</sup>	10.8	1.4

<sup>1</sup> Percentages based on fewer than five events are excluded.

<sup>2</sup> 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 A6.7 Number of Low Birthweight Infants by Demographic Characteristics of Mothers by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non-Hispanic
Low birthweight infants	109	73	87	84	7,127
Age, in years					
<18	1	2	16	1	143
18-19	0	9	8	0	268
20-24	6	20	22	16	803
25-29	22	15	21	35	1,677
30-34	53	16	12	25	2,389
35-39	23	7	5	6	1,519
40+	4	4	3	1	328
Education completed <sup>1</sup>					
less than high school	18	22	27	4	428
high school	16	21	14	10	1,914
some college	19	11	17	13	1,933
college graduate	33	7	2	32	1,640
more than college	22	1	1	24	785
Marital status					
married	105	44	30	79	5,497
not married	4	29	57	5	1,628
Language preference					
English	61	30	28	73	6,940
Cambodian	0	2	55	0	0
Cantonese	26	0	0	0	0
Mandarin	6	0	0	0	0
Vietnamese	0	41	0	1	0
Other	14	0	4	9	99

<sup>1</sup> Women 20 years of age and older.

Note: Groups with fewer than 30 low birthweight infants are excluded.

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

**Table A6.8 Percent Distribution of Low Birthweight Infants by Maternal Risk Factors by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non-Hispanic
Low birthweight infants	109	73	87	84	7,127
Parity					
1	50.5	57.5	44.8	61.9	47.0
2-3	46.8	38.4	32.2	36.9	45.5
4+	-- <sup>1</sup>	-- <sup>1</sup>	23.0	-- <sup>1</sup>	7.5
Singleton birth	78.9	91.8	89.7	85.7	66.0
Multiple birth	21.1	8.2	10.3	14.3	34.0
Smoking prior to pregnancy					
yes	-- <sup>1</sup>	-- <sup>1</sup>	7.0	-- <sup>1</sup>	30.0
no	97.2	98.6	93.0	96.4	70.0
Smoking during pregnancy					
yes	-- <sup>1</sup>	-- <sup>1</sup>	7.0	-- <sup>1</sup>	23.1
no	99.1	98.6	93.0	98.8	76.9
Cesarean section <sup>2</sup>					
yes	21.1	26.0	14.9	33.7	39.4
no	78.9	74.0	85.1	66.3	60.6
Previous preterm or small for gestational age infant					
yes	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	-- <sup>1</sup>	3.1
no	99.1	97.3	97.7	98.8	96.8

<sup>1</sup> Percentages based on fewer than five events are excluded.

<sup>2</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

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 A6.9 Number of Low Birthweight Infants by Maternal Risk Factors by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non-Hispanic
Low birthweight infants	109	73	87	84	7,127
Parity					
1	55	42	39	52	3,349
2-3	51	28	28	31	3,243
4+	3	3	20	1	535
Singleton birth	86	67	78	72	4,702
Multiple birth	23	6	9	12	2,425
Smoking prior to pregnancy					
yes	3	1	6	3	2,102
no	104	72	80	80	4,912
Smoking during pregnancy					
yes	1	1	6	1	1,639
no	108	72	80	82	5,458
Cesarean section <sup>1</sup>					
yes	23	19	13	28	2,792
no	86	54	74	55	4,299
Previous preterm or small for gestational age infant					
yes	1	2	2	1	222
no	108	71	85	81	6,808

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

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



**Table A6.10 Percent Distribution of Low Birthweight Infants by Prenatal and Postnatal Care Characteristics of Mother by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non-Hispanic
Low birthweight infants	109	73	87	84	7,127
Adequacy of prenatal care <sup>1</sup>	82.6	62.5	41.7	70.4	77.9
Payment source <sup>2</sup>					
private	75.5	46.6	40.2	84.0	77.8
public	22.6	49.3	58.6	14.8	19.5
self	-- <sup>3</sup>	-- <sup>3</sup>	0.0	0.0	1.0
Site of Care					
physician's office	45.4	30.6	47.1	65.9	74.6
hospital clinic	15.7	43.1	29.4	23.2	14.2
community health center	19.4	15.3	17.6	-- <sup>3</sup>	2.6
HMO/other	19.4	11.1	5.9	8.5	8.6
Breastfeeding <sup>4</sup>					
yes	63.2	34.2	34.5	80.5	56.9
no	36.8	65.8	65.5	19.5	43.1
Pediatric provider named					
yes	80.7	87.7	93.1	96.4	91.6
no	19.3	12.3	6.9	-- <sup>3</sup>	8.4

<sup>1</sup> See technical notes for definition of adequacy of prenatal care.

<sup>2</sup> Payment Source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>3</sup> Percentages based on fewer than five events are excluded.

<sup>4</sup> 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 A6.11 Number of Low Birthweight Infants by Prenatal and Postnatal Care Characteristics of Mother by Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non- Hispanic
Low birthweight infants	109	73	87	84	7,127
Adequacy of prenatal care <sup>1</sup>	90	45	35	57	5,479
Payment source <sup>2</sup>					
private	80	34	35	68	5,426
public	24	36	51	12	1,360
self	1	2	0	0	68
Site of Care					
physician's office	49	22	40	54	5,231
hospital clinic	17	31	25	19	992
community health center	21	11	15	2	181
HMO/other	21	8	5	7	605
Breastfeeding <sup>3</sup>					
yes	67	25	30	66	3,957
no	39	48	57	16	3,003
Pediatric provider named					
yes	88	64	81	81	6,525
no	21	9	6	3	602

<sup>1</sup> See technical notes for definition of adequacy of prenatal care.

<sup>2</sup> Payment Source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>3</sup> 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 A6.12 Percent Distribution of Low Birthweight Infants by Infant Characteristics According to Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non-Hispanic
Low birthweight infants	109	73	87	84	7,127
Birthweight (g)					
< 1,500	7.3	15.1	17.2	7.1	17.3
1,500 - 2,499	92.7	84.9	82.8	92.9	82.7
Gestational age (weeks)					
< 37	54.1	52.8	55.2	47.0	65.4
37-42	45.9	47.2	44.8	53.0	34.5
43+	0.0	0.0	0.0	0.0	0.1
Sex of infant: female	56.9	52.1	51.7	48.8	51.0
Abnormal condition of newborn					
jaundice	21.1	30.1	34.5	38.1	40.6
	11.0	11.0	11.6	14.5	19.1

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 A6.13 Number of Low Birthweight Infants by Infant Characteristics According to Ethnicity: Massachusetts 1996-1997.**

	Chinese	Vietnamese	Cambodian	Asian Indian	White Non- Hispanic
Low birthweight infants	109	73	87	84	7,127
Birthweight (g)					
< ,1500	8	11	15	6	1,233
1,500 - 2,499	101	62	72	78	5,894
Gestational age (weeks)					
< 37	59	38	48	39	4,635
37-42	50	34	39	44	2,443
43+	0	0	0	0	8
Sex of infant: female	62	38	45	41	3,633
Abnormal condition of newborn	23	22	30	32	2,896
jaundice	12	8	10	12	1,337

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

# APPENDIX II

## COMMUNITY TABLES

**Notes:**

1. Includes cities and towns with 100 or more Asian births from 1996-1997.
2. Ancestries included for each community table are those with > 70 births, 1996 – 1997.
3. “All Asians” category includes the following: Chinese, Vietnamese, Cambodian, Asian Indian, Korean, Filipino, Japanese, Laotian, Pakistani, and Thai.



