

# CANCER of the BUCCAL CAVITY and PHARYNX

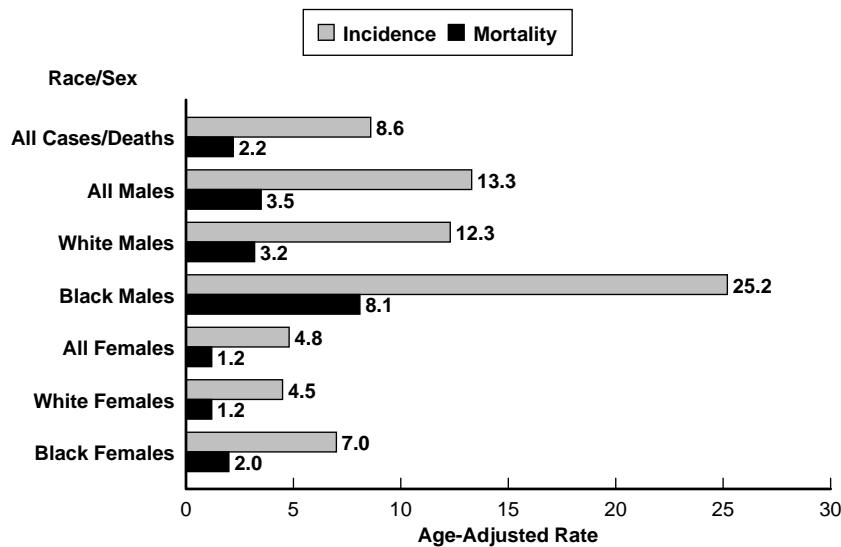
## Data Highlights

There were 1,338 cases of cancer of the buccal cavity and pharynx diagnosed in 1996 among Pennsylvania residents. The average annual age-adjusted incidence rate for 1992-96 was over 177 percent higher in males compared to females (13.3 versus 4.8 per 100,000, respectively). Black males were disproportionately burdened. For example, the 1992-96 average annual age-adjusted incidence rate among black males was 25.2, compared to 12.3 for white males. Excessive use of alcohol, in combination with tobacco products, is the major cause of this disease. Many new cases and deaths could be directly prevented with a reduction in these risk factors.

The incidence rates rose steadily with age, with 84 percent of the cases diagnosed among those aged 50 and older during the 1992-96 period. Average annual age-specific incidence rates for 1992-96 were highest among the age group 65-69 for males of both races. Among females, the highest age-specific rates occurred for those in their seventies. There were no discernible trends in the annual age-adjusted incidence rates from 1987 through 1996 among the four sex/race groups. Black males had higher percentages of cases diagnosed at the regional and distant stages than the other three sex/race groups. Among black males, 76.8 percent of the 1996 cases were diagnosed at the regional or distant stage, compared to 64.2 percent among black females, 60.6 percent among white males, and 44.8 percent among white females.

In 1996, there were 324 deaths among residents due to cancers of the buccal cavity and pharynx, the lowest figure recorded during the ten-year period of 1987-96. As observed with the incidence rates, average annual age-adjusted death rates for 1992-96 were much higher for males, especially for black males. The annual age-adjusted death rates between 1987 and 1996 showed some recent declines for both white and black males but no notable trends were discernible for females of either race.

FIGURE 2  
**Average Annual Age-Adjusted Incidence and Mortality Rates\*  
by Sex and Race, Pennsylvania Residents, 1992-1996**



\*per 100,000 1970 U.S. standard million population.

## Risk Factors

Cigarette, cigar and pipe smoking.

Smokeless tobacco.

Excessive use of alcohol.

## Early Detection

Insufficient evidence whether palpation and inspection of the oral cavity in asymptomatic persons reduces mortality. The American Cancer Society recommends a complete oral exam be included in a periodic health examination.

