

## ORAL / PHARYNGEAL CANCER IN SOUTH CAROLINA

Each year, more than 30,000 new cases of Oral / Pharyngeal cancers are diagnosed and about 8,000 deaths occur due to oral cancer in U.S. The five-year survival rate with these cancers is about 50 percent (1). Cancer incidence rate in males of all races for 2000 was 15.7 per 100,000 population. This rate was higher for blacks (18.2 per 100,000 population) than whites (15.3 per 100,000 population). In females cancer incidence in 2000 was much lower (6.0 per 100,000 population), with white females having higher rates (6.0 per 100,000 populations) than black females (5.1 per 100,000 populations).

### Cancer incidence in South Carolina

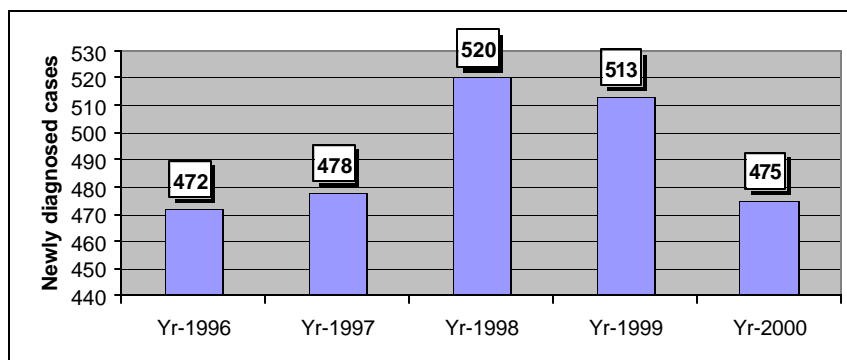
Oral/Pharyngeal cancer can appear at nine possible sites (Lips, Tongue, Major Salivary glands, Floor of mouth, Gum, Nasopharynx, Oropharynx, Hypopharynx, Buchal Cavity and Pharynx). In South Carolina, the top three sites for Oral/Pharyngeal cancer for the years 1996-2000 were: 1) Tongue (22.7% of all the cancers), 2) Buchal Cavity and Pharynx (16.9% of all the cancers, and Gum (15.2% of all the cancers). For a detailed breakdown of all the sites, see Table 1.

*Table 1: Sites of oral/pharyngeal cancer 1996-2000*

Cancer site	% of all the cancers
Lip	8.1%
Tongue	22.7%
Major Salivary glands	9.4%
Floor of the mouth	8.1%
Gum and other mouth	15.2%
Nasopharynx	5%
Oropharynx	5.4%
Hypopharynx	9.2%
Buchal Cavity and Pharynx	16.9%

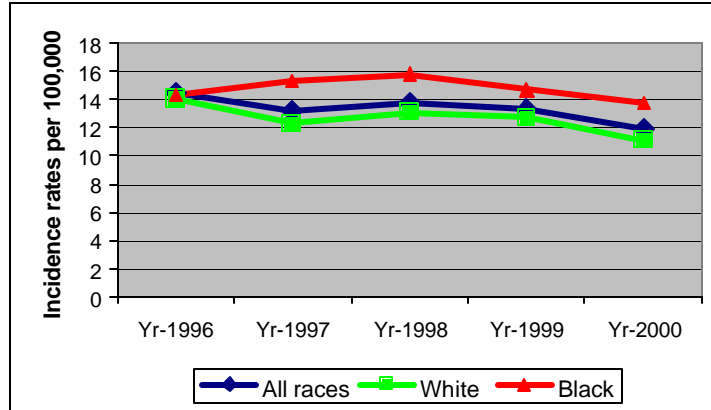
In South Carolina, 2458 new cases of Oral/Pharyngeal cancer were diagnosed during 1996-2000 (Figure 1).

*Figure 1 – Yearly breakdown of number of new cases diagnosed.*



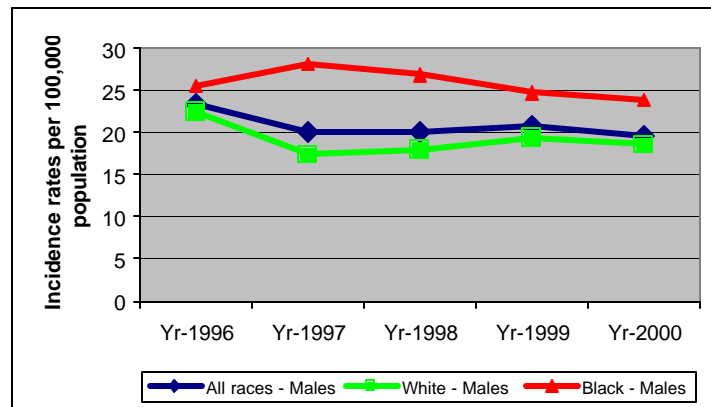
The incidence of Oral/Pharyngeal cancer for 1996-2000 in South Carolina was 13.3 cases per 100,000. The rate in Blacks was higher 14.7 per 100,000 than Whites (12.6 per 100,000) (Figure 2).