**Table B1.1 Mother's Demographic Characteristics by Ethnicity: Boston 1996-1997.**

	Chinese		Vietnamese		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	455	100	393	100	1,114	100	5,297	100
U.S. born	35	7.9	6	1.5	62	5.6	4,391	83.2
Age, in years								
<18	3	-- <sup>2</sup>	12	3.1	22	2.0	58	1.1
18-19	5	1.1	27	6.9	38	3.4	138	2.6
20-24	41	9.0	105	26.7	182	16.3	590	11.1
25-29	133	29.2	121	30.8	339	30.4	1,435	27.1
30-34	178	39.1	80	20.4	341	30.6	1,876	35.4
35-39	82	18.0	29	7.4	148	13.3	997	18.8
40+	13	2.9	19	4.8	44	3.9	203	3.8
Education completed <sup>3</sup>								
less than high school	152	34.0	142	40.1	314	29.8	251	4.9
high school	117	26.2	140	39.5	277	26.3	1,209	23.8
some college	67	15.0	53	15.0	180	17.1	1,323	26.0
college graduate	67	15.0	15	4.2	166	15.8	1,384	27.2
more than college	44	9.8	4	-- <sup>2</sup>	116	11.0	923	18.1
Marital status								
married	423	93.0	232	59.0	872	78.3	4,139	78.1
not married	32	7.0	161	41.0	242	21.7	1,158	21.9
Language preference								
English	146	32.8	113	28.9	421	38.6	4,922	94.9
Cambodian	0	0.0	0	0.0	10	0.9	0	0.0
Cantonese	202	45.4	3	-- <sup>2</sup>	205	18.8	0	0.0
Lao	0	0.0	0	0.0	3	-- <sup>2</sup>	0	0.0
Mandarin	40	9.0	2	-- <sup>2</sup>	42	3.8	0	0.0
Vietnamese	7	1.6	270	69.1	280	25.6	0	0.0
Other	50	11.2	3	0.8	131	12.0	267	5.1

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B1.2 Maternal Risk Factors by Ethnicity: Boston 1996-1997.**

	Chinese		Vietnamese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	455	100	393	100	1,114	100	5,297	100
Cesarean section <sup>1</sup>								
yes	78	17.1	55	14.0	179	16.1	1,052	20.0
no	377	82.9	338	86.0	931	83.9	4,220	80.0
Previous preterm or small for gestational age infant								
yes	4	-- <sup>2</sup>	1	-- <sup>2</sup>	6	0.5	29	0.6
no	449	99.1	392	99.7	1,103	99.5	5,218	99.4
Adequate prenatal care <sup>3</sup>	362	79.7	260	66.8	817	73.8	4,296	81.6
Payment source <sup>4</sup>								
private	204	46.4	147	37.9	527	48.8	3,853	74.9
public	227	51.6	225	58.0	518	48.0	1,146	22.3
self	7	1.6	7	1.8	20	1.9	83	1.6

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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



**Table B1.2 continued. Maternal Risk Factors by Ethnicity: Boston 1996-1997.**

	Chinese		Vietnamese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Parity								
1	236	51.9	193	49.1	595	53.4	2,851	53.8
2-3	207	45.5	168	42.7	465	41.7	2,164	40.9
4+	12	2.6	32	8.1	54	4.8	282	5.3
Smoking prior to pregnancy								
yes	9	2.0	8	2.0	26	2.4	1,080	20.8
no	435	98.0	383	98.0	1,065	97.6	4,120	79.2
Smoking during pregnancy								
yes	6	1.3	5	1.3	14	1.3	696	13.1
no	447	98.7	388	98.7	1,098	98.7	4,611	86.9
Site of care								
physician's office	110	25.1	78	20.5	301	27.3	2,604	49.6
hospital clinic	76	17.4	98	25.8	248	22.5	1,153	22.0
community health center	197	45.0	170	44.7	414	37.6	739	14.1
HMO/other	55	12.6	34	8.9	139	12.6	752	14.3
Breastfeeding <sup>5</sup>								
yes	210	47.7	148	38.5	575	53.3	3,572	69.6
no	230	52.3	236	61.5	503	46.7	1,558	30.4
Pediatric provider named?								
yes	252	57.3	307	79.9	794	71.3	4,651	87.8
no	188	42.7	77	20.1	320	28.7	646	12.2

<sup>5</sup> 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.

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

**Table B1.3 Infant Characteristics by Ethnicity: Boston 1996-1997.**

	Chinese		Vietnamese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	455	100	393	100	1,114	100	5,297	100
Birthweight (g)								
< 1,500	2	-- <sup>1</sup>	3	-- <sup>1</sup>	6	0.5	50	0.9
1,500-2,499	26	5.7	29	7.4	71	6.4	286	5.4
2,500-3,999	397	87.4	348	88.8	979	88.0	4,221	80.0
4,000+	29	6.4	12	3.1	56	5.0	717	13.6
Gestational age (weeks)								
< 37	29	6.4	29	7.4	70	6.3	389	7.4
37-42	421	92.9	361	91.9	1,034	93.0	4,840	92.0
43+	3	-- <sup>1</sup>	3	-- <sup>1</sup>	8	0.7	34	0.6
Sex of infant: female	218	47.9	185	47.1	523	46.9	2,554	48.2
Abnormal condition of newborn								
jaundice	27	5.9	24	6.1	81	7.3	579	10.9
	6	1.3	6	1.5	21	1.9	216	4.1

<sup>1</sup> 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.

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

**Table B2.1 Mother's Demographic Characteristics by Ethnicity: Lowell 1996-1997.**

	Cambodian		Asian Indian		Laotian		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	483	100	79	100	73	100	732	100	1,782	100
U.S. born	9	1.9	0	0.0	3	-- <sup>2</sup>	16	2.3	1,674	95.0
Age, in years										
<18	58	12.0	0	0.0	13	17.8	76	10.4	63	3.5
18-19	36	7.5	0	0.0	4	-- <sup>2</sup>	43	5.9	122	6.8
20-24	126	26.1	16	20.3	21	28.8	174	23.8	445	25.0
25-29	154	31.9	47	59.5	15	20.5	247	33.7	585	32.8
30-34	72	14.9	11	13.9	14	19.2	129	17.6	405	22.7
35-39	25	5.2	4	-- <sup>2</sup>	6	8.2	46	6.3	142	8.0
40+	12	2.5	1	-- <sup>2</sup>	0	0.0	17	2.3	20	1.1
Education completed <sup>3</sup>										
less than high school	172	44.2	2	-- <sup>2</sup>	14	25.0	213	34.7	207	13.0
high school	119	30.6	12	15.2	25	44.6	173	28.2	629	39.5
some college	74	19.0	17	21.5	13	23.2	120	19.6	481	30.2
college graduate	22	5.7	30	38.0	3	-- <sup>2</sup>	76	12.4	215	13.5
more than college	2	-- <sup>2</sup>	18	22.8	1	-- <sup>2</sup>	31	5.1	60	3.8
Marital status										
married	175	36.2	79	100.0	36	49.3	363	49.6	1,067	59.9
not married	308	63.8	0	0.0	37	50.7	369	50.4	715	40.1
Language preference										
English	87	18.0	52	66.7	24	32.9	190	26.0	1,724	97.2
Cambodian	389	80.5	0	0.0	0	0.0	391	53.6	0	0.0
Cantonese	0	0.0	0	0.0	0	0.0	5	0.7	0	0.0
Lao	1	-- <sup>2</sup>	0	0.0	49	67.1	50	6.8	0	0.0
Mandarin	0	0.0	0	0.0	0	0.0	9	1.2	0	0.0
Vietnamese	0	0.0	0	0.0	0	0.0	38	5.2	0	0.0
Other	6	1.2	26	33.3	0	0.0	47	6.4	49	2.8

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B2.2 Maternal Risk Factors by Ethnicity: Lowell 1996-1997.**