# Cancer of the Buccal Cavity and Pharynx: INCIDENCE

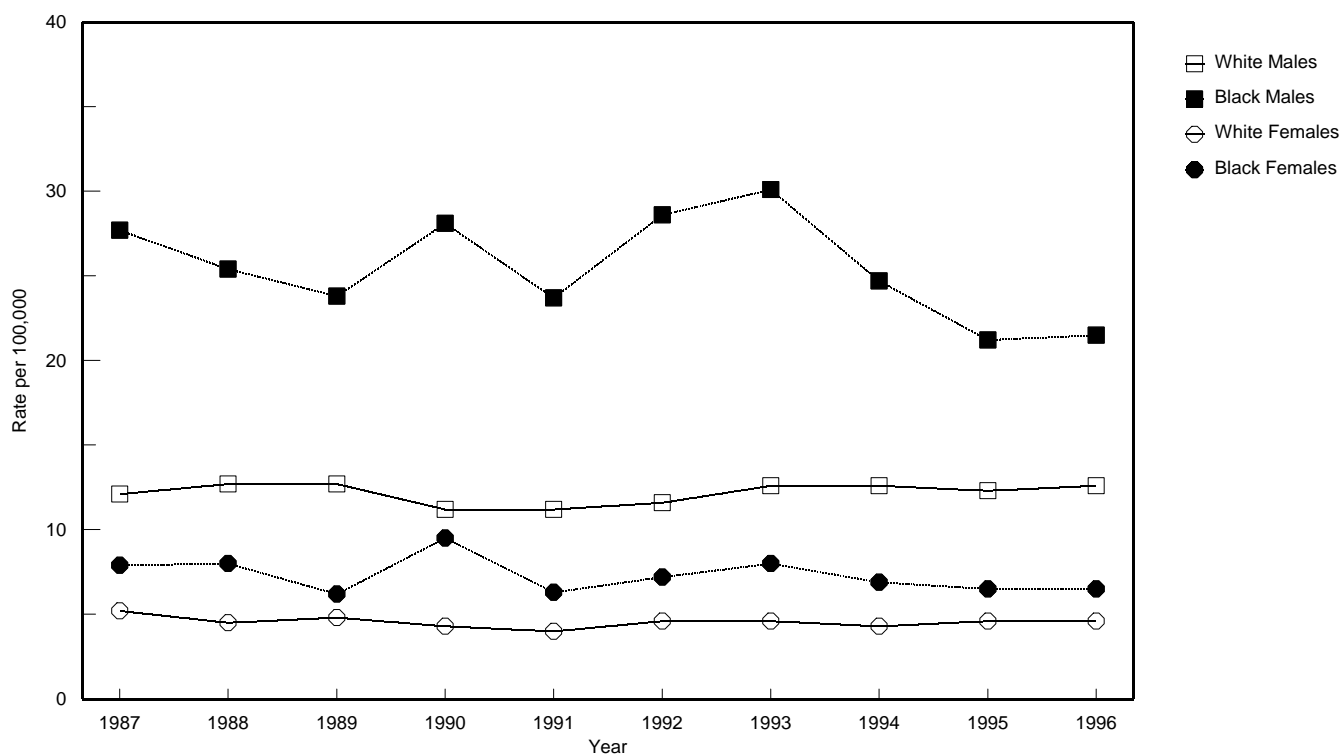
**TABLE 2-A**  
**Number of Cancer Cases, Age-Adjusted Incidence Rates and Range for 95% Confidence Intervals**  
**by Sex, Race and Year, Pennsylvania Residents, 1987-1996**

Year	Males												Females								
	All Cases*			All Races*			White			Black			All Races*			White			Black		
	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-
1996	1,338	8.7	0.5	906	13.4	0.9	790	12.6	0.9	101	21.5	4.2	432	4.8	0.5	381	4.6	0.5	41	6.5	2.0
1995	1,304	8.5	0.5	876	13.1	0.9	766	12.3	0.9	98	21.2	4.2	428	4.8	0.5	382	4.6	0.5	40	6.5	2.0
1994	1,295	8.5	0.5	898	13.5	0.9	776	12.6	0.9	110	24.7	4.6	397	4.5	0.4	351	4.3	0.4	43	6.9	2.1
1993	1,341	8.9	0.5	914	13.9	0.9	767	12.6	0.9	133	30.1	5.1	427	4.9	0.5	373	4.6	0.5	51	8.0	2.2
1992	1,248	8.4	0.5	833	12.8	0.9	698	11.6	0.9	128	28.6	5.0	415	4.8	0.5	366	4.6	0.5	45	7.2	2.1
1991	1,148	7.8	0.5	786	12.2	0.9	671	11.2	0.8	106	23.7	4.5	362	4.2	0.4	321	4.0	0.4	40	6.3	2.0
1990	1,209	8.1	0.5	796	12.4	0.9	670	11.2	0.8	121	28.1	5.0	413	4.7	0.5	356	4.3	0.4	55	9.5	2.5
1989	1,272	8.8	0.5	856	13.7	0.9	742	12.7	0.9	100	23.8	4.7	416	5.0	0.5	367	4.8	0.5	38	6.2	2.0
1988	1,271	8.8	0.5	859	13.7	0.9	740	12.7	0.9	110	25.4	4.7	412	4.9	0.5	355	4.5	0.5	47	8.0	2.3
1987	1,282	9.0	0.5	836	13.5	0.9	701	12.1	0.9	120	27.7	5.0	446	5.4	0.5	398	5.2	0.5	45	7.9	2.3

\* Includes any unknowns.

NOTES: Age-adjusted rates are per 100,000 and are computed by the direct method using the 1970 U.S. standard million population. Rates based on less than 20 events are considered statistically unreliable. The value of CI+/- added to and subtracted from the age-adjusted rate = 95% confidence interval. The value of CI+/- was calculated using a formula for estimating the standard error or SE (see Technical Notes).

