

BOSTON PUBLIC HEALTH COMMISSION RESEARCH & EVALUATION and  
THE BOSTON UNIVERSITY SCHOOL OF PUBLIC HEALTH

**Health and Public Housing Data, Oral Health, Boston, 2001-2005**

Since 1999, the Boston Public Health Commission (BPHC) has collected health data among Boston adults utilizing a broad-based random telephone survey, the Boston Behavioral Risk Factor Surveillance System (BBRFSS). This project is based on a national model which originated at the Centers for Disease Control and Prevention and has been conducted annually in every state since the 1990s. Beginning in 2001, BPHC in partnership with the Boston University School of Public Health and Boston's Partners in Health and Housing - Prevention Research Center, enhanced the BBRFSS health surveillance project by collecting information on type of residency among its respondents. This allowed for the first time the ability to assess the health of public housing residents across a range of health measures and directly compare their disease burden and behavioral health experiences with those of Boston residents who do not reside in public housing.

The data in this document are drawn from three BBRFSS data sets, collected in 2001, 2003, and 2005, from Boston residents. Data are weighted by gender and age to reflect the Boston population.

*Oral Health Indicators*

- 1) Inadequate dental care due to financial barrier
- 2) Permanent teeth removed due to decay/disease (six or more)
- 3) No dental insurance

*Technical Notes*

To determine whether two percentages or point estimates presented here are different from one another, one cannot look only at the percentages themselves. One must determine whether the difference between two percentages is "statistically significant." Statistical significance is a mathematical term used to describe the likelihood that a particular number or rate reflects reality. This term comes into play when a particular characteristic of a sample or subset of a group or population is measured, and then that result is applied or inferred to describe the entire group or population.

The data contained in this document are derived from a telephone-based survey in which a number of Boston residents were asked to respond to a series of questions. The entire population of Boston was not called to participate in this survey, as this would not have been feasible or cost-effective. The survey data were collected among a random sample of adults within a random sample of Boston households. The resulting data were applied to represent the entire adult population for the city of Boston and are described as percentages or point estimates. These numeric values are further described by a numeric range called a confidence interval. The confidence interval describes the likelihood that the true percentage estimate falls within the range of values given, assuming no sources of bias, and thus describes the sampling error around the percentage estimate. To compare two percentage estimates and determine whether one is higher or lower than the other, one must look not only at the individual percentages but the associated confidence intervals. Comparisons described as "statistically different" have been determined to be more likely to reflect actual differences between the groups compared. In this document, the difference between one percentage (point estimate) and another is described as "significantly higher", "significantly lower", or "statistically similar" based on statistical testing. Since point

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estimates are sometimes referred to as rates, similar terminology describes the statistical difference between two rates.

It should be noted that a lack of a “statistical difference” does not necessarily mean that no difference exists; it may be that there are too few observations to detect a difference. Conversely, a statistically different finding does not necessarily mean that there is a real difference as it may be due to chance.

*Citing these Data*

Please use the following data source, analysis and acknowledgement lines when citing these data:

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

ACKNOWLEDGEMENTS: Supported by the Partners in Health and Housing Prevention Research Center

*Demographic Distributions*

Public Housing Residents

|                   | Percent (n) |
|-------------------|-------------|
| Gender            |             |
| Female            | 65.9% (581) |
| Male              | 34.1% (194) |
| Age               |             |
| 18-34             | 45.3% (231) |
| 35-49             | 24.5% (241) |
| 50-64             | 16.6% (173) |
| ≥65               | 13.6% (124) |
| Race/Ethnicity*   |             |
| Black             | 38.5% (262) |
| Latino            | 32.5% (219) |
| White             | 26.4% (223) |
| Place of Birth    |             |
| United States     | 70.4% (514) |
| Outside U.S.      | 29.6% (213) |
| Education         |             |
| <High School Grad | 26.0% (198) |
| High School Grad  | 43.8% (322) |
| Some College      | 17.5% (152) |
| College Grad      | 12.7% (102) |