	Cambodian		Asian Indian		Laotian		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	483	100	79	100	73	100	732	100	1,782	100
Cesarean section <sup>1</sup>										
yes	32	6.6	9	11.4	2	-- <sup>2</sup>	55	7.5	325	18.2
no	451	93.4	70	88.6	71	97.3	676	92.5	1,456	81.8
Previous preterm or small for gestational age infant										
yes	6	1.2	0	0.0	0	0.0	9	1.2	19	1.1
no	476	98.8	79	100.0	73	100.0	721	98.8	1,762	98.9
Adequate prenatal care <sup>3</sup>	192	40.2	51	64.6	34	47.2	334	46.0	1,287	72.6
Payment source <sup>4</sup>										
private	211	43.7	67	85.9	46	63.0	383	52.5	1,074	61.0
public	267	55.3	10	12.8	26	35.6	338	46.4	660	37.5
self	3	-- <sup>2</sup>	1	-- <sup>2</sup>	0	0.0	5	0.7	14	0.8

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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

**Table B2.2 continued. Maternal Risk Factors by Ethnicity: Lowell 1996-1997.**

	Cambodian		Asian Indian		Laotian		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Parity										
1	160	33.1	52	65.8	27	37.0	288	39.3	794	44.6
2-3	218	45.1	25	31.6	40	54.8	324	44.3	863	48.4
4+	105	21.7	2	-- <sup>2</sup>	6	8.2	120	16.4	125	7.0
Smoking prior to pregnancy										
yes	16	3.3	0	0.0	8	11.0	29	4.0	706	39.9
no	465	96.7	78	100.0	65	89.0	699	96.0	1,063	60.1
Smoking during pregnancy										
yes	15	3.1	0	0.0	4	-- <sup>2</sup>	23	3.2	474	26.7
no	466	96.9	79	100.0	69	94.5	707	96.8	1,304	73.3
Site of care										
physician's office	283	59.1	58	74.4	44	60.3	443	61.1	1,246	70.6
hospital clinic	156	32.6	15	19.2	22	30.1	215	29.7	327	18.5
community health center	1	-- <sup>2</sup>	0	0.0	0	0.0	2	-- <sup>2</sup>	7	0.4
HMO/other	39	8.1	5	6.4	7	9.6	65	9.0	185	10.5
Breastfeeding <sup>5</sup>										
yes	147	30.4	66	84.6	23	31.5	301	41.2	824	46.7
no	336	69.6	12	15.4	50	68.5	429	58.8	939	53.3
Pediatric provider named?										
yes	482	99.8	78	98.7	72	98.6	725	99.0	1,759	98.7
no	1	-- <sup>2</sup>	1	-- <sup>2</sup>	1	-- <sup>2</sup>	7	1.0	23	1.3

<sup>5</sup> 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.

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

**Table B2.3 Infant Characteristics by Ethnicity: Lowell 1996-1997.**

	Cambodian		Asian Indian		Laotian		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	483	100	79	100	73	100	732	100	1,782	100
Birthweight (g)										
< 1,500	7	1.4	2	-- <sup>1</sup>	2	-- <sup>1</sup>	11	1.5	19	1.1
1,500-2,499	44	9.1	8	10.1	6	8.2	62	8.5	91	5.1
2,500-3,999	422	87.4	67	84.8	60	82.2	636	86.9	1,488	83.5
4,000+	10	2.1	2	-- <sup>1</sup>	5	6.8	23	3.1	184	10.3
Gestational age (weeks)										
< 37	39	8.1	7	8.9	7	9.6	59	8.1	122	6.9
37-42	443	91.7	72	91.1	66	90.4	671	91.8	1,655	93.0
43+	1	-- <sup>1</sup>	0	0.0	0	0.0	1	-- <sup>1</sup>	3	-- <sup>1</sup>
Sex of infant: female	244	50.5	42	53.2	31	42.5	366	50.0	887	49.8
Abnormal condition of newborn jaundice	89	18.4	15	19.0	14	19.2	137	18.7	260	14.6
	22	4.6	6	7.6	5	6.8	39	5.3	56	3.2

<sup>1</sup> 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.

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

**Table B3.1 Mother's Demographic Characteristics by Ethnicity: Quincy 1996-1997.**

	Chinese		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	221	100	362	100	1,561	100
U.S. born	5	2.3	8	2.2	1,398	89.7
Age, in years						
<18	0	0.0	0	0.0	20	1.3
18-19	1	-- <sup>2</sup>	3	-- <sup>2</sup>	42	2.7
20-24	7	3.2	25	6.9	175	11.2
25-29	64	29.0	122	33.7	424	27.2
30-34	91	41.2	131	36.2	586	37.5
35-39	52	23.5	72	19.9	280	17.9
40+	6	2.7	9	2.5	34	2.2
Education completed <sup>3</sup>						
less than high school	56	25.5	70	19.5	46	3.1
high school	72	32.7	105	29.2	416	27.8
some college	43	19.5	73	20.3	502	33.6
college graduate	34	15.5	78	21.7	403	27.0
more than college	15	6.8	33	9.2	128	8.6
Marital status						
married	210	95.0	333	92.0	1,218	78.0
not married	11	5.0	29	8.0	343	22.0
Language preference						
English	66	29.9	147	40.9	1,496	97.3
Cambodian	0	0.0	1	-- <sup>2</sup>	0	0.0
Cantonese	107	48.4	108	30.1	0	0.0
Mandarin	12	5.4	13	3.6	0	0.0
Vietnamese	0	0.0	35	9.7	0	0.0
Other	36	16.3	55	15.3	41	2.7

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B3.2 Maternal Risk Factors by Ethnicity: Quincy 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	221	100	362	100	1,561	100
Cesarean section <sup>1</sup>						
yes	41	18.6	66	18.2	370	23.8
no	180	81.4	296	81.8	1,185	76.2
Previous preterm or small for gestational age infant						
yes	2	-- <sup>2</sup>	2	-- <sup>2</sup>	6	0.4
no	219	99.1	360	99.4	1,544	99.6
Adequate prenatal care <sup>3</sup>	164	74.5	273	75.8	1,291	83.2
Payment source <sup>4</sup>						
private	127	57.7	230	64.2	1,185	77.7
public	87	39.5	119	33.2	272	17.8
self	4	-- <sup>2</sup>	4	-- <sup>2</sup>	15	1.0

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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



**Table B3.2 continued. Maternal Risk Factors by Ethnicity: Quincy 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Parity						
1	112	50.7	195	53.9	770	49.3
2-3	108	48.9	161	44.5	691	44.3
4+	1	-- <sup>2</sup>	6	1.7	100	6.4
Smoking prior to pregnancy						
yes	2	-- <sup>2</sup>	4	-- <sup>2</sup>	408	26.6
no	217	99.1	353	98.9	1,128	73.4
Smoking during pregnancy						
yes	0	0.0	0	0.0	237	15.2
no	220	100.0	361	100.0	1,322	84.8
Site of care						
physician's office	86	38.9	152	42.3	1,066	68.8
hospital clinic	35	15.8	59	16.4	155	10.0
community health center	77	34.8	94	26.2	66	4.3
HMO/other	23	10.4	54	15.0	262	16.9
Breastfeeding <sup>5</sup>						
yes	91	41.6	192	53.9	991	65.0
no	128	58.4	164	46.1	534	35.0
Pediatric provider named?						
yes	134	60.6	255	70.4	1,467	94.0
no	87	39.4	107	29.6	94	6.0

<sup>5</sup> 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.