**FIGURE 2-A**  
**Age-Adjusted Incidence Rates by Sex and Race**  
**Pennsylvania Residents, 1987-1996**



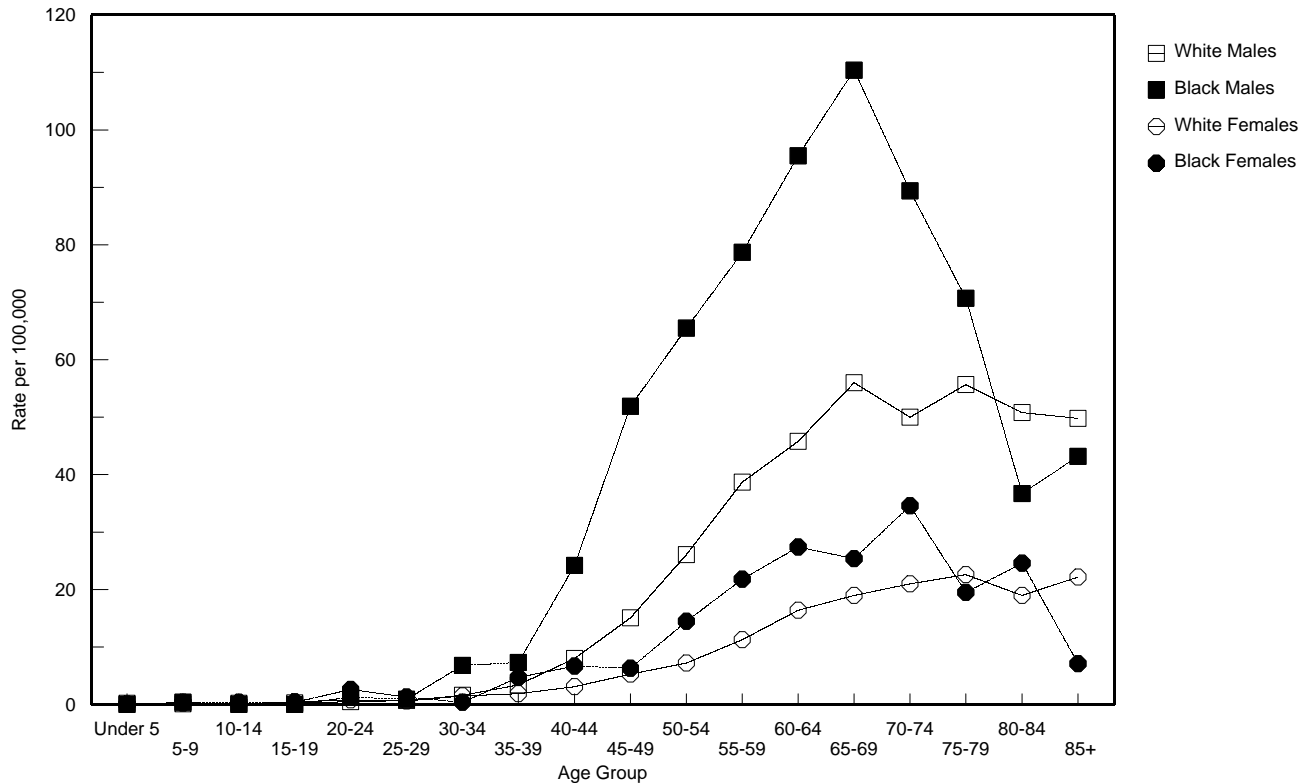
# Cancer of the Buccal Cavity and Pharynx: INCIDENCE

**TABLE 2-B**  
Average Annual Age-Specific Incidence Rates by Sex and Race  
Pennsylvania Residents, 1992-1996

Age Group	All Cases	Males			Females		
		All Races	White	Black	All Races	White	Black
Total	10.8	15.3	14.7	21.0	6.7	6.7	7.2
Under 5	0.1	0.2	0.2	-	0.1	0.1	-
5-9	0.2	0.1	0.1	0.4	0.2	0.2	0.4
10-14	0.2	0.2	0.2	-	0.1	0.1	0.4
15-19	0.4	0.3	0.3	-	0.5	0.5	0.4
20-24	0.8	0.6	0.5	1.3	1.1	0.8	2.6
25-29	0.7	0.7	0.7	0.9	0.7	0.6	1.3
30-34	1.8	2.2	1.6	6.8	1.4	1.5	0.4
35-39	3.1	3.9	3.4	7.3	2.3	1.9	4.7
40-44	6.3	9.4	8.0	24.2	3.4	3.1	6.7
45-49	11.5	17.9	15.1	51.9	5.5	5.3	6.3
50-54	18.0	29.1	26.1	65.5	7.8	7.2	14.5
55-59	26.1	41.5	38.7	78.7	12.3	11.3	21.8
60-64	32.1	49.3	45.8	95.5	17.4	16.4	27.4
65-69	37.4	59.9	56.0	110.4	19.5	19.0	25.4
70-74	34.9	52.7	50.0	89.4	22.1	21.0	34.6
75-79	35.9	57.0	55.7	70.7	22.5	22.6	19.5
80-84	30.1	50.0	50.8	36.7	19.5	19.0	24.6
85+	29.6	50.5	49.8	43.2	21.3	22.2	7.1

NOTE: Rates are per 100,000 population (1992-1996) for each specified group.

