

**CANCER INCIDENCE AMONG RESIDENTS OF THE BAYVIEW-HUNTERS
POINT NEIGHBORHOOD, SAN FRANCISCO CALIFORNIA
1993-1995**

Prepared by

Eva Glaser, M.D., M.P.H.
Cancer Surveillance Section
Department of Health Services

Martha M. Davis, M.S.P.H.
Rita W. Leung
Northern California Cancer Center

Tomás Aragón, M.D., M.P.H.
San Francisco Department of Public Health

Pete Wilson, Governor
State of California

Sandra R. Smoley, RN, Secretary
Health and Welfare Agency

S. Kemerly Belshé, Director
Department of Health Services

James W. Stratton, MD, MPH
State Health Officer and
Deputy Director
Prevention Services

Donald O. Lyman, MD, Chief
Division of Chronic Disease
and Injury Control

Dileep G. Bal, MD, Chief
Cancer Control Branch

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Summary

As a follow up to the finding by the San Francisco Department of Health that the incidence of breast and cervical cancer among women in Bayview-Hunters Point was elevated during the time period 1988-1992, we reviewed cancer incidence in the neighborhood for the period 1993-1995, the most recent years for which cancer reporting is considered complete. We compared the observed number of cancers, that is, cancers that had actually occurred among the residents during the three-year period, 1993-1995, with the expected number, that is, the average number that would be expected to have occurred if Bayview-Hunters Point residents had the same cancer rate as their counterparts in the Bay Area as a whole.

We obtained information on the cancers that had occurred in the area from the Northern California Cancer Center's Greater Bay Area Cancer Registry, the regional cancer registry that covers the entire Bay Area. We estimated the approximate number of cancers that would be expected to occur by applying 1993-1995 Bay Area cancer rates to estimates of the Bayview-Hunters Point population during that time period. Both the cancer rates and the population estimates were specific for gender, race/ethnicity, and age group.

Our findings for the three-year period, 1993-1995, were that the observed numbers of cancers among Bayview-Hunters Point residents were very similar to the expected numbers. There were no meaningful increases. Specifically:

- Forty-five invasive breast cancers were diagnosed among women in Bayview-Hunters Point, compared to 52.5 expected. The number of breast cancers was not elevated in women under 50 or women aged 50 years or older, nor in African American women in either age group. The number of breast cancers diagnosed each year and the stage at diagnosis (the proportion of cancers diagnosed at an early stage) is consistent with the possibility that the observed increase during 1988-1992 could be explained by increased breast cancer screening starting in the late 1980s.
- Six invasive cancers of the uterine cervix were diagnosed among women in Bayview-Hunters Point, compared to 5.3 expected. The number of cases in African American women and in the two age groups was small; none was meaningfully increased.
- The observed numbers of cancers of the bladder, brain, colon, lung, prostate, rectum, as well as leukemia, non-Hodgkin's lymphoma, cancers among children and adolescents, and the total of all cancers combined, were not meaningfully increased over the expected number.

The elevated breast and cervical cancer incidence seen among women in Bayview-Hunters Point during 1988-1992 did not persist during the period 1993-1995.

Introduction

In August of 1995, in response to residents' concerns about a possible elevation in cancer rates in Bayview-Hunters Point, the San Francisco Department of Public Health issued a report on the incidence of cancer among residents of the area during the five years, 1988-1992. The report reviewed data on cancers diagnosed among residents of the seven census tracts that include the area, and compared them to cancer rates in both the five-county Bay Area (Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties), and in San Francisco alone. The findings for that five-year time period were:

- The incidence of invasive breast cancer was elevated in comparison to both the Bay Area and San Francisco, especially among African American women younger than 50 years, in whom the elevation was statistically significant at the 95 percent confidence level. A total of 107 cases was observed in comparison to an expected 83 cases based on Bay Area rates, and 84.5 cases based on San Francisco rates. Among African American women less than 50 years of age, the observed number of cases was 28; the expected numbers were 13.5 based on Bay Area rates, and 14 based on San Francisco rates.
- The incidence of invasive cervical cancer was higher, at a statistically significant level, than would be expected in comparison to both Bay Area and San Francisco rates. Twenty-two cases were observed compared to 8.5 based on Bay Area rates, and 11.5 based on San Francisco rates.
- The incidence of other cancers, specifically, cancer of all anatomical sites combined, lung and bronchus, prostate, colorectal, bladder, brain, leukemia, and childhood cancers, was not elevated in comparison to either Bay Area or San Francisco rates.

A review of the incidence of cancer among Bayview-Hunters Point residents during the three years, 1993-1995, the most recent time period for which cancer reporting is considered relatively complete, is described below.

Methods

We compared the number of cancers that had occurred among residents of the Bayview-Hunters Point area during the three-year period, 1993-1995 (the "observed number"), to the number of cancers that would be expected to have occurred, if the residents had the same cancer rates as the entire Bay Area (the "expected number"). As in the 1988-1992 evaluation, the Bayview-Hunters Point area was defined as San Francisco County census tracts 230-234, 606, and 610. The 1990 population of these census tracts totaled 27,704 persons, of whom 17,097, or about 62 percent, were African American. We also reviewed cancer cases among the small number of residents of census tract 609, which was not included in the previous analysis and is not included in this analysis.

In 1990, approximately 22 percent of the African American population of San Francisco lived in Bayview-Hunters Point, so that the cancer rates for the African American population of San Francisco are heavily influenced by cancer rates in Bayview-Hunters Point. For this reason, we used the entire Bay Area rather than San Francisco alone as the reference population. In general, cancer rates are lower in the Bay Area as a whole than in San Francisco; consequently, expected numbers based on Bay Area rates would tend to be lower than expected numbers based on San Francisco rates, and the ratio of observed to expected numbers would be higher.

For some cancers, the assessment was done for *in situ* as well as invasive cancer cases. *In situ* cancers are cancers that show no evidence of invasion; the malignant process has not spread beyond the body cells in which it originated. For bladder cancer, *in situ* cancers were included with invasive cases. The Surveillance, Epidemiology, and End Results Program of the National Cancer Institute uses the combination of *in situ* and invasive cancers as the accepted method for calculating bladder cancer rates, because of lack of agreement about which pathological descriptions indicate *in situ* or localized invasive cancer. Breast and cervical cancers were assessed both for invasive cases only, and, in order to measure the proportion of early stage diagnoses, for the combination of invasive plus *in situ* cancers.

Cancer cases

The Northern California Cancer Center's Greater Bay Area Cancer Registry (GBACR), the regional cancer registry which collects data on all newly diagnosed cancers in the Greater Bay Area, provided information on cancer cases that had been reported as of October 1997 for the Bayview-Hunters Point neighborhood during the three years, 1993 to 1995. The observed cases included all cancers diagnosed in Bayview-Hunters Point residents whose address at the time of diagnosis was assigned to one of the seven census tracts that include the area, plus three cases with addresses which had a Bayview-Hunters Point zip code but could not be assigned to a census tract. The data were reviewed for any cancer cases that had occurred among the small number of residents of census tract 609.

Expected numbers

To calculate the approximate number of cancers that would be expected, we first had to obtain estimates of the population of the seven Bayview-Hunters Point census tracts during 1993 to 1995. Since cancer rates vary by gender and race/ethnicity as well as by age, it was important that the population estimates be specific for these variables.