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

**Table B3.3 Infant Characteristics by Ethnicity: Quincy 1996-1997.**

	<b>Chinese</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	221	100	362	100	1,561	100
Birthweight (g)						
< 1,500	0	0.0	1	-- <sup>1</sup>	23	1.5
1,500-2,499	9	4.1	11	3.0	75	4.8
2,500-3,999	198	90.0	329	91.1	1,225	78.7
4,000+	13	5.9	20	5.5	233	15.0
Gestational age (weeks)						
< 37	11	5.0	15	4.1	113	7.3
37-42	209	94.6	345	95.3	1,430	91.6
43+	1	-- <sup>1</sup>	2	-- <sup>1</sup>	11	0.7
Sex of infant: female	109	49.3	173	47.8	755	48.4
Abnormal condition of newborn	11	5.0	25	6.9	167	10.7
jaundice	4	-- <sup>1</sup>	7	1.9	56	3.6

<sup>1</sup> 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.

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

**Table B4.1 Mother's Demographic Characteristics by Ethnicity:  
Worcester 1996-1997.**

	Vietnamese		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	198	100	311	100	2,787	100
U.S. born	4	-- <sup>2</sup>	14	4.5	2,588	93.1
Age, in years						
<18	7	3.5	9	2.9	67	2.4
18-19	9	4.5	13	4.2	167	6.0
20-24	54	27.3	68	21.9	598	21.5
25-29	64	32.3	97	31.2	816	29.3
30-34	40	20.2	74	23.8	754	27.1
35-39	15	7.6	35	11.3	318	11.4
40+	9	4.5	15	4.8	67	2.4
Education completed <sup>3</sup>						
less than high school	88	48.6	98	34.0	246	9.6
high school	50	27.6	72	25.0	838	32.8
some college	30	16.6	50	17.4	729	28.6
college graduate	11	6.1	44	15.3	501	19.6
more than college	2	-- <sup>2</sup>	24	8.3	239	9.4
Marital status						
married	125	63.1	216	69.5	1,900	68.2
not married	73	36.9	95	30.5	887	31.8
Language preference						
English	158	79.8	264	84.9	2,744	99.0
Cambodian	1	-- <sup>2</sup>	3	-- <sup>2</sup>	0	0.0
Cantonese	0	0.0	0	0.0	0	0.0
Lao	0	0.0	1	-- <sup>2</sup>	0	0.0
Mandarin	0	0.0	1	-- <sup>2</sup>	0	0.0
Vietnamese	38	19.2	38	12.2	0	0.0
Other	1	-- <sup>2</sup>	4	-- <sup>2</sup>	27	1.0

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B4.2 Maternal Risk Factors by Ethnicity: Worcester 1996-1997.**

	Vietnamese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	198	100	311	100	2,787	100
Cesarean section <sup>1</sup>						
yes	17	8.6	28	9.0	459	16.7
no	181	91.4	282	91.0	2,293	83.3
Previous preterm or small for gestational age infant						
yes	0	0.0	0	0.0	47	1.7
no	198	100.0	309	100.0	2,699	98.3
Adequate prenatal care <sup>3</sup>	127	65.5	199	64.8	2,047	74.6
Payment source <sup>4</sup>						
private	105	53.0	190	61.1	1,942	70.2
public	92	46.5	117	37.6	753	27.2
self	0	0.0	3	-- <sup>2</sup>	30	1.1

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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

**Table B4.2 continued. Maternal Risk Factors by Ethnicity: Worcester 1996-1997.**

	Vietnamese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Parity						
1	95	48.0	155	49.8	1,202	43.1
2-3	82	41.4	131	42.1	1,347	48.3
4+	21	10.6	25	8.0	238	8.5
Smoking prior to pregnancy						
yes	2	-- <sup>2</sup>	8	2.6	881	31.8
no	196	99.0	303	97.4	1,892	68.2
Smoking during pregnancy						
yes	1	-- <sup>2</sup>	4	-- <sup>2</sup>	678	24.3
no	197	99.5	307	98.7	2,109	75.7
Site of care						
physician's office	57	29.4	115	37.5	1,723	62.9
hospital clinic	51	26.3	69	22.5	341	12.5
community health center	46	23.7	57	18.6	159	5.8
HMO/other	40	20.6	66	21.5	515	18.8
Breastfeeding <sup>5</sup>						
yes	74	37.4	164	52.7	1,644	59.4
no	124	62.6	147	47.3	1,124	40.6
Pediatric provider named?						
yes	198	100.0	310	99.7	2,747	98.6
no	0	0.0	1	-- <sup>2</sup>	40	1.4

<sup>5</sup> 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.

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

**Table B4.3 Infant Characteristics by Ethnicity: Worcester 1996-1997.**

	Vietnamese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	198	100	311	100	2,787	100
Birthweight (g)						
< ,1500	3	-- <sup>1</sup>	5	1.6	42	1.5
1,500-2,499	8	4.0	15	4.8	186	6.7
2,500-3,999	182	91.9	281	90.4	2,242	80.5
4,000+	5	2.5	10	3.2	314	11.3
Gestational age (weeks)						
< 37	14	7.1	20	6.5	224	8.1
37-42	181	91.9	288	92.9	2,545	91.7
43+	2	-- <sup>1</sup>	2	-- <sup>1</sup>	7	0.3
Sex of infant: female	98	49.5	149	47.9	1,338	48.0
Abnormal condition of newborn jaundice	25	12.6	52	16.7	373	13.4
	15	7.7	31	10.1	119	4.4

<sup>1</sup> 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.

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

**Table B5.1 Mother's Demographic Characteristics by Ethnicity: Malden 1996-1997.**

	Chinese		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	143	100	266	100	935	100
U.S. born	6	4.3	9	3.4	826	88.5
Age, in years						
<18	3	-- <sup>2</sup>	4	-- <sup>2</sup>	9	1.0
18-19	2	-- <sup>2</sup>	6	2.3	29	3.1
20-24	9	6.3	33	12.4	140	15.0
25-29	48	33.6	94	35.3	308	32.9
30-34	55	38.5	87	32.7	287	30.7
35-39	21	14.7	30	11.3	138	14.8
40+	5	3.5	12	4.5	24	2.6
Education completed <sup>3</sup>						
less than high school	36	26.3	59	23.1	37	4.1
high school	41	29.9	66	25.9	315	35.2
some college	17	12.4	39	15.3	302	33.8
college graduate	25	18.2	52	20.4	177	19.8
more than college	18	13.1	39	15.3	63	7.0
Marital status						
married	134	93.7	239	89.8	732	78.3
not married	9	6.3	27	10.2	203	21.7
Language preference						
English	45	32.4	112	42.7	885	95.7
Cambodian	1	-- <sup>2</sup>	6	2.3	0	0.0
Cantonese	65	46.8	66	25.2	0	0.0
Lao	0	0.0	1	-- <sup>2</sup>	0	0.0
Mandarin	11	7.9	11	4.2	0	0.0
Vietnamese	1	-- <sup>2</sup>	40	15.3	0	0.0
Other	16	11.5	26	9.9	40	4.3

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B5.2 Maternal Risk Factors by Ethnicity: Malden 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	143	100	266	100	935	100
Cesarean section <sup>1</sup>						
yes	16	11.2	38	14.3	189	20.2
no	127	88.8	228	85.7	745	79.8
Previous preterm or small for gestational age infant						
yes	0	0.0	1	-- <sup>2</sup>	4	-- <sup>2</sup>
no	143	100.0	265	99.6	930	99.6
Adequate prenatal care <sup>3</sup>	112	78.3	191	72.6	738	79.7
Payment source <sup>4</sup>						
private	85	61.6	170	65.9	694	75.4
public	50	36.2	78	30.2	194	21.1
self	1	-- <sup>2</sup>	4	-- <sup>2</sup>	16	1.7

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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



**Table B5.2 continued. Maternal Risk Factors by Ethnicity: Malden 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Parity						
1	88	61.5	157	59.0	474	50.7
2-3	54	37.8	103	38.7	409	43.7
4+	1	-- <sup>2</sup>	6	2.3	52	5.6
Smoking prior to pregnancy						
yes	2	-- <sup>2</sup>	5	1.9	284	30.7
no	137	98.6	256	98.1	640	69.3
Smoking during pregnancy						
yes	1	-- <sup>2</sup>	2	-- <sup>2</sup>	169	18.1
no	142	99.3	263	99.2	765	81.9
Site of care						
physician's office	49	34.5	125	47.3	661	71.1
hospital clinic	30	21.1	55	20.8	150	16.1
community health center	47	33.1	52	19.7	29	3.1
HMO/other	16	11.3	32	12.1	90	9.7
Breastfeeding <sup>5</sup>						
yes	65	47.4	136	52.5	521	56.4
no	72	52.6	123	47.5	402	43.6
Pediatric provider named?						
yes	90	62.9	200	75.2	884	94.5
no	53	37.1	66	24.8	51	5.5

<sup>5</sup> 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.