**FIGURE 2-B**  
Average Annual Age-Specific Incidence Rates by Sex and Race  
Pennsylvania Residents, 1992-1996



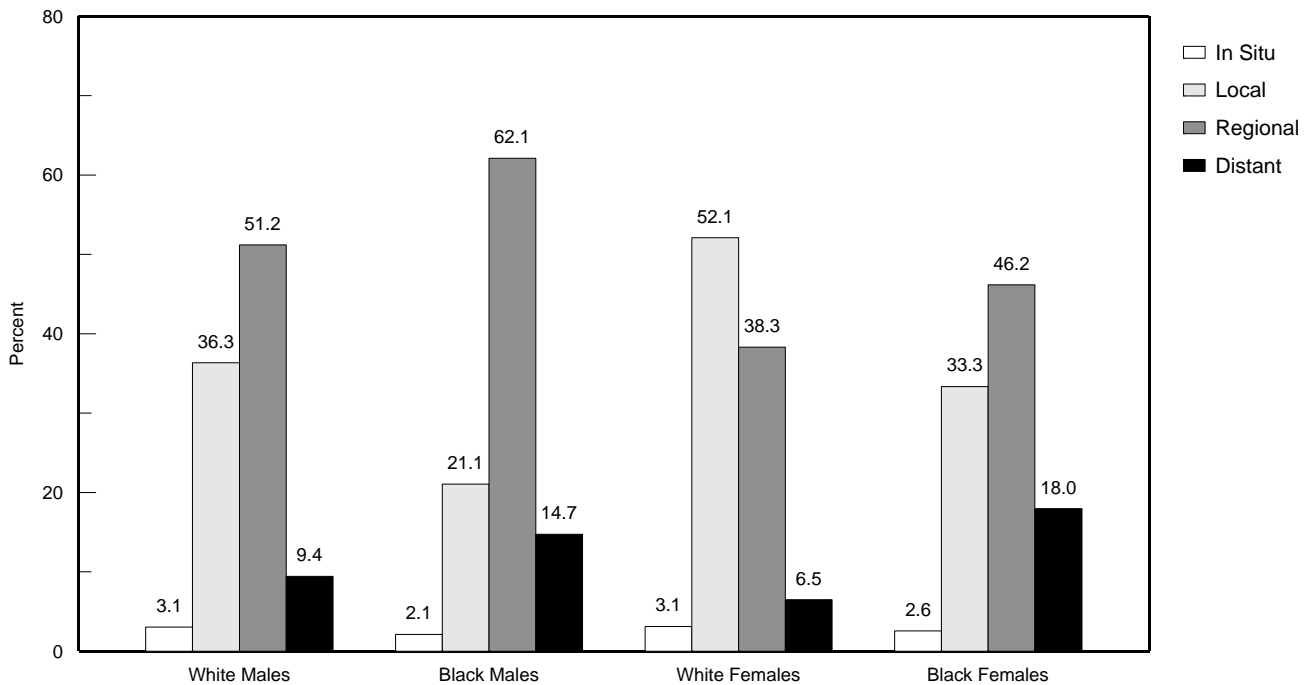
# Cancer of the Buccal Cavity and Pharynx: INCIDENCE

**TABLE 2-C**  
**Total Number of Cancer Cases by Age, Sex and Race**  
**Pennsylvania Residents, 1992-1996**

Age Group	All Cases*	Males			Females		
		All Races*	White	Black	All Races*	White	Black
Total	6,526	4,427	3,797	570	2,099	1,853	220
Under 5	5	4	4	0	1	1	0
5-9	7	3	2	1	4	3	1
10-14	6	4	4	0	2	1	1
15-19	17	6	5	0	11	9	1
20-24	35	13	9	3	22	15	6
25-29	30	15	12	2	15	11	3
30-34	82	50	33	15	32	31	1
35-39	144	90	71	15	54	41	11
40-44	280	204	157	43	76	62	14
45-49	441	334	256	73	107	93	11
50-54	573	445	365	73	128	106	21
55-59	732	551	471	75	181	151	28
60-64	883	625	537	82	258	221	33
65-69	1,037	735	640	87	302	272	28
70-74	865	547	486	55	318	281	32
75-79	697	429	394	30	268	252	14
80-84	383	222	212	9	161	147	12
85+	309	150	139	7	159	156	3

\* Includes any unknowns.