The California Department of Finance (DOF) Demographic Research Unit has issued 1990 mid-year census tract population estimates, specific for gender, five-year age group, and race/ethnicity (Hispanics, non-Hispanic Asian/Others, non-Hispanic African Americans, and non-Hispanic whites), derived from the U.S. Census, but such specific estimates are not available for intercensal years. We were able to obtain 1990 and 1995 census tract population estimates from the Association of Bay Area Governments (ABAG). ABAG used econometric models based on various data sources to project census tract populations through 2005 for five broad age groups, 0-4, 5-19, 20-44, 45-64, and 65+ years (*Projections 96 by census tract, ABAG, Oakland,*

California, May 1996). ABAG estimated an overall population increase of about 7.3 percent in the seven Bayview-Hunters Point census tracts between 1990 and 1995, predominantly in the age group 45 years and over. We derived the 1993-1995 population from the ABAG data by linear interpolation between the 1990 to 1995 populations. However, the ABAG estimates are not specific for gender or race/ethnicity. We therefore combined the DOF estimates of the 1990 census tract populations with the ABAG data to estimate gender-, and race/ethnicity-specific populations within the above five age groups, and, for females, also for the 20-49 and 50-64 year age groups. This was done by applying the percentages in each of the DOF gender, race/ethnicity, (and for females five-year age category) groups to the 1993-1995 populations we had derived from the ABAG estimates.

The expected numbers of cancer cases were then calculated by applying the 1993-1995 Bay Area average annual rates of invasive cancer by age, gender, and race/ethnicity groups (*Department of Health Services Cancer Surveillance Section, unpublished data*) to the corresponding 1993-1995 population estimates for the seven census tracts.

Comparison between observed and expected numbers of cancers

We compared the observed and expected numbers, calculated standardized incidence ratios (SIRs) by dividing the observed number by the expected number, and estimated 99 percent confidence intervals, based on the Poisson distribution, around the SIRs. The confidence interval is a measure of statistical significance. If the confidence interval includes the value of 1, the difference between the observed and expected numbers is not considered statistically significant. The CSS routinely uses 99 percent confidence intervals for statistical comparisons of numbers of cancer cases occurring in census tracts because there are almost 6000 census tracts in California. Using 99 percent confidence intervals, about 30 census tracts would be expected to have a statistically significant excess for any given cancer at any given time, and 30 census tracts would be expected to have a statistically significant deficit, just by chance.

Other data review

Since the time period of the current review is only three years, we also obtained from GBACR information on *in situ* and invasive breast and cervical cancers diagnosed among Bayview-Hunters Point residents from 1985 to 1995. We reviewed the number of breast and cervical cancers diagnosed per year and the stage at diagnosis, that is, whether the cancers were localized or had already spread beyond the breast or cervix when they were first diagnosed.

Results

Tables 1, 2, and 3 show the observed numbers of cancers among Bayview-Hunters Point residents during the three-year period, 1993-1995, and the approximate numbers that would be expected if Bayview-Hunters Point residents had the same cancer rates as the entire five-county Bay Area. Also shown for each cancer is the SIR and the 99 percent confidence interval around the SIR. Table 1 shows the cancers which were included in the earlier evaluation, cancers of all anatomical sites combined and other selected cancers, excepting breast and cervical cancers,

which are shown separately in Tables 2 and 3. Breast and cervical cancers were elevated during the 1988 to 1992 time period. Table 2 shows invasive breast and cervical cancers, and Table 3 shows invasive plus *in situ* cancers of the breast and cervix. In Tables 2 and 3, cancers are shown in the age and race/ethnicity categories analyzed in the earlier evaluation.

Observed and expected numbers for cancers of the bladder, brain, colon, lung, prostate, and rectum, for leukemia and non-Hodgkin's lymphoma, for cancers in children and adolescents (ages 0-19 years), and for cancers of all anatomical sites and all ages combined, are shown in Table 1. None of the observed and expected numbers for the various cancers were substantially different from one another. In some cases the observed numbers were lower than the expected numbers, and in some cases higher, so that the SIRs vary from 0.6 to 1.7. However, the numerical differences between the observed and expected numbers are small and the corresponding confidence intervals are wide. All the differences between the observed and expected numbers are well within the range of what can be expected to occur through normal fluctuations. Using 95 percent confidence intervals (not shown) does not affect the results.