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

**Table B5.3 Infant Characteristics by Ethnicity: Malden 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	143	100	266	100	935	100
Birthweight (g)						
< 1,500	0	0.0	0	0.0	10	1.1
1,500-2,499	10	7.0	16	6.0	37	4.0
2,500-3,999	121	84.6	236	88.7	745	79.9
4,000+	12	8.4	14	5.3	140	15.0
Gestational age (weeks)						
< 37	10	7.0	16	6.1	51	5.5
37-42	131	92.3	243	93.1	868	93.6
43+	1	-- <sup>1</sup>	2	-- <sup>1</sup>	8	0.9
Sex of infant: female	64	44.8	128	48.1	469	50.2
Abnormal condition of newborn						
jaundice	3	-- <sup>1</sup>	9	3.4	46	4.9
	1	-- <sup>1</sup>	3	-- <sup>1</sup>	17	1.8

<sup>1</sup> 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.

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

**Table B6.1 Mother's Demographic Characteristics by Ethnicity: Lynn 1996-1997.**

	Cambodian		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	155	100	230	100	1,293	100
U.S. born	1	-- <sup>2</sup>	4	-- <sup>2</sup>	1,196	92.6
Age, in years						
<18	13	8.4	15	6.5	45	3.5
18-19	11	7.1	16	7.0	80	6.2
20-24	49	31.6	76	33.0	263	20.3
25-29	43	27.7	66	28.7	378	29.2
30-34	22	14.2	32	13.9	339	26.2
35-39	9	5.8	15	6.5	156	12.1
40+	8	5.2	10	4.3	32	2.5
Education completed <sup>3</sup>						
less than high school	53	41.4	75	38.3	96	8.2
high school	43	33.6	70	35.7	458	39.2
some college	30	23.4	41	20.9	383	32.8
college graduate	1	-- <sup>2</sup>	6	3.1	185	15.9
more than college	1	-- <sup>2</sup>	4	-- <sup>2</sup>	45	3.9
Marital status						
married	86	55.5	133	57.8	815	63.0
not married	69	44.5	97	42.2	478	37.0
Language preference						
English	79	52.3	121	53.5	1,255	97.6
Cambodian	71	47.0	75	33.2	0	0.0
Lao	0	0.0	6	2.7	0	0.0
Vietnamese	0	0.0	20	8.8	0	0.0
Other	1	0.7	4	1.8	31	2.4

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B6.2 Maternal Risk Factors by Ethnicity: Lynn 1996-1997.**

	<b>Cambodian</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	155	100	230	100	1,293	100
Cesarean section <sup>1</sup>						
yes	19	12.3	28	12.2	305	23.6
no	136	87.7	202	87.8	986	76.4
Previous preterm or small for gestational age infant						
yes	1	-- <sup>2</sup>	1	-- <sup>2</sup>	3	-- <sup>2</sup>
no	154	99.4	229	99.6	1,283	99.8
Adequate prenatal care <sup>3</sup>	76	49.4	127	55.7	1,049	81.6
Payment source <sup>4</sup>						
private	60	39.7	97	42.9	692	54.1
public	76	50.3	106	46.9	465	36.3
self	1	-- <sup>2</sup>	1	-- <sup>2</sup>	6	0.5

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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

**Table B6.2 continued. Maternal Risk Factors by Ethnicity: Lynn 1996-1997.**

	Cambodian		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Parity						
1	55	35.5	89	38.7	527	40.8
2-3	63	40.6	96	41.7	655	50.7
4+	37	23.9	45	19.6	111	8.6
Smoking prior to pregnancy						
yes	3	-- <sup>2</sup>	5	2.2	500	39.0
no	148	98.0	221	97.8	783	61.0
Smoking during pregnancy						
yes	2	-- <sup>2</sup>	3	-- <sup>2</sup>	363	28.1
no	153	98.7	227	98.7	927	71.9
Site of care						
physician's office	51	33.1	87	38.0	961	75.0
hospital clinic	38	24.7	59	25.8	154	12.0
community health center	56	36.4	68	29.7	122	9.5
HMO/other	9	5.8	15	6.6	45	3.5
Breastfeeding <sup>5</sup>						
yes	40	26.5	73	32.3	578	45.2
no	111	73.5	153	67.7	702	54.8
Pediatric provider named?						
yes	146	94.2	212	92.2	1,260	97.4
no	9	5.8	18	7.8	33	2.6

<sup>5</sup> 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.

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

**Table B6.3 Infant Characteristics by Ethnicity: Lynn 1996-1997.**

	<b>Cambodian</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	155	100	230	100	1,293	100
Birthweight (g)						
< 1,500	6	3.9	9	3.9	11	0.9
1,500-2,499	11	7.1	18	7.8	62	4.8
2,500-3,999	132	85.2	194	84.3	1,043	80.9
4,000+	6	3.9	9	3.9	174	13.5
Gestational age (weeks)						
< 37	17	11.0	23	10.0	85	6.6
37-42	138	89.0	206	90.0	1,204	93.3
43+	0	0.0	0	0.0	1	-- <sup>1</sup>
Sex of infant: female	70	45.2	99	43.0	601	46.5
Abnormal condition of newborn						
jaundice	6	3.9	10	4.3	43	3.3
	0	0.0	1	-- <sup>1</sup>	11	0.9

<sup>1</sup> 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.

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

**Table B7.1 Mother's Demographic Characteristics by Ethnicity: Cambridge 1996-1997.**

	Chinese		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	96	100	225	100	1,136	100
U.S. born	9	10.1	19	8.8	874	76.9
Age, in years						
<18	0	0.0	2	-- <sup>2</sup>	5	0.4
18-19	0	0.0	0	0.0	20	1.8
20-24	1	-- <sup>2</sup>	13	5.8	88	7.7
25-29	24	25.0	73	32.4	244	21.5
30-34	54	56.3	104	46.2	371	32.7
35-39	15	15.6	29	12.9	322	28.3
40+	2	-- <sup>2</sup>	4	-- <sup>2</sup>	86	7.6
Education completed <sup>3</sup>						
less than high school	2	-- <sup>2</sup>	8	3.6	35	3.2
high school	8	8.3	25	11.3	113	10.2
some college	9	9.4	26	11.7	170	15.3
college graduate	23	24.0	67	30.2	338	30.5
more than college	54	56.3	96	43.2	454	40.9
Marital status						
married	95	99.0	221	98.2	982	86.5
not married	1	-- <sup>2</sup>	4	-- <sup>2</sup>	153	13.5
Language preference						
English	55	62.5	133	61.6	1,016	91.8
Cantonese	5	5.7	5	2.3	0	0.0
Lao	0	0.0	1	-- <sup>2</sup>	0	0.0
Mandarin	18	20.5	18	8.3	0	0.0
Vietnamese	0	0.0	2	-- <sup>2</sup>	0	0.0
Other	10	11.4	57	26.4	91	8.2