**FIGURE 2-C**  
**Stage of Disease at Diagnosis, Percent by Sex and Race**  
**Pennsylvania Residents, 1996**



Number and Percent of Cases Microscopically Confirmed: 1,324 - 99.0%

# Cancer of the Buccal Cavity and Pharynx: MORTALITY

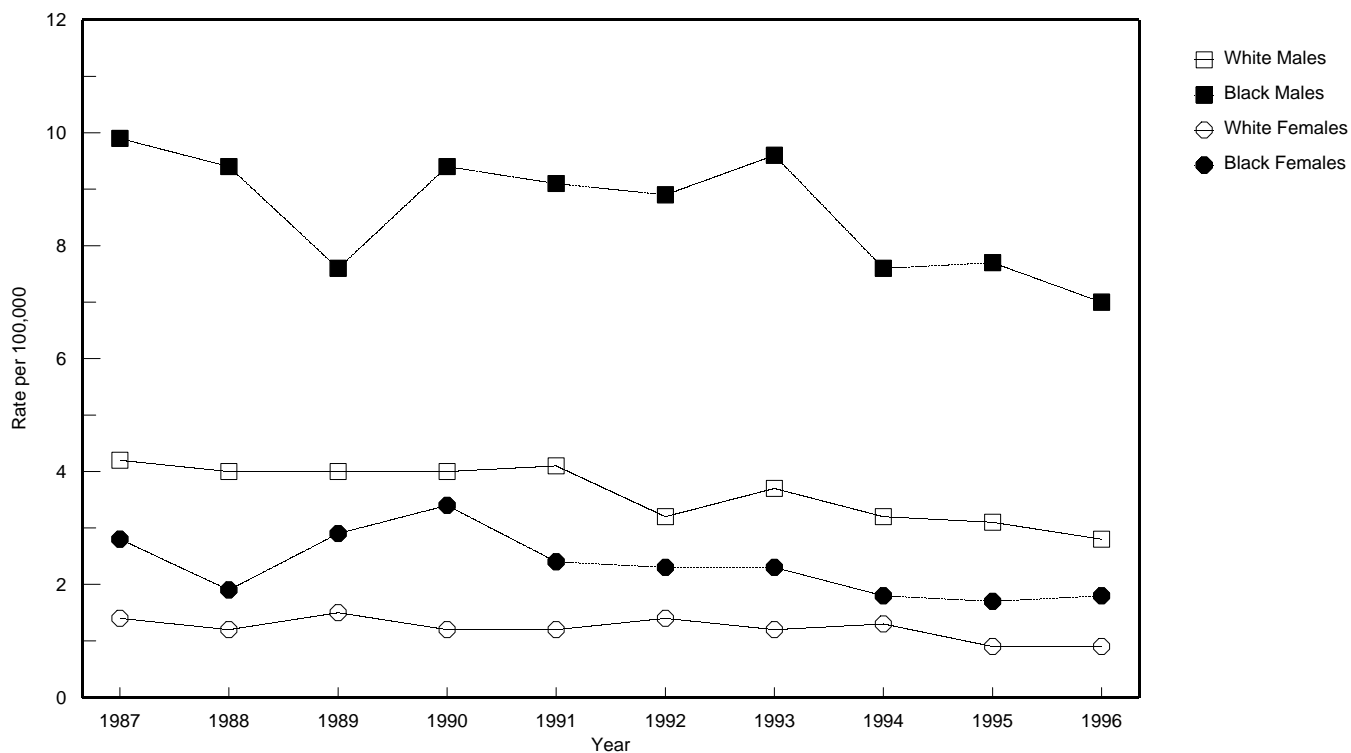
**TABLE 2-D**  
**Number of Deaths, Age-Adjusted Death Rates and Range for 95% Confidence Intervals**  
**by Sex, Race and Year, Pennsylvania Residents, 1987-1996**

Year	All Deaths*			Males						Females											
	No.	Rate	CI+/-	All Races*			White			Black			All Races*			White			Black		
				No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-	No.	Rate	CI+/-
1996	324	1.9	0.2	219	3.1	0.4	187	2.8	0.4	31	7.0	2.5	105	1.0	0.2	93	0.9	0.2	12	1.8	1.0
1995	335	2.1	0.2	233	3.4	0.4	198	3.1	0.4	34	7.7	2.6	102	1.0	0.2	92	0.9	0.2	10	1.7	1.1
1994	374	2.3	0.2	238	3.5	0.4	201	3.2	0.4	33	7.6	2.6	136	1.4	0.2	123	1.3	0.2	12	1.8	1.0
1993	402	2.5	0.2	275	4.2	0.5	229	3.7	0.5	42	9.6	2.9	127	1.3	0.2	109	1.2	0.2	16	2.3	1.1
1992	376	2.4	0.2	239	3.6	0.5	199	3.2	0.4	40	8.9	2.8	137	1.5	0.3	123	1.4	0.2	14	2.3	1.2
1991	421	2.7	0.3	292	4.5	0.5	251	4.1	0.5	39	9.1	2.9	129	1.3	0.2	112	1.2	0.2	16	2.4	1.2
1990	421	2.7	0.3	288	4.4	0.5	243	4.0	0.5	41	9.4	2.9	133	1.4	0.2	111	1.2	0.2	21	3.4	1.5
1989	423	2.8	0.3	270	4.3	0.5	234	4.0	0.5	32	7.6	2.6	153	1.7	0.3	133	1.5	0.3	18	2.9	1.3
1988	393	2.6	0.3	277	4.3	0.5	236	4.0	0.5	41	9.4	2.9	116	1.2	0.2	103	1.2	0.2	11	1.9	1.1
1987	422	2.8	0.3	293	4.6	0.5	250	4.2	0.5	42	9.9	3.0	129	1.5	0.3	113	1.4	0.3	16	2.8	1.4

\* Includes any unknowns.

NOTES: Age-adjusted rates are per 100,000 and are computed by the direct method using the 1970 U.S. standard million population. Rates based on less than 20 events are considered statistically unreliable. The value of CI+/- added to and subtracted from the age-adjusted rate = 95% confidence interval. The value of CI+/- was calculated using a formula for estimating the standard error or SE (see Technical Notes).

