

# Factors impacting rural access for head and neck cancer during COVID-19

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## Introduction

### Background

- Access to specialty-level care is challenging in rural health systems and compounded by the COVID-19 pandemic.

### Head and neck cancer care considerations

- Access to care: impacts stage at diagnosis(1,2)
- Stage at diagnosis: strongest predictor of mortality(3)
- Delayed referral:
  - Three-fold increased risk of mortality(4)
- Delayed treatment initiation:
  - Increased risk of recurrence(5)
  - Decreased overall survival(5)

### Potential impact of COVID-19 pandemic

- Reduced outpatient clinical capacity
- Delay in presentation, reluctance to seek care due to risk of COVID-19 exposure
- Implementation of telemedicine

### Primary objective:

- Analyze factors that influence access to care and examine potential group differences between those diagnosed and undiagnosed.

## Methods and materials

**Design/Setting:** Retrospective review of head and neck cancer tumor board data at a rural tertiary care center

### Inclusion criteria:

- New primary head and neck cancer cases
- Date range: 1/1/20 to 12/31/2022

### Exclusion criteria:

- Primary thyroid malignancy, lymphoma
- Absent/incomplete data

### Primary outcome:

- Time from referral to tumor board presentation and treatment start date

### Statistical Analysis

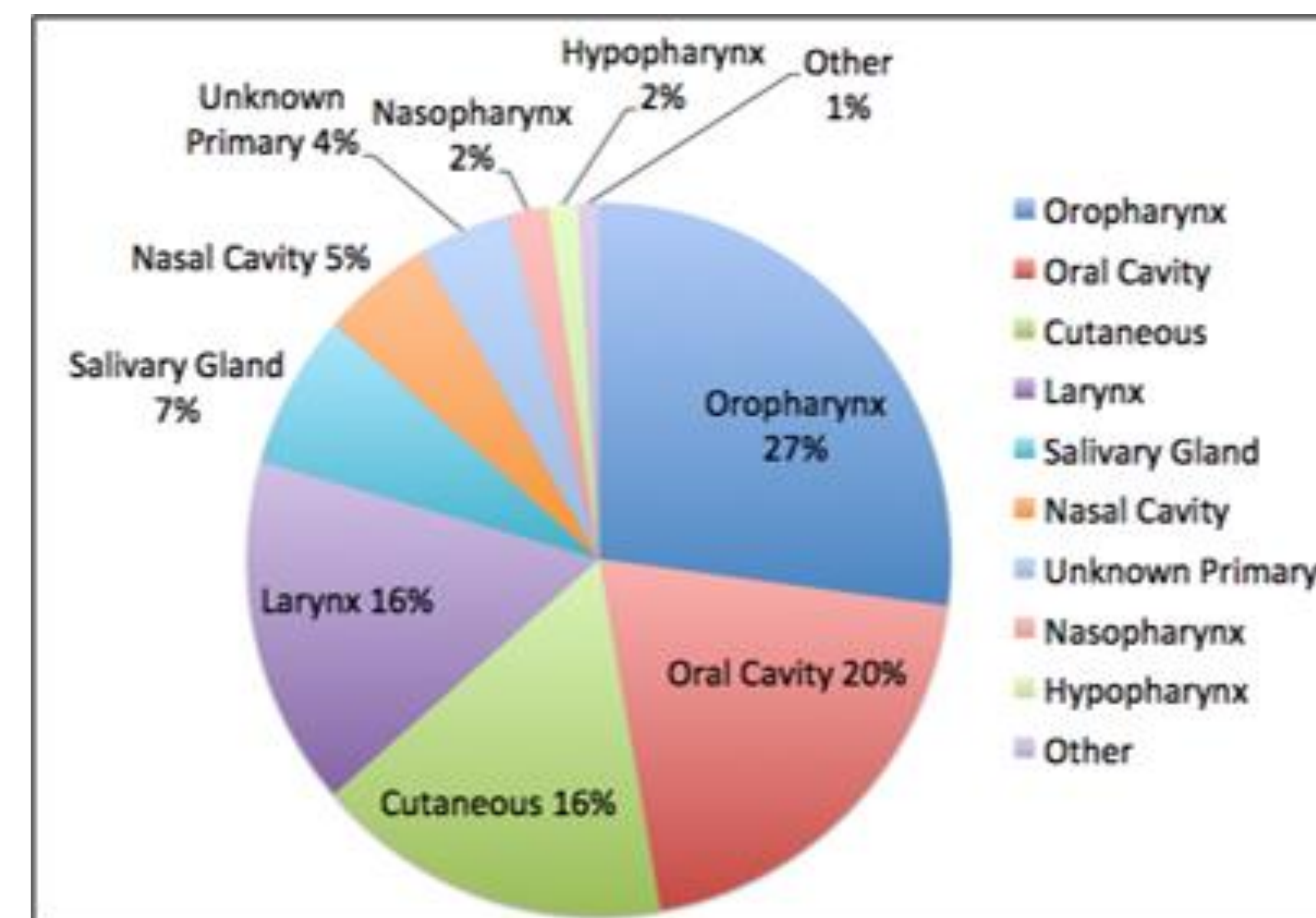
- Descriptive statistics

## Results

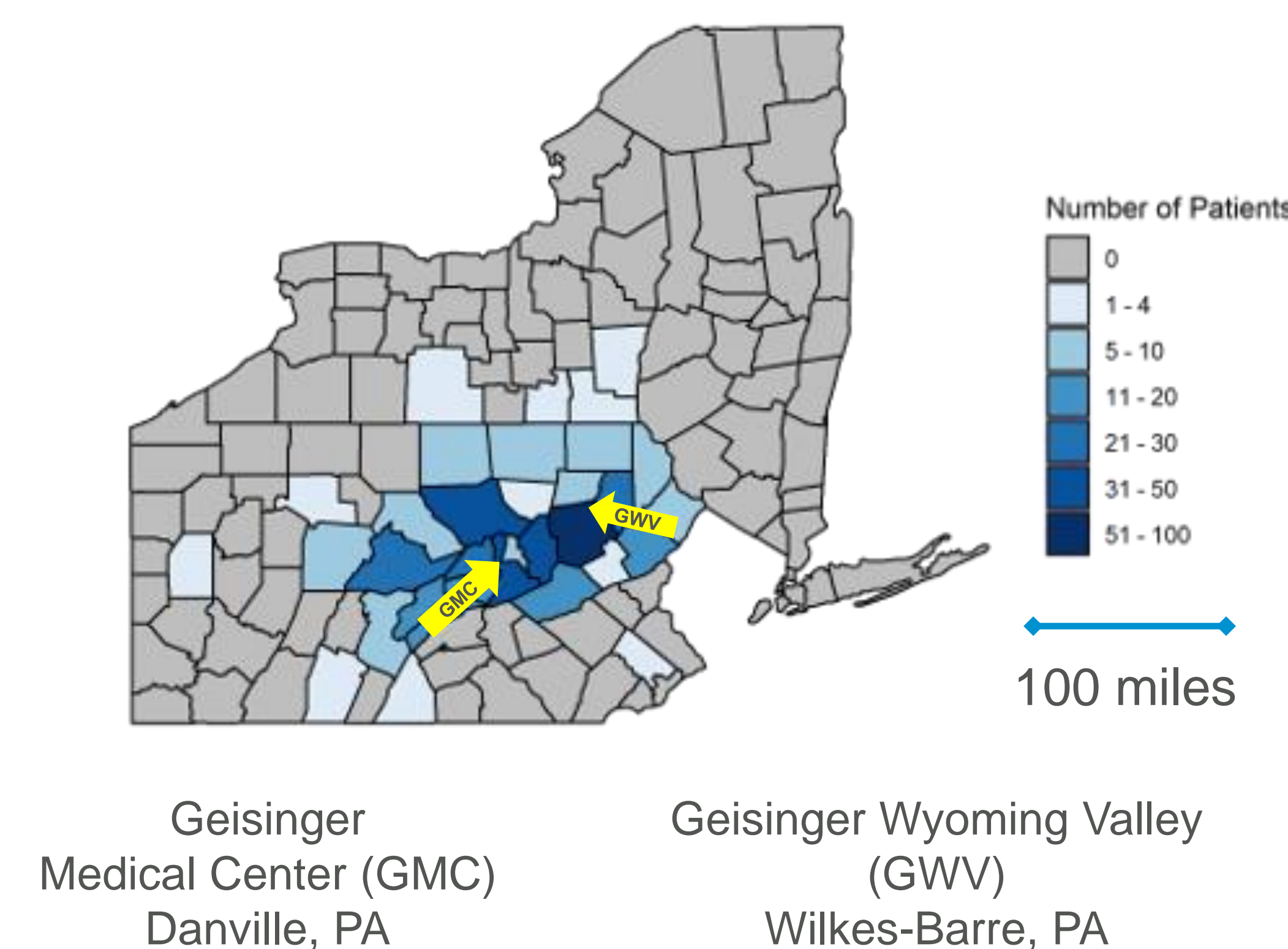
**Table 1. Characteristics of Cohort**

<b>Total cohort, N (%)</b>	651 (100%)
Mean age in years (SD)	65.7 (13.25)
<b>Demographics</b>	<b>N (%)</b>
Gender	
Female	156 (24.0%)
Male	495 (76.0%)
Smoking history	449 (69.0%)
Smokeless tobacco history	69 (10.7%)
Alcohol history	291 (44.7%)
<b>Status of diagnosis at referral</b>	<b>N (%)</b>
Diagnosed	254 (39.1%)
Undiagnosed	397 (60.9%)
<b>Distance from provider</b>	<b>Miles</b>
Mean (SD)	44.3 (32.55)
Median (IQR)	41.6 (14.2, 63.9)
<b>Stage of disease</b>	<b>N (%)</b>
Early Stage (I/II)	189 (37.7%)
Stage I	121 (24.2%)
Stage II	68 (13.6%)
Advanced Stage (III/IV)	312 (62.3%)
Stage III	119 (23.8%)
Stage IV	193 (38.5%)

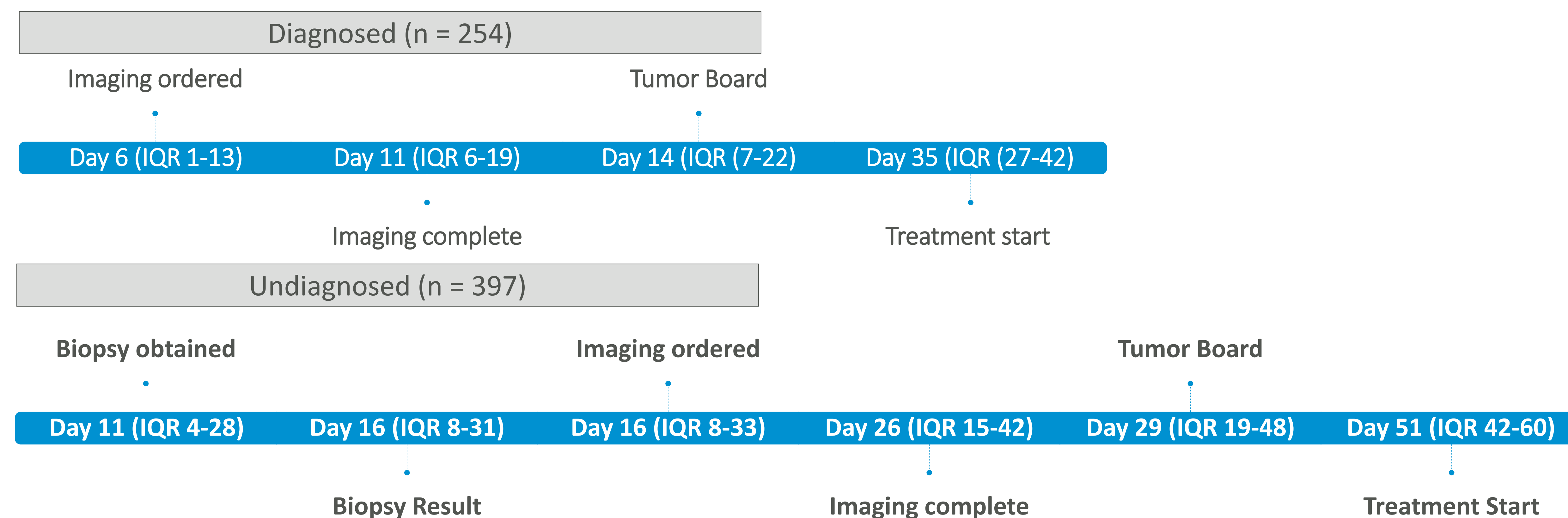
**Figure 1. Primary site distribution**



**Figure 2. Patient distribution by county**



**Figure 3. Timeline of care by status of diagnosis at time of referral, median (IQR)**



## Discussion

- Access to care has been associated with factors that impact prognosis and outcomes for head and neck cancer

- External (rural geography, COVID-19) and internal aspects pose potential barriers to access

- This study investigated access to care for patients with head and neck cancer in a rural healthcare system serving over 3 million people, and found that distance to provider did not significantly impact access to care

- Time to tumor board was significantly increased if undiagnosed at time of referral; however, time to establish diagnoses prior to referral is unknown

- Those with advanced stage disease had shorter time to tumor board, suggesting access to care may be expedited in certain cases

- Timeline and critical time points were established based on status of diagnosis at referral, defining opportunities to optimize care

- Findings reported by this study may serve as standard for comparison and be utilized to prospectively advance patient care.

## References

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