Figure 2: Oral/Pharyngeal Cancer incidence rates per 100,000 (1996–2000)



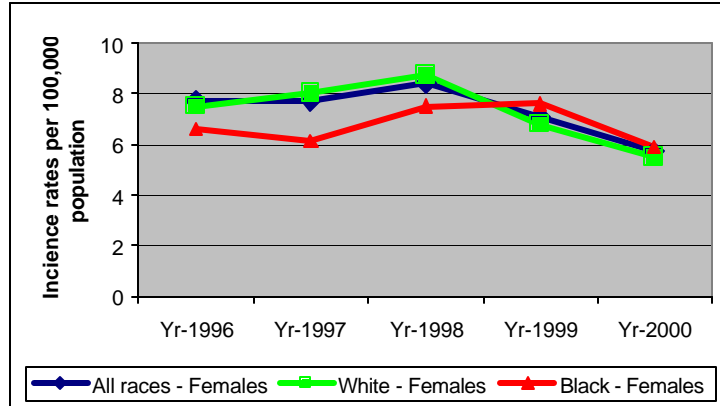
Males (20.6 per 100,000) were three times more likely to be diagnosed with oral cancer as compared to females (7.3 per 100,000). Black males were 35% more likely to be diagnosed with oral cancer as compared to white males (Figure 3).

Figure 3: Oral/Pharyngeal Cancer incidence rates in males per 100,000 (1996–2000)



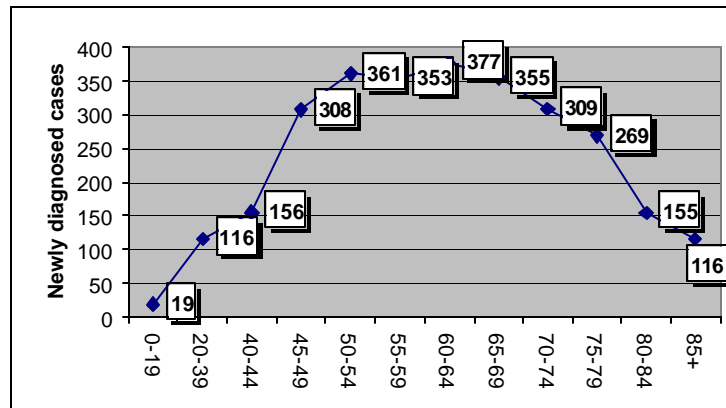
However, incident rates were higher in white females (7.3 per 100,000) than Black females (6.8 per 100,000) (Figure 4). The trend in females shows that in 1996, incidence rates were higher in white females than black females. However, over the last few years, there has been a steady decline in incidence cases in females. This decline has been slightly more pronounced in white females as compared to black females, which has resulted in black females actually have higher incidence rates than white females in 2000.

Figure 4: Oral/Pharyngeal Cancer incidence rate sin males per 100,000 (1996—2000)



The majority of the diagnosed cases were seen between 45 to 74 age intervals with the highest number of cases seen in the 60 to 64 years age group (Figure 5).

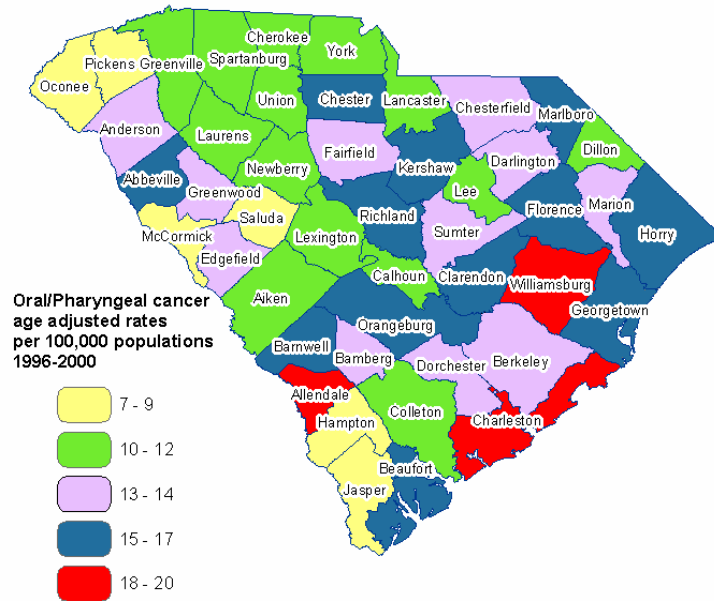
Figure 5: New cases broken down by age group