**FIGURE 2-D**  
**Age-Adjusted Death Rates by Sex and Race**  
**Pennsylvania Residents, 1987-1996**



# Cancer of the Buccal Cavity and Pharynx: MORTALITY

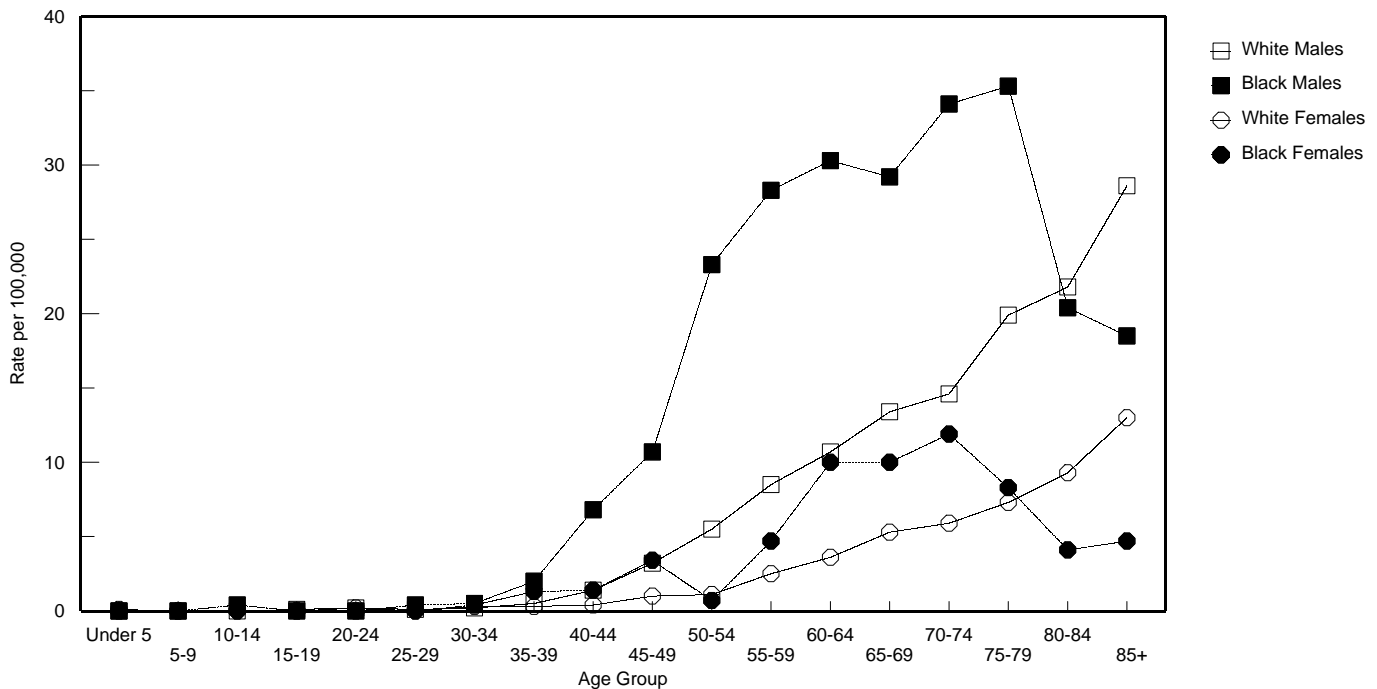
**TABLE 2-E**  
**Number of Deaths and Average Annual Age-Specific Death Rates by Sex and Race**  
**Pennsylvania Residents, 1992-1996**

Age Group	All Deaths*		Males						Females					
			All Races*		White		Black		All Races*		White		Black	
			No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total*	1,811	3.0	1,204	4.2	1,014	3.9	180	6.6	607	1.9	540	1.9	64	2.1
Under 5	1	0.0	0	-	0	-	0	-	1	0.1	1	0.1	0	-
5-9	0	-	0	-	0	-	0	-	0	-	0	-	0	-
10-14	1	0.0	1	0.1	0	-	1	0.4	0	-	0	-	0	-
15-19	1	0.0	1	0.0	1	0.1	0	-	0	-	0	-	0	-
20-24	6	0.1	3	0.1	3	0.2	0	-	3	0.1	3	0.2	0	-
25-29	3	0.1	3	0.1	1	0.1	1	0.4	0	-	0	-	0	-
30-34	13	0.3	6	0.3	5	0.2	1	0.5	7	0.3	6	0.3	1	0.4
35-39	25	0.5	15	0.6	10	0.5	4	2.0	10	0.4	7	0.3	3	1.3
40-44	54	1.2	42	1.9	28	1.4	12	6.8	12	0.5	9	0.4	3	1.4
45-49	93	2.4	69	3.7	54	3.2	15	10.7	24	1.2	17	1.0	6	3.4
50-54	121	3.8	104	6.8	77	5.5	26	23.3	17	1.0	16	1.1	1	0.7
55-59	169	6.0	130	9.8	103	8.5	27	28.3	39	2.6	33	2.5	6	4.7
60-64	212	7.7	151	11.9	125	10.7	26	30.3	61	4.1	49	3.6	12	10.0
65-69	267	9.6	179	14.6	153	13.4	23	29.2	88	5.7	76	5.3	11	10.0
70-74	255	10.3	165	15.9	142	14.6	21	34.1	90	6.3	79	5.9	11	11.9
75-79	244	12.6	156	20.7	141	19.9	15	35.3	88	7.4	81	7.3	6	8.3
80-84	170	13.4	96	21.6	91	21.8	5	20.4	74	9.0	72	9.3	2	4.1
85+	176	16.9	83	27.9	80	28.6	3	18.5	93	12.4	91	13.0	2	4.7

\* Includes any unknowns.

NOTE: Rates are per 100,000 population (1992-1996) for each specified group.