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B7.2 Maternal Risk Factors by Ethnicity: Cambridge 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	96	100	225	100	1,136	100
Cesarean section <sup>1</sup>						
yes	15	15.6	35	15.6	201	17.9
no	81	84.4	190	84.4	922	82.1
Previous preterm or small for gestational age infant						
yes	0	0.0	3	-- <sup>2</sup>	5	0.4
no	96	100.0	221	98.7	1,114	99.6
Adequate prenatal care <sup>3</sup>	75	78.1	177	78.7	922	81.4
Payment source <sup>4</sup>						
private	76	86.4	184	86.4	951	86.8
public	8	9.1	23	10.8	109	10.0
self	0	0.0	1	-- <sup>2</sup>	22	2.0

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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



**Table B7.2 continued. Maternal Risk Factors by Ethnicity: Cambridge 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Parity						
1	55	57.3	141	62.7	717	63.1
2-3	41	42.7	81	36.0	399	35.1
4+	0	0.0	3	-- <sup>2</sup>	20	1.8
Smoking prior to pregnancy						
yes	0	0.0	2	-- <sup>2</sup>	128	11.6
no	89	100.0	215	99.1	976	88.4
Smoking during pregnancy						
yes	0	0.0	0	0.0	83	7.3
no	96	100.0	225	100.0	1,050	92.7
Site of care						
physician's office	44	45.8	111	49.6	613	54.5
hospital clinic	30	31.3	59	26.3	221	19.7
community health center	8	8.3	10	4.5	74	6.6
HMO/other	14	14.6	44	19.6	216	19.2
Breastfeeding <sup>5</sup>						
yes	78	87.6	195	89.9	946	86.0
no	11	12.4	22	10.1	154	14.0
Pediatric provider named?						
yes	76	79.2	199	88.4	1,040	91.5
no	20	20.8	26	11.6	96	8.5

<sup>5</sup> 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.

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

**Table B7.3 Infant Characteristics by Ethnicity: Cambridge 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	96	100	225	100	1,136	100
Birthweight (g)						
< 1,500	2	-- <sup>1</sup>	3	-- <sup>1</sup>	16	1.4
1,500-2,499	3	-- <sup>1</sup>	12	5.4	51	4.5
2,500-3,999	87	91.6	198	88.8	913	80.6
4,000+	3	-- <sup>1</sup>	10	4.5	153	13.5
Gestational age (weeks)						
< 37	6	6.3	11	4.9	69	6.1
37-42	89	93.7	211	94.6	1,056	93.5
43+	0	0.0	1	-- <sup>1</sup>	5	0.4
Sex of infant: female	41	42.7	90	40.0	544	47.9
Abnormal condition of newborn						
jaundice	8	8.3	26	11.6	97	8.5
	4	-- <sup>1</sup>	13	5.8	33	2.9

<sup>1</sup> 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.

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

**Table B8.1 Mother's Demographic Characteristics by Ethnicity: Newton 1996-1997.**

	Chinese		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	97	100	154	100	1,448	100
U.S. born	22	23.2	27	17.8	1,270	88.3
Age, in years						
<18	1	-- <sup>2</sup>	1	-- <sup>2</sup>	2	-- <sup>2</sup>
18-19	0	0.0	0	0.0	6	0.4
20-24	0	0.0	2	-- <sup>2</sup>	42	2.9
25-29	17	17.5	36	23.4	216	14.9
30-34	48	49.5	71	46.1	654	45.2
35-39	26	26.8	37	24.0	410	28.3
40+	5	5.2	7	4.5	118	8.1
Education completed <sup>3</sup>						
less than high school	3	-- <sup>2</sup>	4	-- <sup>2</sup>	7	0.5
high school	9	9.4	16	10.5	134	9.3
some college	8	8.3	15	9.8	232	16.1
college graduate	38	39.6	55	35.9	518	36.0
more than college	38	39.6	63	41.2	547	38.0
Marital status						
married	96	99.0	152	98.7	1,367	94.4
not married	1	-- <sup>2</sup>	2	-- <sup>2</sup>	81	5.6
Language preference						
English	68	71.6	112	73.7	1,396	97.9
Cambodian	0	0.0	2	-- <sup>2</sup>	0	0.0
Cantonese	12	12.6	12	7.9	0	0.0
Mandarin	5	5.3	5	3.3	0	0.0
Vietnamese	1	-- <sup>2</sup>	1	-- <sup>2</sup>	0	0.0
Other	9	9.5	20	13.2	30	2.1

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B8.2 Maternal Risk Factors by Ethnicity: Newton 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	97	100	154	100	1,448	100
Cesarean section <sup>1</sup>						
yes	13	13.4	24	15.6	280	19.4
no	84	86.6	130	84.4	1,165	80.6
Previous preterm or small for gestational age infant						
yes	0	0.0	0	0.0	6	0.4
no	96	100.0	153	100.0	1,420	99.6
Adequate prenatal care <sup>2</sup>	87	89.7	141	91.6	1,269	87.7
Payment source <sup>3</sup>						
private	88	92.6	140	92.1	1,346	95.7
public	5	5.3	7	4.6	37	2.6
self	1	-- <sup>4</sup>	3	-- <sup>4</sup>	8	0.6

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>3</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

<sup>4</sup> 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.

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

**Table B8.2 continued. Maternal Risk Factors by Ethnicity: Newton 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Parity						
1	39	40.2	68	44.2	668	46.1
2-3	56	57.7	84	54.5	724	50.0
4+	2	-- <sup>4</sup>	2	-- <sup>4</sup>	56	3.9
Smoking prior to pregnancy						
yes	0	0.0	0	0.0	92	6.5
no	95	100.0	152	100.0	1,329	93.5
Smoking during pregnancy						
yes	0	0.0	1	-- <sup>4</sup>	45	3.1
no	97	100.0	153	99.4	1,398	96.9
Site of care						
physician's office	64	66.0	103	66.9	1,132	78.7
hospital clinic	7	7.2	15	9.7	95	6.6
community health center	7	7.2	7	4.5	11	0.8
HMO/other	19	19.6	29	18.8	200	13.9
Breastfeeding <sup>5</sup>						
yes	75	79.8	128	85.9	1,244	87.9
no	19	20.2	21	14.1	172	12.1
Pediatric provider named?						
yes	88	90.7	143	92.9	1,383	95.5
no	9	9.3	11	7.1	65	4.5

<sup>5</sup> 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.

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

**Table B8.3 Infant Characteristics by Ethnicity: Newton 1996-1997.**

	Chinese		All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent	Number	Percent
Number of Births	97	100	154	100	1,448	100
Birthweight (g)						
< 1,500	0	0.0	3	-- <sup>1</sup>	13	0.9
1,500-2,499	5	5.2	6	3.9	63	4.4
2,500-3,999	84	86.6	132	85.7	1,193	82.5
4,000+	8	8.2	13	8.4	177	12.2
Gestational age (weeks)						
< 37	6	6.2	9	5.8	97	6.7
37-42	90	92.8	143	92.9	1,338	92.7
43+	1	-- <sup>1</sup>	2	-- <sup>1</sup>	9	0.6
Sex of infant: female	52	53.6	80	51.9	705	48.7
Abnormal condition of newborn jaundice	12	12.4	21	13.6	258	17.8
	5	5.2	11	7.2	111	7.8

<sup>1</sup> 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.