### Incidence of oral/pharyngeal cancer in South Carolina counties 1996-2000

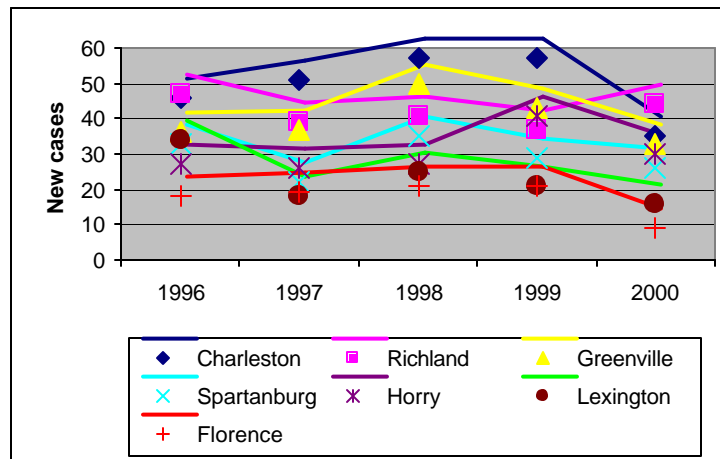
For the period 1996-2000, Charleston County had the highest number of cases in the state (246), followed by Richland (208), Greenville (199), Horry (151), and Spartanburg (145). However, on comparing age-adjusted rates for these counties, only Charleston (17.9 cases per100,000), Richland (16.3 cases/100,000), and Horry (15.4 cases/100,000) had higher rates than the state average (13.3 cases/100,000). Spartanburg and Greenville counties had lower rates than the state average. Most of the smaller counties of the state had lower rates than the state average, except for Allendale (19.6 cases/100,000), Williamsburg (18.5 cases per 100,000), Kershaw (17.4 cases per100,000), Georgetown (16.9 cases per100,000), Clarendon (16 cases per100,000), Abbeville (16 cases per 100,000), and Marlboro (15.3 cases per 100,000 pop.), which had significantly higher rates than the state average (figure 6).

Figure 6: Oral/Pharyngeal Cancer Incidence Rates by County, South Carolina, 1996-2000



It is also interesting to look at the trends of cancer incidence data that exist in the counties with high number of new Oral/Pharyngeal cases. In Richland County, there was a steady decline in incident cases from 1996 to 1999 until a slight increase was observed in 2000. However, most of the other counties (Figure 7) showed a decrease in 2000 and high number of incident cases in 1998. This trend is consistent statewide as in 1998 about 56% of the counties showed an increase in the number incident cases from 1997; while in 2000 about 59% of the counties showed a decrease in the incident cases. In 1998, there was an increase of 42 cases statewide from 1997 and the state age adjusted rate jumped from 13.3 cases per 100,000 to 13.9 cases per 100,000. While in 2000, statewide there was a decrease of 38 cases from 1999, resulting in the state age adjusted rate falling from 13.3 cases per 100,000 to 11.9 cases per 100,000.

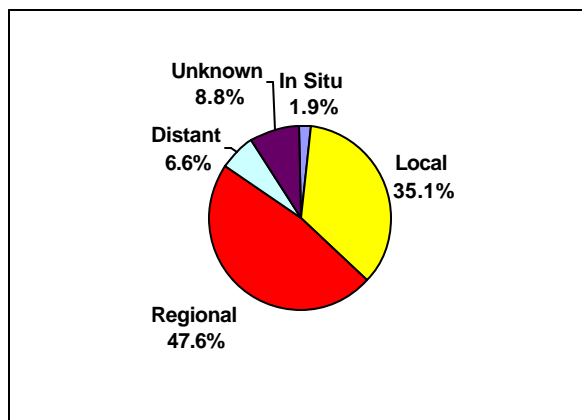
Figure 7: Oral/Pharyngeal incident cases in larger counties



## Oral/Pharyngeal Cancer detection in South Carolina 1996-2000

Only about 2% of the cancers were detected in situ. Most of the cancers (98%) had become invasive before they were detected. The majority of the invasive cancers were already in the late stage (54% -regional or distant spread) at the time of detection, while 37% were in the early stage (Local and in situ). About 9% of the oral cancers were unstaged at the time of their detection (Figure 8)

Figure 8: Stage at diagnosis, 1996-2000.