**FIGURE 2-E**  
**Average Annual Age-Specific Death Rates by Sex and Race**  
**Pennsylvania Residents, 1992-1996**



# Cancer of the Buccal Cavity and Pharynx: INCIDENCE

**TABLE 2-F**  
**Number of Cases, Average Annual Age-Adjusted Incidence Rates and Range for 95% Confidence Intervals**  
**by County and Sex, Pennsylvania Residents, 1992-1996**

County	Total Cases	Males			Females			County	Total Cases	Males			Females			
		No.	Rate	CI+/-	No.	Rate	CI+/-			No.	Rate	CI+/-	No.	Rate	CI+/-	
All Counties	6,526	4,427	13.3	0.4	2,099	4.8	0.2									
Adams	36	28	12.4	4.6	8	2.6	1.8	Juniata	11	4	6.9	6.8	7	10.2	7.6	
Allegheny	810	561	14.8	1.2	249	4.8	0.6	Lackawanna	122	92	14.5	3.0	30	3.2	1.1	
Armstrong	41	31	12.9	4.5	10	3.0	1.9	Lancaster	154	111	9.6	1.8	43	3.0	0.9	
Beaver	107	72	12.3	2.8	35	4.5	1.5	Lawrence	53	34	10.8	3.6	19	5.5	2.5	
Bedford	24	13	8.9	4.8	11	5.5	3.3	Lebanon	58	41	12.5	3.8	17	4.2	2.0	
Berks	165	114	11.6	2.1	51	4.4	1.2	Lehigh	135	98	11.8	2.3	37	3.1	1.0	
Blair	73	47	12.7	3.6	26	4.9	1.9	Luzerne	254	185	18.6	2.7	69	4.5	1.1	
Bradford	37	24	13.0	5.2	13	6.3	3.4	Lycoming	70	52	15.9	4.3	18	4.6	2.1	
Bucks	264	175	12.0	1.8	89	4.8	1.0	McKean	18	14	10.1	5.3	4	2.7	2.6	
Butler	71	49	11.3	3.2	22	4.2	1.8	Mercer	81	55	14.4	3.8	26	5.7	2.2	
Cambria	111	78	16.2	3.6	33	4.5	1.5	Mifflin	27	20	14.7	6.4	7	4.8	3.6	
Cameron	0	0	-	-	0	-	-	Monroe	66	44	15.1	4.5	22	6.3	2.6	
Carbon	34	27	14.8	5.6	7	3.5	2.6	Montgomery	337	209	10.5	1.4	128	4.9	0.8	
Centre	29	19	6.9	3.1	10	3.6	2.2	Montour	12	9	18.8	12.3	3	2.4	2.7	
Chester	170	115	11.3	2.1	55	4.2	1.1	Northampton	151	98	14.1	2.8	53	5.5	1.5	
Clarion	16	13	10.8	5.9	3	1.7	1.9	Northumberland	51	33	11.5	3.9	18	5.2	2.4	
Clearfield	51	34	14.5	4.9	17	5.6	2.7	Perry	13	10	9.1	5.6	3	2.3	2.6	
Clinton	16	12	11.3	6.4	4	2.3	2.3	Philadelphia	1,167	796	21.9	1.5	371	7.0	0.7	
Columbia	38	30	17.7	6.3	8	3.4	2.4	Pike	9	5	4.6	4.0	4	3.4	3.3	
Crawford	41	21	8.5	3.6	20	6.9	3.0	Potter	7	6	11.7	9.4	1	1.6	3.1	
Cumberland	84	48	8.8	2.5	36	4.9	1.6	Schuylkill	97	70	13.9	3.3	27	4.2	1.6	
Dauphin	127	86	13.1	2.8	41	5.0	1.5	Snyder	13	6	6.1	4.9	7	6.3	4.7	
Delaware	277	182	12.5	1.8	95	4.7	0.9	Somerset	39	21	8.6	3.7	18	6.0	2.8	
Elk	15	8	6.8	4.7	7	4.6	3.4	Sullivan	6	5	20.4	17.9	1	3.2	6.3	
Erie	117	71	9.7	2.3	46	4.4	1.3	Susquehanna	23	17	14.9	7.1	6	3.9	3.1	
Fayette	77	50	11.1	3.1	27	4.1	1.5	Tioga	21	20	16.0	7.0	1	0.5	1.0	
Forest	1	0	-	-	1	7.4	14.5	Union	13	7	7.1	5.3	6	5.8	4.6	
Franklin	53	35	9.9	3.3	18	4.1	1.9	Venango	32	19	11.5	5.2	13	4.9	2.7	
Fulton	2	2	4.6	6.4	0	-	-	Warren	23	17	12.9	6.1	6	3.6	2.9	
Greene	14	10	8.4	5.2	4	2.3	2.3	Washington	124	86	13.9	2.9	38	5.4	1.7	
Huntingdon	12	10	8.0	5.0	2	1.4	1.9	Wayne	24	17	12.0	5.7	7	4.0	3.0	
Indiana	34	26	11.0	4.2	8	2.6	1.8	Westmoreland	174	114	9.8	1.8	60	3.9	1.0	
Jefferson	25	13	10.0	5.4	12	8.4	4.8	Wyoming	22	13	17.5	9.5	9	9.4	6.1	
								York	147	95	9.9	2.0	52	4.5	1.2	

NOTES: Age-adjusted rates are per 100,000 and are computed by the direct method using the 1970 U.S. standard million population. Rates based on less than 20 events are considered statistically unreliable. The value of CI+/- added to and subtracted from the age-adjusted rate = 95% confidence interval. The value of CI+/- was calculated using a formula for estimating the standard error or SE (see Technical Notes).