Other Residents

|                   | Percent (n)  |
|-------------------|--------------|
| Gender            |              |
| Female            | 50.4% (2632) |
| Male              | 49.6% (1828) |
| Age               |              |
| 18-34             | 46.3% (1449) |
| 35-49             | 26.4% (1365) |
| 50-64             | 14.7% (926)  |
| ≥65               | 12.5% (649)  |
| Race/Ethnicity*   |              |
| Black             | 15.6% (763)  |
| Latino            | 11.1% (363)  |
| White             | 68.1% (3002) |
| Place of Birth    |              |
| United States     | 81.0% (3520) |
| Outside U.S.      | 19.0% (679)  |
| Education         |              |
| <High School Grad | 6.2% (249)   |
| High School Grad  | 18.5% (830)  |
| Some College      | 20.3% (850)  |
| College Grad      | 55.0% (2520) |

\*Asian/Pacific Islander not shown due to limited sample size.

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ORAL HEALTH INDICATORS

**Inadequate Dental Care Due to Financial Barrier†, Boston, 2001, 2003 and 2005 Combined**

|                   | Public Housing<br>(n=742) |          | Other Residents<br>(n=4,371) |          |
|-------------------|---------------------------|----------|------------------------------|----------|
|                   | %                         | 95% CI   | %                            | 95% CI   |
| Overall           | 9.9                       | 7.4-12.5 | 7.1                          | 6.0-8.2  |
| Gender            |                           |          |                              |          |
| Female            | 12.0                      | 8.6-15.3 | 6.6                          | 5.3-7.8  |
| Male              | 6.1                       | 2.6-9.5  | 7.7                          | 5.9-9.4  |
| Age               |                           |          |                              |          |
| 18-34             | 11.3                      | 6.5-16.1 | 9.5                          | 7.5-11.5 |
| 35-49             | 7.4                       | 3.9-10.8 | 5.9                          | 4.3-7.4  |
| 50-64             | 11.9                      | 7.1-16.7 | 5.0                          | 3.1-6.9  |
| ≥65               | 6.9                       | 2.2-11.7 | 3.1                          | 1.6-4.7  |
| Race/Ethnicity    |                           |          |                              |          |
| Black             | 9.3                       | 5.3-13.3 | 4.4                          | 2.9-5.9  |
| Latino            | 10.6                      | 6.1-15.1 | 11.5                         | 7.2-15.8 |
| White             | 12.8                      | 6.5-19.1 | 6.7                          | 5.4-8.0  |
| Place of Birth    |                           |          |                              |          |
| United States     | 10.2                      | 6.9-13.6 | 6.8                          | 5.7-8.0  |
| Outside U.S.      | 9.9                       | 5.5-14.3 | 8.1                          | 5.3-10.9 |
| Education         |                           |          |                              |          |
| <High School Grad | 12.4                      | 7.1-17.6 | 14.2                         | 7.3-21.2 |
| High School Grad  | 7.9                       | 5.0-10.8 | 6.1                          | 4.2-8.0  |
| Some College      | 11.1                      | 3.1-19.1 | 6.8                          | 4.5-9.1  |
| College Grad      | 10.6                      | 3.1-18.0 | 6.7                          | 5.3-8.1  |
| Type of Living    |                           |          |                              |          |
| Development       | 7.8                       | 4.4-11.3 | ---                          | ---      |
| Rental Assistance | 11.8                      | 8.1-15.4 | ---                          | ---      |

†Inadequate dental care due to financial barrier is defined as not having visited a dentist, dental clinic or dental specialist for over one year for reasons of lack of dental insurance or cost of services.

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- One in ten public housing residents reported not having received any dental services for over a year due to lack of insurance or the cost of services. By comparison, only one in fourteen non-public housing residents reported not having received any dental services for over a year due to these financial barriers.
- By gender, a significantly higher percentage of women residing in public housing reported not receiving dental services than women who did not reside in public housing. However, a statistical difference was not found when comparing men living in public housing to men who did not live in public housing.
- Among public housing residents, women were more likely than men to report inadequate dental care.