Forty-five Bayview-Hunters Point women were diagnosed with invasive breast cancer between 1993 and 1995, compared with 52.4 cases which would be expected on average (Table 2). Fewer cases were diagnosed than expected among women in both age groups (0-49 years old, and 50 or older), but the differences were within the limits of normal variation. Thirty-three breast cancers were diagnosed among African American women, compared to an average expected number of 35.0. Fewer cases than expected were diagnosed in African American women under 50 years old (six cases compared to 8.2 expected), while the number of cases diagnosed was equal to the number expected (27 and 26.8 cases respectively) in older African American women. Again, the difference between the observed and expected numbers among younger African American women was consistent with normal variation.

Six invasive cervical cancers were diagnosed among Bayview-Hunters Point women over the three-year period, compared to an average of 5.2 expected cases (Table 2). To protect the privacy of individuals, specific numbers are not shown for fewer than five cases. As can be seen from the SIRs, any differences between the observed and expected numbers were small.

The data shown in Table 2 for invasive breast and cervical cancers is shown in Table 3 for the combination of invasive plus *in situ* cases. Again, the numbers of observed cases are all close to the average numbers expected, both among women of all races combined, and among African American women.

Table 4 shows the annual incidence of invasive plus *in situ* breast cancers among women in Bayview-Hunters Point from 1985 to 1995, the numbers diagnosed per year among women of all races combined and among African American women. Among African American women, the numbers fluctuated between eight and 21 per year, the higher numbers occurring during the years, 1988 to 1992; the average number per year was 15. Also shown is the percentage of cancers that were diagnosed at an early stage, that is, cancers that were classified as either *in situ* or localized, relative to the total number of invasive cancers. The percentage of early stage cancers increased fairly steadily from 1988 onward.

Table 5 combines the data in Table 4 into three time periods, and shows the annual averages of invasive breast cancers and the percentages of early stage cancers during the periods 1985-1987, 1988-1992, and 1993-1995. This shows the increase in the annual average of cancers diagnosed as well as the increase in the average percentage of early stage diagnoses from the period 1985-1987 to the period 1988-1992. The average number of cancers diagnosed dropped during 1993-1995, but the average percentage of early stage cancers continued to increase.

Table 6 shows the average numbers and average percent of early stage diagnoses (*in situ* or localized) for cervical cancer for the same three time periods. The average annual number of cases increased from the period, 1985-1987 to the period 1988-1993, then decreased in during the period 1993-1995. The percentage of early stage diagnoses was similar during 1985-1987 and 1988-1992 (77.8 percent and 77.1 percent) but was higher during 1993-1995 (84.6 percent).

The cancers that occurred among the residents of census tract 609 during the three-year period were not increased. The total number was less than five.

Discussion

During the three years, 1993 to 1995, Bayview-Hunters Point residents, both female and male, had approximately the number of cancers that they would be expected to have if they had the same cancer rates as their equivalent age, gender, and race/ethnicity groups in the entire Bay Area. This was also true for breast and cervical cancer, which were elevated from 1988 to 1992, as well as for other individual cancers. From 1993 to 1995, women under 50 and women 50 and over, both African American women and women of all races, were diagnosed with breast and cervical cancer at about the same rate as their counterparts in the Bay Area as a whole. The elevations seen in the earlier five-year period, 1988 to 1992, were not evident during the more recent three-year period. The review of the numbers and the stage at diagnosis of breast cancers diagnosed annually from 1985 to 1995 showed an increase in the percentage of early stage, that is, *in situ* or localized cancers, from 1988 onward.