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

**Table B9.1 Mother's Demographic Characteristics by Ethnicity: Brookline 1996-1997.**

	All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent
Number of Births	157	100	938	100
U.S. born	18	11.7	702	75.2
Age, in years				
<18	1	-- <sup>2</sup>	2	-- <sup>2</sup>
18-19	1	-- <sup>2</sup>	6	0.6
20-24	6	3.8	36	3.8
25-29	41	26.1	188	20.0
30-34	69	43.9	410	43.7
35-39	32	20.4	231	24.6
40+	7	4.5	65	6.9
Education completed <sup>3</sup>				
less than high school	3	-- <sup>2</sup>	3	-- <sup>2</sup>
high school	17	11.0	34	3.7
some college	19	12.3	107	11.5
college graduate	57	37.0	333	35.8
more than college	58	37.7	452	48.7
Marital status				
married	152	96.8	900	95.9
not married	5	3.2	38	4.1
Language preference				
English	85	55.9	860	93.8
Cambodian	1	-- <sup>2</sup>	0	0.0
Cantonese	9	5.9	0	0.0
Mandarin	8	5.3	0	0.0
Vietnamese	1	-- <sup>2</sup>	0	0.0
Other	48	31.6	57	6.2

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B9.2 Maternal Risk Factors by Ethnicity: Brookline 1996-1997.**

	<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent
Number of Births	157	100	938	100
Cesarean section <sup>1</sup>				
yes	23	14.7	177	19.0
no	133	85.3	755	81.0
Previous preterm or small for gestational age infant				
yes	2	-- <sup>2</sup>	8	0.9
no	154	98.7	918	99.1
Adequate prenatal care <sup>3</sup>	125	80.1	805	86.2
Payment source <sup>4</sup>				
private	130	87.2	843	92.9
public	12	8.1	46	5.1
self	7	4.7	9	1.0

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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



**Table B9.2 continued. Maternal Risk Factors by Ethnicity: Brookline 1996-1997.**

	All Asians		White Non-Hispanic	
	Number	Percent	Number	Percent
Parity				
1	77	49.0	528	56.3
2-3	79	50.3	382	40.7
4+	1	-- <sup>2</sup>	28	3.0
Smoking prior to pregnancy				
yes	4	-- <sup>2</sup>	29	3.2
no	147	97.4	883	96.8
Smoking during pregnancy				
yes	1	-- <sup>2</sup>	12	1.3
no	154	99.4	920	98.7
Site of care				
physician's office	102	65.4	695	75.1
hospital clinic	24	15.4	89	9.6
community health center	8	5.1	9	1.0
HMO/other	22	14.1	133	14.4
Breastfeeding <sup>5</sup>				
yes	132	88.0	837	92.1
no	18	12.0	72	7.9
Pediatric provider named?				
yes	140	89.2	843	89.9
no	17	10.8	95	10.1

<sup>5</sup> 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.

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

**Table B9.3 Infant Characteristics by Ethnicity: Brookline 1996-1997.**

	<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent
Number of Births	157	100	938	100
Birthweight (g)				
< 1,500	0	0.0	12	1.3
1,500-2,499	8	5.1	50	5.3
2,500-3,999	140	89.2	793	84.8
4,000+	9	5.7	80	8.6
Gestational age (weeks)				
< 37	6	3.8	73	7.8
37-42	151	96.2	851	91.2
43+	0	0.0	9	1.0
Sex of infant: female	83	52.9	445	47.4
Abnormal condition of newborn jaundice	11	7.0	108	11.5
	7	4.5	52	5.6

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.

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

**Table B10.1 Mother's Demographic Characteristics by Ethnicity: Somerville and Waltham 1996-1997.**

	<u>Somerville</u>				<u>Waltham</u>			
	All Asians		White Non-Hispanic <sup>1</sup>		All Asians		White Non-Hispanic <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	142	100	1,102	100	141	100	939	100
U.S. born	9	6.7	802	72.8	6	4.5	852	91.3
Age, in years								
<18	1	-- <sup>2</sup>	34	3.1	1	-- <sup>2</sup>	9	1.0
18-19	3	-- <sup>2</sup>	30	2.7	2	-- <sup>2</sup>	15	1.6
20-24	13	9.2	147	13.3	14	9.9	104	11.1
25-29	53	37.3	314	28.5	58	41.1	268	28.5
30-34	53	37.3	360	32.7	46	32.6	381	40.6
35-39	17	12.0	173	15.7	15	10.6	139	14.8
40+	2	-- <sup>2</sup>	44	4.0	5	3.5	23	2.4
Education completed <sup>3</sup>								
less than high school	18	13.1	90	8.7	13	9.4	23	2.5
high school	26	19.0	325	31.3	17	12.3	224	24.5
some college	21	15.3	244	23.5	26	18.8	279	30.5
college graduate	35	25.5	188	18.1	43	31.2	256	28.0
more than college	37	27.0	191	18.4	39	28.3	132	14.4
Marital status								
married	127	89.4	814	73.9	135	95.7	807	85.9
not married	15	10.6	288	26.1	6	4.3	132	14.1
Language preference								
English	79	56.4	936	85.6	103	74.1	913	98.1
Cambodian	0	0.0	0	0.0	1	-- <sup>2</sup>	0	0.0
Cantonese	11	7.9	0	0.0	8	5.8	0	0.0
Lao	0	0.0	0	0.0	1	-- <sup>2</sup>	0	0.0
Mandarin	12	8.6	0	0.0	7	5.0	0	0.0
Vietnamese	7	5.0	0	0.0	9	6.5	0	0.0
Other	31	22.1	157	14.4	10	7.2	18	1.9

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B10.2 Maternal Risk Factors by Ethnicity: Somerville and Waltham 1996-1997.**

	<u>Somerville</u>				<u>Waltham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	142	100	1,102	100	141	100	939	100
Cesarean section <sup>1</sup>								
yes	26	18.3	241	21.9	21	14.9	210	22.4
no	116	81.7	861	78.1	120	85.1	727	77.6
Previous preterm or small for gestational age infant								
yes	0	0.0	10	0.9	0	0.0	5	0.5
no	141	100.0	1,090	99.1	141	100.0	920	99.5
Adequate prenatal care <sup>3</sup>	107	75.9	897	81.5	121	85.8	804	85.9
Payment source <sup>4</sup>								
private	85	62.0	742	68.4	120	87.0	824	89.5
public	48	35.0	324	29.9	17	12.3	86	9.3
self	1	-- <sup>2</sup>	9	0.8	1	-- <sup>2</sup>	3	-- <sup>2</sup>

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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

**Table B10.2 continued. Maternal Risk Factors by Ethnicity: Somerville and Waltham 1996-1997.**

	<u>Somerville</u>				<u>Waltham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Parity								
1	84	59.2	633	57.4	83	58.9	515	54.8
2-3	54	38.0	428	38.8	53	37.6	387	41.2
4+	4	-- <sup>2</sup>	41	3.7	5	3.5	37	3.9
Smoking prior to pregnancy								
yes	2	-- <sup>2</sup>	251	23.0	1	-- <sup>2</sup>	183	19.7
no	138	98.6	839	77.0	138	99.3	744	80.3
Smoking during pregnancy								
yes	2	-- <sup>2</sup>	153	13.9	1	-- <sup>2</sup>	133	14.2
no	140	98.6	946	86.1	140	99.3	802	85.8
Site of care								
physician's office	54	38.8	465	42.3	99	70.2	759	81.8
hospital clinic	44	31.7	300	27.3	14	9.9	58	6.3
community health center	19	13.7	153	13.9	10	7.1	12	1.3
HMO/other	22	15.8	180	16.4	18	12.8	99	10.7
Breastfeeding <sup>5</sup>								
yes	111	79.9	769	70.7	113	81.3	721	77.8
no	28	20.1	318	29.3	26	18.7	206	22.2
Pediatric provider named?								
yes	120	84.5	1,044	94.7	131	92.9	901	96.0
no	22	15.5	58	5.3	10	7.1	38	4.0

<sup>5</sup> 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.