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- With one exception, the percentage of public housing residents who reported not receiving dental services was similar to the percentage of non-public housing residents for every age group. Only the percentage of 50-64 year old public housing residents was statistically higher than non-public housing residents of the same age.
- Among racial/ethnic groups, a significantly higher percentage of Black public housing residents reported inadequate dental services due to financial barriers than Black non-public housing residents. The percentages among Latino and White public housing residents were not statistically different from the respective percentages of Latino and White non-public housing residents.
- In the analysis by place of birth, the percentages who did not receive dental care among both US-born and non-US-born were similar among public housing residents and non-public housing residents.
- There was no statistical difference for any of the educational attainment level groups when residents of public housing were compared with non-residents.
- There were no statistical differences when public housing development residents were compared to rental assistance recipients with regards to not having visited a dentist due to financial barriers.

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ORAL HEALTH INDICATORS

**Six or More Permanent Teeth Removed Due to Decay/Disease, Boston, 2001, 2003 and 2005 Combined**

|                   | Public Housing<br>(n=744) |           | Other Residents<br>(n=4,330) |           |
|-------------------|---------------------------|-----------|------------------------------|-----------|
|                   | %                         | 95% CI    | %                            | 95% CI    |
| Overall           | 23.3                      | 19.6-26.9 | 11.5                         | 10.4-12.7 |
| Gender            |                           |           |                              |           |
| Female            | 25.4                      | 20.8-30.0 | 12.1                         | 10.6-13.7 |
| Male              | 21.9                      | 15.3-28.6 | 11.5                         | 9.7-13.3  |
| Age               |                           |           |                              |           |
| 18-34             | 1.6                       | 0.2-3.0   | 0.9                          | 0.1-1.7   |
| 35-49             | 22.8                      | 16.2-29.4 | 7.4                          | 5.7-9.1   |
| 50-64             | 55.4                      | 44.8-66.0 | 25.6                         | 21.5-29.7 |
| ≥65               | 69.9                      | 59.6-80.3 | 46.9                         | 41.2-52.5 |
| Race/Ethnicity    |                           |           |                              |           |
| Black             | 21.9                      | 15.7-28.2 | 14.6                         | 11.3-17.8 |
| Latino            | 15.2                      | 9.5-20.9  | 12.0                         | 7.4-16.6  |
| White             | 37.1                      | 28.4-45.8 | 12.2                         | 10.8-13.6 |
| Place of Birth    |                           |           |                              |           |
| United States     | 28.0                      | 23.0-33.1 | 12.3                         | 11.0-13.6 |
| Outside U.S.      | 19.7                      | 12.9-26.5 | 10.7                         | 7.6-13.8  |
| Education         |                           |           |                              |           |
| <High School Grad | 34.6                      | 25.8-43.5 | 28.5                         | 20.9-36.1 |
| High School Grad  | 23.9                      | 18.1-29.7 | 24.8                         | 21.0-28.6 |
| Some College      | 12.9                      | 7.5-18.3  | 14.5                         | 11.3-17.6 |
| College Grad      | 19.3                      | 9.3-29.2  | 4.6                          | 3.7-5.6   |
| Type of Living    |                           |           |                              |           |
| Development       | 23.0                      | 17.8-28.3 | ---                          | ---       |
| Rental Assistance | 23.5                      | 18.4-28.6 | ---                          | ---       |

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- Nearly one in every four public housing residents reported loss of six or more permanent teeth, compared with only one in nine non-public housing residents.
- Both men and women living in public housing were missing six or more permanent teeth at higher percentages than their non-public housing counterparts. These were statistical differences.
- Among all age groups except the 18-34 year olds, a statistically higher percentage of public housing residents reported excess permanent tooth loss than non-public housing residents.
- Statistically higher percentages of both Black and White public housing residents reported six or more missing teeth than their non-public housing counterparts. There was no statistical difference among Latinos.

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- Analysis by place of birth showed that for both public housing residents born in the United States and those born outside the U.S., statistically higher percentages had lost six or more teeth compared to their non-public housing counterparts.
- Findings by educational attainment level were mixed. Although percentages for each group varied, only among the *college graduate* level group was there a statistically greater percentage of public housing residents reporting permanent tooth loss of six or more teeth than non-public housing residents.
- Public housing development residents and rental assistance recipients did not statistically differ in the rate of excess permanent tooth loss.