For cancers such as breast and cervical cancer, the number diagnosed during a particular time period and the stage of the cancers when they are first diagnosed, will be influenced by the amount of screening being conducted among the population. Mammography potentially can detect breast cancers several years before they are large enough to be felt by palpation, because many breast cancers tend to grow relatively slowly. Consequently, an increase in the amount of mammography being done among a group of women can lead to a temporary increase in the breast cancer incidence rate. As the amount of screening increases, cancers may be diagnosed over a relatively short time period that without mammography would have been diagnosed several years later when the cancers were large enough to be felt as lumps in the breast. The incidence rate may decline as breast cancer screening becomes a routine part of health care, but the percentage of early stage diagnoses will remain higher than it was before the screening was implemented. Similarly, intensification of cervical cancer screening has the potential to detect cervical cancer before women have symptoms that would cause them to seek medical attention, and may lead to a temporary increase in the numbers of cervical cancers diagnosed. Although specific information on breast and cervical screening programs in Bayview-Hunters Point was not obtainable, there are anecdotal reports that breast cancer screening programs in the Bayview-

Hunters Point neighborhood started in the late 1980s. The breast cancer data are consistent with this explanation; it is possible that some of the elevated numbers of cancers diagnosed during the 1988-1992 time period may be due to increased screening during that time.

The data are not as clear for cervical cancer; while the average number of cases per year doubled from the 1985-1987 period to the 1988-1992 period (14 and 27 cases respectively), the percentage of early stage diagnoses did not increase between the two time periods (77.8 percent and 77.1 percent respectively). During the 1993-1995 period, the average number of cases dropped to 11 per year and the percentage of early stage diagnoses rose to 84.6. This is still consistent with a screening effect.

Cancer registry assessments of cancer incidence in particular geographic areas have to be interpreted with caution because the available data include only the patient's address at the time of diagnosis; there is no information on the length of residence at that address. Many cancers have a long latency period, that is, there may be a long time, up to ten or twenty years or more, from the initiation of the carcinogenic process to the development of a cancer that can be diagnosed clinically. If there were a past exposure in a given area that conveyed an increased cancer risk, many of the people exposed could have moved out of the area before any cancers that they may have developed were diagnosed.

Cancer incidence data are not complete for more recent years. Because of the need to collect treatment information and to perform extensive quality control procedures, there is always a lag period of about six to 18 months until data are complete enough to be analyzed. Also, when the numbers are small, as happens when an assessment is done in a relatively small population over a short time period, the numbers can fluctuate randomly; chance can play a large role in the number of cancers that occur.

In summary, the elevated breast and cervical cancer incidence seen among women in Bayview-Hunters Point during 1988-1992 did not persist during the period 1993-1995.

Table 1.

**THE INCIDENCE OF INVASIVE CANCER IN BAYVIEW-HUNTERS POINT
1993-1995**

Cancer Category	Males				Females			
	Expected number 1993-95 ¹	Observed number 1993-1995 ²	Standardized Incidence Ratio ³	99% Confidence Interval ⁴	Expected number 1993-95 ¹	Observed number 1993-1995 ²	Standardized Incidence Ratio ³	99% Confidence Interval ⁴
Bladder ⁵	8.0	10	1.3	0.4 - 2.1	<5 ⁶	<5 ⁶	0.6	0.1 - 4.6
Brain	<5 ⁶	<5 ⁶	1.7	0.2 - 3.1	<5 ⁶	<5 ⁶	0.6	0.0 - 7.4
Colon	17.7	21	1.2	0.5 - 1.7	17.5	10	0.6	0.4 - 2.1
Leukemia	4.5	6	1.3	0.3 - 2.6	<5 ⁶	<5 ⁶	1.1	0.2 - 3.1
Lung	38.1	36	0.9	0.6 - 1.5	24.7	19	0.8	0.5 - 1.8
NHL	9.0	8	0.9	0.3 - 2.3	5.2	7	1.3	0.3 - 2.4
Prostate	73.0	76	1.0	0.7 - 1.3	n.a.	n.a.	n.a.	n.a.
Rectum	6.3	<5 ⁶	<1	0.1 - 3.7	5.3	<5 ⁶	<1	0.2 - 3.1
Child & adol. ⁷	<5 ⁶	<5 ⁶	1.7	0.1 - 3.7	<5 ⁶	<5 ⁶	0.6	0.0 - 7.4
All cancers combined	221.2	248	1.1	0.8 - 1.2	178.7	162	0.9	0.8 - 1.2