# Cancer of the Buccal Cavity and Pharynx: MORTALITY

**TABLE 2-G**  
**Number of Deaths, Average Annual Age-Adjusted Death Rates and Range for 95% Confidence Intervals**  
**By County and Sex, Pennsylvania Residents, 1992-1996**

County	Total Deaths	Males			Females			County	Total Deaths	Males			Females		
		No.	Rate	CI+/-	No.	Rate	CI+/-			No.	Rate	CI+/-	No.	Rate	CI+/-
All Counties	1,811	1,204	3.5	0.2	607	1.2	0.1								
Adams	8	5	2.1	1.8	3	1.2	1.4	Juniata	3	2	3.3	4.6	1	1.2	2.4
Allegheny	184	112	2.9	0.5	72	1.2	0.3	Lackawanna	43	29	4.0	1.5	14	1.1	0.6
Armstrong	10	8	3.0	2.1	2	0.8	1.1	Lancaster	52	34	2.8	0.9	18	1.0	0.5
Beaver	28	18	2.9	1.3	10	1.3	0.8	Lawrence	17	11	3.4	2.0	6	1.2	1.0
Bedford	7	5	3.6	3.2	2	0.6	0.8	Lebanon	15	11	3.3	2.0	4	1.1	1.1
Berks	39	28	2.8	1.0	11	0.8	0.5	Lehigh	44	29	3.5	1.3	15	1.2	0.6
Blair	26	18	4.8	2.2	8	1.3	0.9	Luzerne	89	70	6.7	1.6	19	0.9	0.4
Bradford	2	2	1.0	1.4	0	-	-	Lycoming	21	14	3.7	1.9	7	1.3	1.0
Bucks	48	31	2.1	0.7	17	0.8	0.4	McKean	6	5	3.4	3.0	1	0.4	0.8
Butler	16	11	2.4	1.4	5	0.7	0.6	Mercer	21	14	3.5	1.8	7	1.5	1.1
Cambria	33	24	4.8	1.9	9	1.0	0.7	Mifflin	6	2	1.4	1.9	4	2.5	2.5
Cameron	0	0	-	-	0	-	-	Monroe	16	12	4.1	2.3	4	0.9	0.9
Carbon	10	8	4.2	2.9	2	0.5	0.7	Montgomery	98	58	2.9	0.7	40	1.4	0.4
Centre	8	6	2.3	1.8	2	0.7	1.0	Montour	3	3	6.1	6.9	0	-	-
Chester	50	34	3.5	1.2	16	1.3	0.6	Northampton	50	34	4.7	1.6	16	1.6	0.8
Clarion	3	1	0.8	1.6	2	0.6	0.8	Northumberland	17	9	2.9	1.9	8	2.2	1.5
Clearfield	10	6	2.7	2.2	4	1.4	1.4	Perry	7	6	4.9	3.9	1	0.7	1.4
Clinton	4	4	3.7	3.6	0	-	-	Philadelphia	372	249	6.8	0.8	123	2.1	0.4
Columbia	7	5	2.4	2.1	2	0.7	1.0	Pike	1	0	-	-	1	0.7	1.4
Crawford	6	2	0.7	1.0	4	1.0	1.0	Potter	2	2	4.2	5.8	0	-	-
Cumberland	17	13	2.3	1.3	4	0.6	0.6	Schuylkill	33	20	3.7	1.6	13	1.7	0.9
Dauphin	37	19	3.0	1.3	18	2.0	0.9	Snyder	4	4	4.3	4.2	0	-	-
Delaware	83	52	3.4	0.9	31	1.4	0.5	Somerset	9	4	1.3	1.3	5	1.6	1.4
Elk	5	2	1.9	2.6	3	2.3	2.6	Sullivan	2	2	6.4	8.9	0	-	-
Erie	37	27	3.7	1.4	10	0.9	0.6	Susquehanna	13	11	9.2	5.4	2	1.0	1.4
Fayette	20	15	3.3	1.7	5	0.6	0.5	Tioga	6	6	4.8	3.8	0	-	-
Forest	0	0	-	-	0	-	-	Union	5	3	2.9	3.3	2	1.7	2.4
Franklin	12	5	1.3	1.1	7	1.4	1.0	Venango	5	5	3.1	2.7	0	-	-
Fulton	0	0	-	-	0	-	-	Warren	4	2	1.3	1.8	2	1.2	1.7
Greene	6	4	3.4	3.3	2	1.3	1.8	Washington	22	17	2.6	1.2	5	0.5	0.4
Huntingdon	2	1	0.8	1.6	1	0.6	1.2	Wayne	9	8	6.3	4.4	1	0.3	0.6
Indiana	7	3	1.2	1.4	4	1.1	1.1	Westmoreland	46	31	2.7	1.0	15	0.8	0.4
Jefferson	8	4	2.9	2.8	4	1.5	1.5	Wyoming	4	1	1.5	2.9	3	3.0	3.4
								York	33	23	2.4	1.0	10	0.8	0.5

NOTES: Age-adjusted rates are per 100,000 and are computed by the direct method using the 1970 U.S. standard million population. Rates based on less than 20 events are considered statistically unreliable. The value of CI+/- added to and subtracted from the age-adjusted rate = 95% confidence interval. The value of CI+/- was calculated using a formula for estimating the standard error or SE (see Technical Notes).