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ORAL HEALTH INDICATORS

**No Dental Insurance†, Boston, 2001, 2003 and 2005 Combined**

|                   | Public Housing<br>(n=735) |             | Other Residents<br>(n=4,360) |             |
|-------------------|---------------------------|-------------|------------------------------|-------------|
|                   | %                         | 95% CI      | %                            | 95% CI      |
| Overall           | 46.1                      | 40.8 – 51.4 | 34.3                         | 32.4 – 36.3 |
| Gender            |                           |             |                              |             |
| Female            | 42.3                      | 36.6 - 47.9 | 34.1                         | 31.6 - 36.5 |
| Male              | 53.5                      | 42.7 - 64.3 | 34.6                         | 31.7 - 37.6 |
| Age               |                           |             |                              |             |
| 18-34             | 39.6                      | 30.2 - 49.0 | 30.4                         | 27.1 - 33.7 |
| 35-49             | 48.1                      | 39.9 - 56.3 | 26.7                         | 23.8 - 29.7 |
| 50-64             | 56.0                      | 45.4 - 66.6 | 33.4                         | 29.3 - 37.4 |
| ≥65               | 52.1                      | 40.2 - 64.0 | 66.1                         | 60.0 - 72.2 |
| Race/Ethnicity    |                           |             |                              |             |
| Black             | 36.6                      | 28.4 - 44.9 | 26.2                         | 21.4 - 30.9 |
| Latino            | 44.5                      | 34.6 - 54.4 | 42.0                         | 35.2 - 48.8 |
| White             | 63.2                      | 54.2 - 72.3 | 35.2                         | 32.9 - 37.5 |
| Place of Birth    |                           |             |                              |             |
| United States     | 42.5                      | 36.2 - 48.8 | 33.6                         | 31.4 - 35.7 |
| Outside U.S.      | 55.2                      | 45.2 - 65.3 | 37.6                         | 32.5 - 42.7 |
| Education         |                           |             |                              |             |
| <High School Grad | 42.7                      | 33.1 - 52.4 | 60.7                         | 52.1 - 69.2 |
| High School Grad  | 47.3                      | 38.9 - 55.7 | 38.9                         | 34.2 - 43.6 |
| Some College      | 43.6                      | 30.8 - 56.3 | 38.0                         | 33.0 - 42.9 |
| College Grad      | 52.0                      | 38.2 - 65.8 | 28.6                         | 26.3 - 30.8 |
| Type of Living    |                           |             |                              |             |
| Development       | 44.4                      | 36.1 - 52.8 | ---                          | ---         |
| Rental Assistance | 47.6                      | 40.8 - 54.4 | ---                          | ---         |

†Respondents were asked, “Do you have any kind of dental insurance coverage that pays for some or all of your routine dental care, including dental insurance, prepaid plans such as HMO’s, or government plans such as Medicaid?”

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- Overall a significantly higher percentage of public housing residents were without any type of dental insurance coverage than non-public housing residents. This finding held among most demographic groups, with the exceptions noted below.
- Both men and women living in public housing lacked dental insurance at significantly higher percentages than their non-public housing counterparts.
- Findings by age group were mixed. Public housing residents aged 18-34 years old did not significantly differ in the rate of dental insurance coverage from 18-34 year olds not living in public housing. For both of the middle age groups (35-49 and 50-64), however, a significantly higher percentage of public housing residents were without any type of dental insurance coverage than non-public housing residents. For the 65 years and over age

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group, a statistically higher percentage of non-public housing residents were without dental insurance than public housing residents.

- Among racial/ethnic groups, statistically higher percentages of both White and Black public housing residents reported being without dental insurance than their non-public housing counterparts. The rate of dental uninsured among Latino public housing residents was not statistically higher than that among Latino non-public housing residents however.
- Findings by educational attainment level were mixed. When comparing those without a high school diploma, a significantly lower percentage of public housing residents did not have dental insurance compared to non-public housing residents. Both *high school graduates*, and those with *some college*, who resided in public housing were not statistically different than their non-public housing counterparts. Among college graduates, a significantly higher percentage of public housing residents did not have dental insurance compared to non-public housing residents.
- Public housing development residents and rental assistance recipients did not statistically differ in the rate of dental insurance coverage.