¹ Expected numbers are based on: A) 1994 population estimates derived from 1990 population data from the California Department of Finance together with 1990 population data and 1995 projections from the Association of Bay Area Governments; and B) 1993-1995 average annual cancer rates for the five-county Bay Area.

² Cancers reported to GBACR as of October 1997.

³ The standardized incidence ratio equals the observed number of cases divided by the expected number.

⁴ Approximate 99% confidence interval around the standardized incidence ratio based on the Poisson distribution.

⁵ Bladder cancer cases and expected numbers include both invasive and *in situ* cases.

⁶ Data not shown for fewer than 5 cases.

⁷ Cases in children and adolescents aged 0-19.

Table 2.

**BAYVIEW-HUNTERS POINT
INVASIVE BREAST AND CERVICAL CANCER INCIDENCE AMONG WOMEN
1993-1995**

Cancer	Race/ethnicity	Age Group	Expected number 1993-1995¹	Observed number 1993-1995²	Standardized Incidence Ratio³	99% Confidence Interval⁴
Breast	All races combined	00 - 49	12.2	8	0.7	0.2 - 1.5
		50 - 85+	40.2	37	0.9	0.6 - 1.4
		All ages	52.4	45	0.9	0.6 - 1.2
	African American	00 - 49	8.2	6	0.7	0.2 - 1.9
		50 - 85+	26.8	27	1.0	0.6 - 1.6
		All ages	35.0	33	0.9	0.6 - 1.5
Cervix	All races combined	00 - 49	<5 ⁵	<5 ⁵	1.3	0.1 - 4.8
		50 - 85+	<5 ⁵	<5 ⁵	1.0	0.1 - 3.8
		All ages	5.2	6	1.2	0.3 - 3.0
	African American	00 - 49	<5 ⁵	<5 ⁵	1.3	0.1 - 6.1
		50 - 85+	<5 ⁵	<5 ⁵	0.5	0.0 - 3.9
		All ages	<5 ⁵	<5 ⁵	0.9	0.1 - 3.2

¹ Expected numbers are based on: 1994 population estimates derived from 1990 population data from the California Department of Finance together with 1990 population data and 1995 projections from the Association of Bay Area Governments; and 1993-1995 average annual cancer rates for the five-county Bay Area.

² Cases reported to GBACR as of October 1997.

³ The standardized incidence ratio equals the observed number of cases divided by the expected number.

⁴ Approximate 99 % confidence interval around the standardized incidence ratio based on the Poisson distribution.

⁵ Data not shown for fewer than 5 cases.

Table 3.

**BAYVIEW-HUNTERS POINT
INVASIVE PLUS *IN SITU* BREAST CANCER INCIDENCE AMONG WOMEN
1993-1995**

Cancer	Race/ethnicity	Age Group	Expected number 1993-1995¹	Observed number 1993-1995²	Standardized Incidence Ratio³	99% Confidence Interval⁴
Breast: invasive and in situ	All races	00 - 49	13.9	<13.9 ⁵	<1	0.3 - 1.5
		50 - 85+	48.6	47	1.0	0.6 - 1.4
		All ages	62.5	57	0.9	0.6 - 1.3
	African American	00 - 49	9.0	<9.0 ⁵	<1	0.2 - 1.9
		50 - 85+	32.5	32	1.0	0.6 - 1.5
		All ages	41.5	39	0.9	0.6 - 1.4
Cervix: invasive and in situ	All races	00 - 49	18.8	18	1.0	0.5 - 1.7
		50 - 85+	6.2	5	0.8	0.2 - 2.3
		All ages	25.0	23	0.9	0.5 - 1.5
	African American	00 - 49	13.0	11	0.8	0.3 - 1.8
		50 - 85+	<5 ⁶	<5 ⁶	0.5	0.0 - 2.3
		All ages	17.1	13	0.8	0.3 - 1.5