## Mortality in South Carolina 1996-2000

From 1996 to 2000, 742 Oral/Pharyngeal cancer deaths occurred in South Carolina at an age-adjusted rate of 4.1 deaths per 100,000. Black population (6.9 deaths per 100,000) was at least twice more likely to die from oral/pharyngeal cancer as compared to white population (3.2 deaths per 100,000) (Figure 9). Males (6.4 deaths per 100,000) were more than three times more likely to die from Oral/Pharyngeal cancer than females (2.2 deaths per 100,000). The death rates were much higher in black males (12.6 deaths per 100,000), as compared white males (4.7 deaths per 100,000) (Figure 10). In females, there was little difference between death rates of white (2 deaths per 100,000) than black females (2.8 deaths per 100,000), however over the past three years (1996- 1998), death rates have increased in black females and decreased in white females (Figure 11)

Figure 9: Oral/Pharyngeal age adjusted cancer mortality rates, 1996-2000

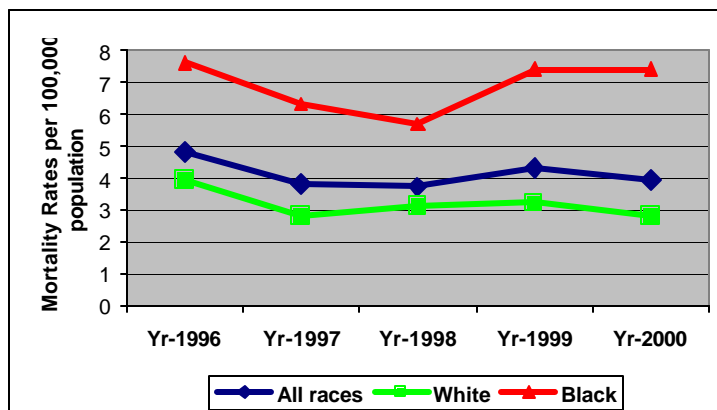


Figure 10: Oral/Pharyngeal age adjusted cancer mortality rates in males, 1996-2000

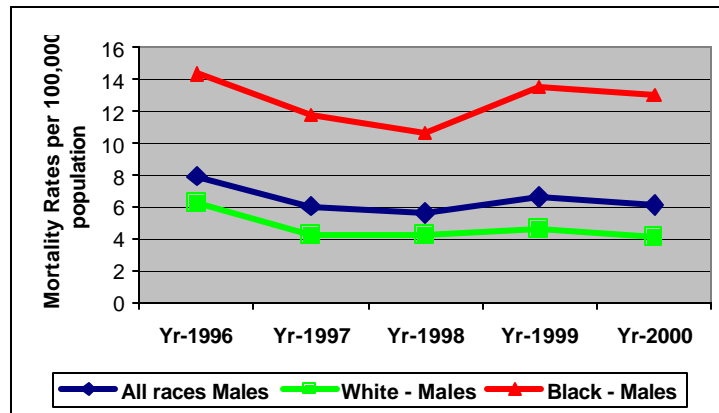
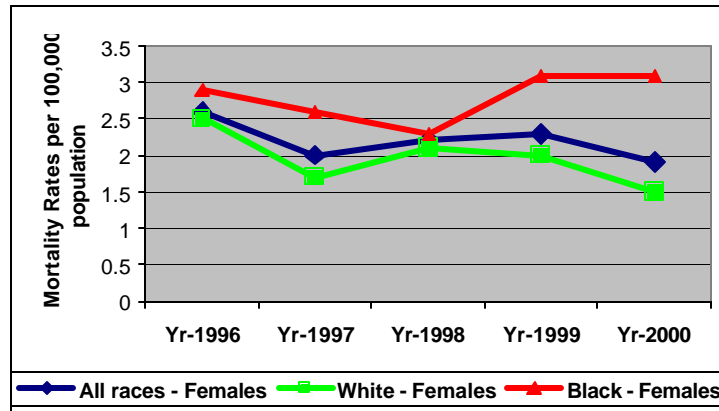


Figure 11: Oral/Pharyngeal age adjusted cancer mortality rates in females, 1996-2000



## Summary

In South Carolina Oral/Pharyngeal cancer is the ninth most common cause of cancer. The incidence in all races was 13.3 per 100,000. This rate is considerably higher in males (20.6 per 100,000) than in females (7.3 per 100,000) making it the sixth most common cancer in males. The black population especially males suffered disproportionately from Oral/Pharyngeal cancer with an incidence of 25.6 cases per 100,000. In comparison, white males have an incidence of 19 cases/100,000, although the prevalence of smoking, using smokeless tobacco, and heavy drinking is higher in white males than black males (3).

Males are more than three times more likely to die from oral/pharyngeal cancer as compared to females. Black population (both sexes) is at least twice more likely to die from oral cancer than white population with black males are more than three times more likely to die from oral cancer than white males, but mortality rates for black females are similar to white females.

Larger counties comprise the bulk of the total Oral/Pharyngeal cancer cases seen in the state. However, some of the smaller counties e.g. Allendale and Williamsburg have significantly high age adjusted incidence rates than the state average.

Most common site for the appearance of oral/pharyngeal cancer is the tongue followed by buccal cavity, floor of the mouth and the gum. Only a small percentage of the oral/pharyngeal cancers are detected in situ. Majority have either spread locally or regionally at the time of their detection.

