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# Disparities in Head and Neck Cancer

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# Project Team



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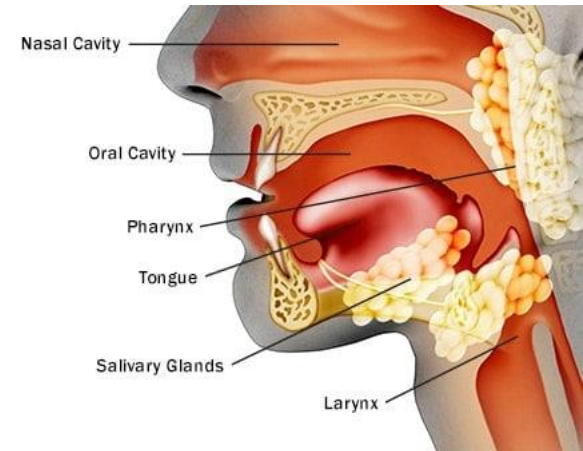


## Head and Neck Cancers (HNC)

- Oral cavity, pharynx, larynx, sinuses and nasal cavity, salivary gland
- Account for 4% of all cancers<sup>1</sup>
- Aggressive → spreads, 3-7% develop into secondary tumors<sup>2</sup>

## Common Causes

- Alcohol and Tobacco<sup>3</sup>
  - 85% tobacco
  - 75% combined



<sup>1</sup>Head and neck cancers. National Cancer Institute.

<sup>2</sup>Head and neck tumors. Cancer Network.

<sup>3</sup>Head and neck cancer potential causes & risk factors, 2021

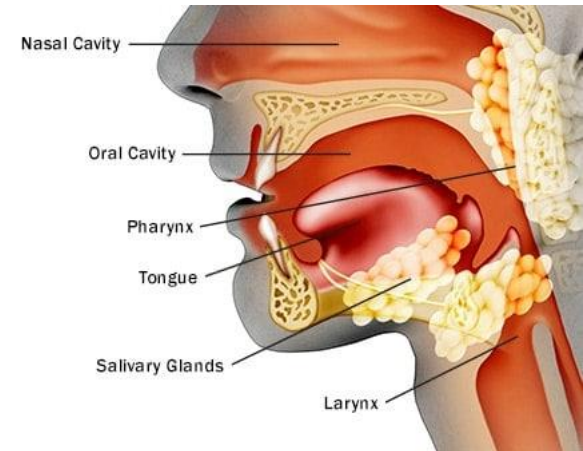


## Common Causes

- HPV Infection<sup>4</sup>
  - 12% of pharyngeal cancer
  - 3% of oral cancer
  - 30–60% of oropharyngeal carcinoma

## Treatment

- Surgery, radiation therapy, chemotherapy, and targeted therapy
- Earlier diagnosis has increased survival rate<sup>5</sup>
  - Stage 1: >80%
  - Stage 3/4: <40%



<sup>4</sup>Kobayashi et al., A Review of HPV-Related Head and Neck Cancer, 2018  
<sup>5</sup>Head and neck tumors. Cancer Network.



- Disparities are often caused by inequities
- Some patients with HNC have significantly lower survival rates than their counterparts
- HNC has higher survival rates if diagnosed early



# Aims



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1. To identify the disparities that exist within HNC and impact patient outcome
2. To identify the causes of such disparities in HNC that impact patient outcome
3. To identify at what point these causes are most relevant, from initial presentation to treatment





## Systematic Review

1. Question: What are the disparities that impact outcome of treatment in head and neck cancer patients?
2. Literature Review
  - PubMed – Medical Subject Headings (MeSH)
    - "head and neck neoplasms", "head and neck cancer", "disparities"
    - 483 results
3. Table of Evidence
  - 44 sources



Citation	Year	Background	Methods
Daraei P, Moore CE. Racial Disparity Among the Head and Neck Cancer Population. J Cancer Educ. 2015 Sep;30(3):546-51. doi: 10.1007/s13187-014-0753-4. PMID: 25398667.	2015	Head and neck cancer is the ninth most common cancer in the USA, accounting for 3.3 % of all cancers. The incidence of head and neck cancer has plateaued recently; however, morbidity and mortality continue to remain high. Moreover, racial disparity between African-American and White patients has been studied in the head and neck community, and a vast difference still remains in mortality rate and late stage at presentation.	A review of the English literature was performed using PubMed/MEDLINE for demographics, epidemiology, and studies that focused on the disparity in head and neck cancer between African-American and White patients.

Results	Conclusions
Age-adjusted incidence of head and neck cancer is increased in African-Americans, while the 5-year survival is decreased compared to Whites. African-American patients present with more advanced disease. When receiving similar multidisciplinary care, the overall survival was not significantly different, but racial disparity often persists in treatment regimens. Socioeconomic determinants such as insurance status play a critical role in racial disparity, along with low levels of public awareness, a lack of knowledge of specific risk factors, and a sense of mistrust that is seen in the African-American population.	Disparity in the head and neck cancer community is worrisome, and although efforts have been taken to decrease the disparity, a significant difference exists. Fortunately, the disparity is reversible and can be eliminated. To do so, it is critical to extend to underserved community programs that provide appropriate screening and diagnosis, with subsequent follow-up and treatment following the standards of care.





Identifying **common themes** in literature that was collected and added to the table of evidence



## Racial disparities

- Black patients have higher mortality rate<sup>6</sup>
- African Americans have increased age-adjusted incidence and decreased 5-year survival<sup>7</sup>
- Black and Hispanic patients more likely to present at a later stage<sup>8</sup>

## Gender disparities

- Females have poorer overall survival<sup>9</sup>
- Females less likely to receive chemotherapy<sup>10</sup>
- Black females had worse survival than any other race and gender group<sup>11</sup>

<sup>6</sup>Gaubatz et al., Racial and socioeconomic disparities, 2019

<sup>7</sup>Daraei and Moore, Racial Disparity Among the Head and Neck Cancer Population, 2015

<sup>8</sup>Yu et al., Association of Race/Ethnicity, Stage, and Survival in Oral Cavity Squamous Cell Carcinoma, 2019

<sup>9</sup>Mundi et al., Sex disparities in head & neck cancer driver genes, 2020

<sup>10</sup>Benchetrit, et al., Gender disparities in head and neck cancer chemotherapy clinical trials participation and treatment, 2019

<sup>11</sup>Mazul et al., Gender and race interact to influence survival disparities in head and neck cancer, 2021



## Geographical disparities

- Black patients living in rural areas have worse outcomes than Black patients in urban areas, same with white patients<sup>12</sup>
- Those from rural areas were diagnosed at a later age<sup>13</sup>

<sup>12</sup>Clarke et al., Head and Neck Cancer Survival Disparities by Race and Rural–Urban Context., 2020

<sup>13</sup>Mukherjee et al., Geographical and Racial Disparities in Head and Neck Cancer Diagnosis in South-Eastern United States, 2020



## Future Research

- Qualitative study exploring perspectives of diverse head and neck cancer individuals
  - Better understanding of their experience, as well as providers

## Next Steps

- Develop manuscript
- Submit manuscript for publication



## My Role

- Assisted in literature review and table of evidence
- Filtered through table of evidence to identify common themes
- Co-author of manuscript





## Lessons Learned

- Learning more about head and neck cancer
- Personal interest in health disparities
- Development of research skills
- Importance of utilizing others and asking for help
- Importance of networking

# Acknowledgments



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**Questions?**