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

**Table B10.3 Infant Characteristics by Ethnicity: Somerville and Waltham 1996-1997.**

	<u>Somerville</u>				<u>Waltham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	142	100	1,102	100	141	100	939	100
Birthweight (g)								
< 1,500	1	-- <sup>1</sup>	10	0.9	0	0.0	11	1.2
1,500-2,499	8	5.7	56	5.1	6	4.3	45	4.8
2,500-3,999	124	87.9	887	80.6	130	92.2	754	80.3
4,000+	8	5.7	147	13.4	5	3.5	129	13.7
Gestational age (weeks)								
< 37	7	4.9	65	5.9	7	5.0	61	6.5
37-42	134	94.4	1,026	93.4	134	95.0	869	92.7
43+	1	-- <sup>1</sup>	8	0.7	0	0.0	7	0.7
Sex of infant: female	81	57.0	524	47.5	63	44.7	454	48.3
Abnormal conditions of newborn jaundice	12	8.5	93	8.4	25	17.7	171	18.5
	6	4.2	21	1.9	13	9.3	75	8.1

<sup>1</sup> 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.

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

**Table B11.1 Mother's Demographic Characteristics by Ethnicity: Springfield and Framingham 1996-1997.**

	<u>Springfield</u>				<u>Framingham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic<sup>1</sup></b>		<b>All Asians</b>		<b>White Non-Hispanic<sup>1</sup></b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	127	100	1,762	100	112	100	1,234	100
U.S. born	6	4.7	1,641	93.2	15	13.5	1,107	89.8
Age, in years								
<18	6	4.7	64	3.6	1	-- <sup>2</sup>	21	1.7
18-19	4	-- <sup>2</sup>	131	7.4	0	0.0	28	2.3
20-24	31	24.4	363	20.6	11	9.8	85	6.9
25-29	49	38.6	515	29.2	35	31.3	299	24.2
30-34	24	18.9	450	25.5	48	42.9	515	41.7
35-39	9	7.1	199	11.3	13	11.6	239	19.4
40+	4	-- <sup>2</sup>	40	2.3	4	-- <sup>2</sup>	47	3.8
Education completed <sup>3</sup>								
less than high school	51	43.6	140	8.9	2	-- <sup>2</sup>	33	2.8
high school	37	31.6	566	36.2	19	17.1	255	21.6
some college	15	12.8	538	34.4	16	14.4	279	23.6
college graduate	11	9.4	245	15.7	45	40.5	442	37.4
more than college	3	-- <sup>2</sup>	76	4.9	29	26.1	174	14.7
Marital status								
married	76	59.8	1,143	64.9	105	93.8	1,060	85.9
not married	51	40.2	619	35.1	7	6.3	174	14.1
Language preference								
English	44	34.6	1,714	97.3	98	87.5	1,174	96.1
Cambodian	3	-- <sup>2</sup>	0	0.0	0	0.0	0	0.0
Cantonese	9	7.1	0	0.0	0	0.0	0	0.0
Lao	7	5.5	0	0.0	0	0.0	0	0.0
Mandarin	2	-- <sup>2</sup>	0	0.0	5	4.5	0	0.0
Vietnamese	53	41.7	0	0.0	2	-- <sup>2</sup>	0	0.0
Other	9	7.1	48	2.7	7	6.3	48	3.9

<sup>1</sup> White Non-Hispanic group excludes women of Asian ancestry.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> 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.

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

**Table B11.2 Maternal Risk Factors by Ethnicity: Springfield and Framingham 1996-1997.**

	<u>Springfield</u>				<u>Framingham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	127	100	1,762	100	112	100	1,234	100
Cesarean section <sup>1</sup>								
yes	11	8.7	343	19.5	19	17.0	265	21.5
no	116	91.3	1,415	80.5	93	83.0	968	78.5
Previous preterm or small for gestational age infant								
yes	5	3.9	25	1.4	1	-- <sup>2</sup>	9	0.7
no	122	96.1	1,728	98.6	111	99.1	1,214	99.3
Adequate prenatal care <sup>3</sup>	65	51.6	1,354	77.3	91	81.3	1,087	88.2
Payment source <sup>4</sup>								
private	52	40.9	1,132	64.2	99	90.8	1,052	86.4
public	73	57.5	603	34.2	5	4.6	128	10.5
self	1	-- <sup>2</sup>	21	1.2	2	-- <sup>2</sup>	11	0.9

<sup>1</sup> Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

<sup>2</sup> Percentages based on fewer than five events are excluded.

<sup>3</sup> Adequate prenatal care: See technical notes for definition of adequacy of care.

<sup>4</sup> Payment source:

Private = Blue Cross, Commercial Insurance, HMOs

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

Self = Self-pay

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.

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



**Table B11.2 continued. Maternal Risk Factors by Ethnicity: Springfield and Framingham 1996-1997.**

	<u>Springfield</u>				<u>Framingham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Parity								
1	55	43.3	753	42.7	78	69.6	729	59.1
2-3	64	50.4	842	47.8	31	27.7	462	37.4
4+	8	6.3	167	9.5	3	-- <sup>2</sup>	43	3.5
Smoking prior to pregnancy								
yes	10	7.9	645	36.6	2	-- <sup>2</sup>	182	15.0
no	117	92.1	1,115	63.4	110	98.2	1,034	85.0
Smoking during pregnancy								
yes	7	5.5	441	25.1	1	-- <sup>2</sup>	104	8.5
no	120	94.5	1,319	74.9	111	99.1	1,124	91.5
Site of care								
physician's office	53	42.1	1,241	70.7	97	86.6	1,091	88.9
hospital clinic	58	46.0	308	17.5	4	-- <sup>2</sup>	34	2.8
community health center	0	0.0	1	--	1	-- <sup>2</sup>	13	1.1
HMO/other	15	11.9	206	11.7	10	8.9	89	7.3
Breastfeeding <sup>5</sup>								
yes	53	41.7	988	56.2	102	91.1	1,061	87.6
no	74	58.3	770	43.8	10	8.9	150	12.4
Pediatric provider named?								
yes	126	99.2	1,749	99.3	111	99.1	1,195	96.8
no	1	-- <sup>2</sup>	13	0.7	1	-- <sup>2</sup>	39	3.2

<sup>5</sup> 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.

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

**Table B11.3 Infant Characteristics by Ethnicity: Springfield and Framingham 1996-1997.**

	<u>Springfield</u>				<u>Framingham</u>			
	<b>All Asians</b>		<b>White Non-Hispanic</b>		<b>All Asians</b>		<b>White Non-Hispanic</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Births	127	100	1,762	100	112	100	1,234	100
Birthweight (g)								
< 1,500	1	-- <sup>1</sup>	21	1.2	1	-- <sup>1</sup>	21	1.7
1,500-2,499	4	-- <sup>1</sup>	100	5.7	9	8.0	71	5.8
2,500-3,999	117	92.1	1,429	81.1	98	87.5	969	78.7
4,000+	5	3.9	211	12.0	4	-- <sup>1</sup>	170	13.8
Gestational age (weeks)								
< 37	6	4.7	142	8.1	6	5.4	79	6.4
37-42	121	95.3	1,610	91.7	106	94.6	1,144	92.8
43+	0	0.0	4	-- <sup>1</sup>	0	0.0	10	0.8
Sex of infant: female	64	50.4	893	50.7	56	50.0	597	48.4
Abnormal conditions of newborn jaundice	34	26.8	658	37.3	11	9.8	149	12.1
	12	9.4	181	10.3	7	6.3	74	6.1

<sup>1</sup> 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.

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

**APPENDIX III**

**TECHNICAL NOTES**



## 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:

<b>Category</b>	<b>Trimester Care Began</b>	<b>Number of Visits</b>
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 37<sup>th</sup> 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 37<sup>th</sup> 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.

## Related Articles

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*Asian Births in Massachusetts: 1996-1997 Evaluation Form*

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