¹ Expected numbers are based on: 1994 population estimates derived from 1990 population data from the California Department of Finance together with 1990 population data and 1995 projections from the Association of Bay Area Governments; and 1993-1995 average annual cancer rates for the five-county Bay Area.

² Cases reported to GBACR as of October 1997.

³ The standardized incidence ratio equals the observed number of cases divided by the expected number.

⁴ Approximate 99 % confidence interval around the standardized incidence ratio based on the Poisson distribution.

⁵ Data not shown for fewer than the expected number of cases because of the small number of *in situ* cases.

⁶ Data not shown for fewer than 5 cases.

Table 4.

**BAYVIEW-HUNTERS POINT
BREAST CANCER INCIDENCE AMONG WOMEN
ANNUAL NUMBER OF INVASIVE PLUS *IN SITU* CASES AND PERCENTAGE OF EARLY STAGE
DIAGNOSES 1985-1995**

Year	Women of all races combined		African American women	
	Total number of breast cancers ¹	Percentage early stage diagnoses ²	Total number of breast cancers ¹	Percentage early stage diagnoses ²
1985	17	53	13	54
1986	17	53	9	56
1987	19	47	11	55
1988	27	59	21	67
1989	23	70	17	65
1990	23	61	14	64
1991	23	52	19	53
1992	27	63	20	65
1993	15	73	8	63
1994	21	81	14	79
1995	21	62	17	59

¹ Cases reported to GBACR as of October 1997.

² The percentage of early stage cancers equals the number of localized plus *in situ* cancers divided by the total number of all cancers, multiplied by 100.

Table 5.

**BAYVIEW-HUNTERS POINT
BREAST CANCER INCIDENCE AMONG WOMEN
THE ANNUAL AVERAGE NUMBER OF CASES AND AVERAGE PERCENTAGE OF EARLY STAGE
DIAGNOSES DURING THREE TIME PERIODS
1985-1987, 1988-1992, 1993-1995**

Time period	Women of all races combined		African American women	
	Annual average of invasive plus <i>in situ</i> cancers ¹	Average percentage early stage diagnoses ²	Annual average of invasive plus <i>in situ</i> cancers ¹	Average percentage early stage diagnoses ²
1985-1987	16	51	10	55
1988-1992	22	61	16	63
1993-1995	15	72	11	67

¹ Cases reported to GBACR as of October 1997.

² The percentage of early stage cancers equals the number of localized plus *in situ* cancers divided by the total number of all cancers, multiplied by 100.

Table 6.

**BAYVIEW-HUNTERS POINT
CERVICAL CANCER INCIDENCE AMONG WOMEN
THE ANNUAL AVERAGE NUMBER OF CASES AND AVERAGE PERCENTAGE OF EARLY STAGE
DIAGNOSES DURING THREE TIME PERIODS
1985-1987, 1988-1992, 1993-1995**

Time period	Women of all races combined		African American women	
	Annual average of invasive plus <i>in situ</i> cancers ¹	Average percentage early stage diagnoses ²	Annual average of invasive plus <i>in situ</i> cancers ¹	Average percentage early stage diagnoses ²
1985-1987	23	85.2	14	77.8
1988-1992	47	82.5	27	77.1
1993-1995	21	91.3	11	84.6

¹ Cases reported to GBACR as of October 1997.

² The percentage of early stage cancers equals the number of localized plus *in situ* cancers divided by the total number of all cancers, multiplied by 100.