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Factors impacting rural access to head and neck cancer care 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:

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

METHODS & 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 12/31/21

Exclusion criteria:

- Primary thyroid malignancy, lymphoma
- Absent/incomplete data

Primary outcome:

- Time from referral to tumor board presentation

Statistical Analysis

- Descriptive statistics
- Kruskal-Wallis test: differences across patient groups
- Pearson correlation: influence of distance on access to care

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RESULTS

Table 1. Characteristics of Cohort

Total cohort, N (%)	429 (100%)
Mean age in years (SD)	65.6 (12.5)
Demographics	N (%)
Gender	
Female	98 (22.8%)
Male	331 (77.2%)
Smoking history	290 (67.6%)
Smokeless tobacco history	35 (8.2%)
Alcohol history	219
Status of diagnosis at referral	N (%)
Diagnosed	162
Undiagnosed	267
Distance from provider	Miles
Mean (SD)	44.3 (32.55)
Median (IQR)	41.6 (14.2, 63.9)
Stage of disease	N (%)
Early Stage (I/II)	125 (36.1%)
Stage I	83 (%)
Stage II	42 (%)
Advanced Stage (III/IV)	221 (63.9%)
Stage III	86 (%)
Stage IV	135(%)

Figure 1. Patient distribution by county

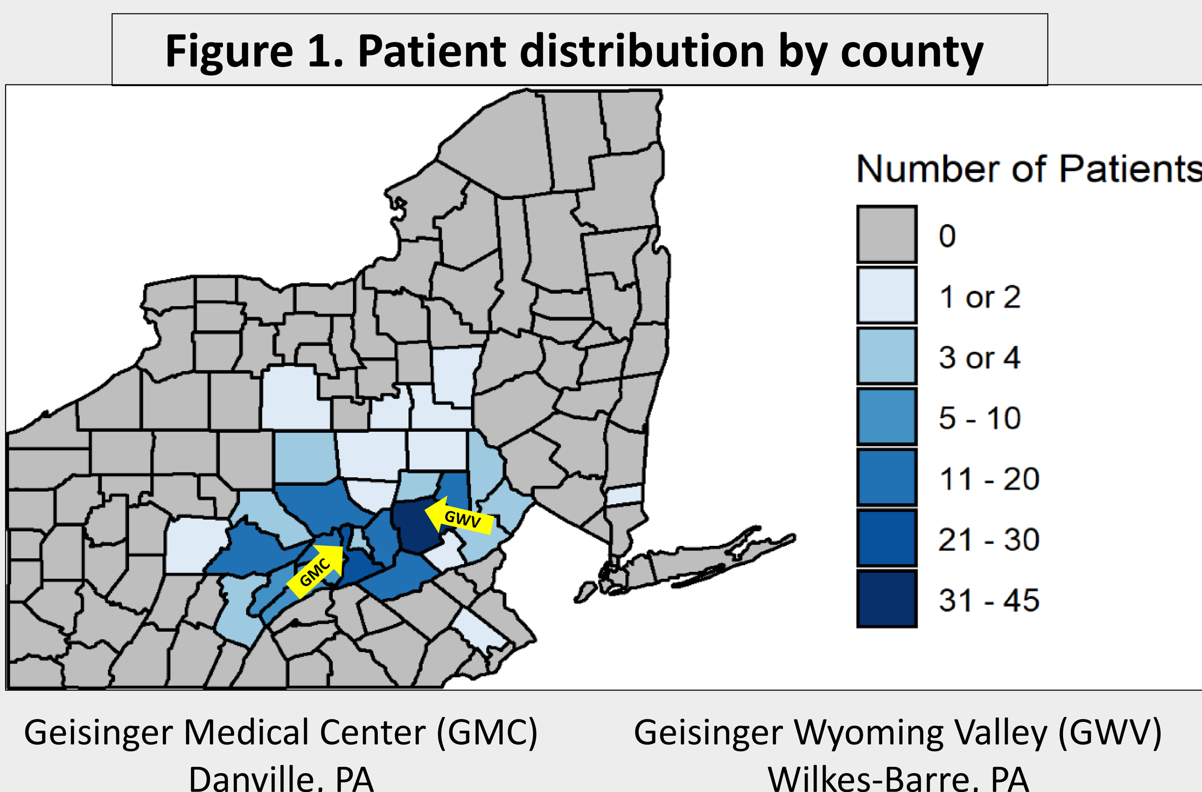

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Figure 2 Primary site distribution

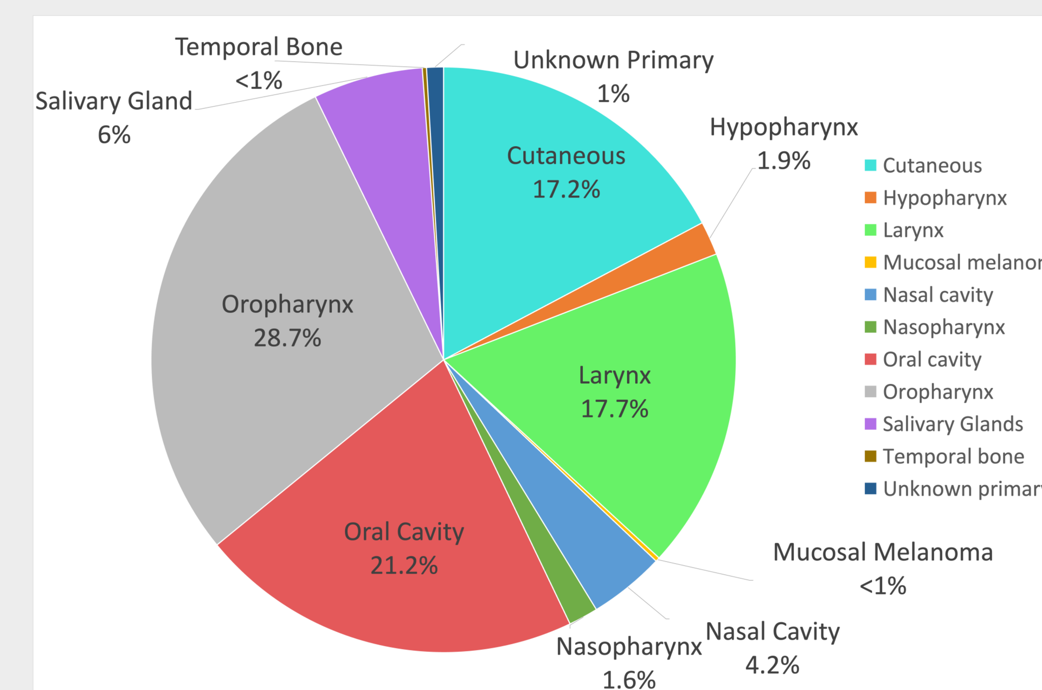


Figure 3. Impact of distance on access to care

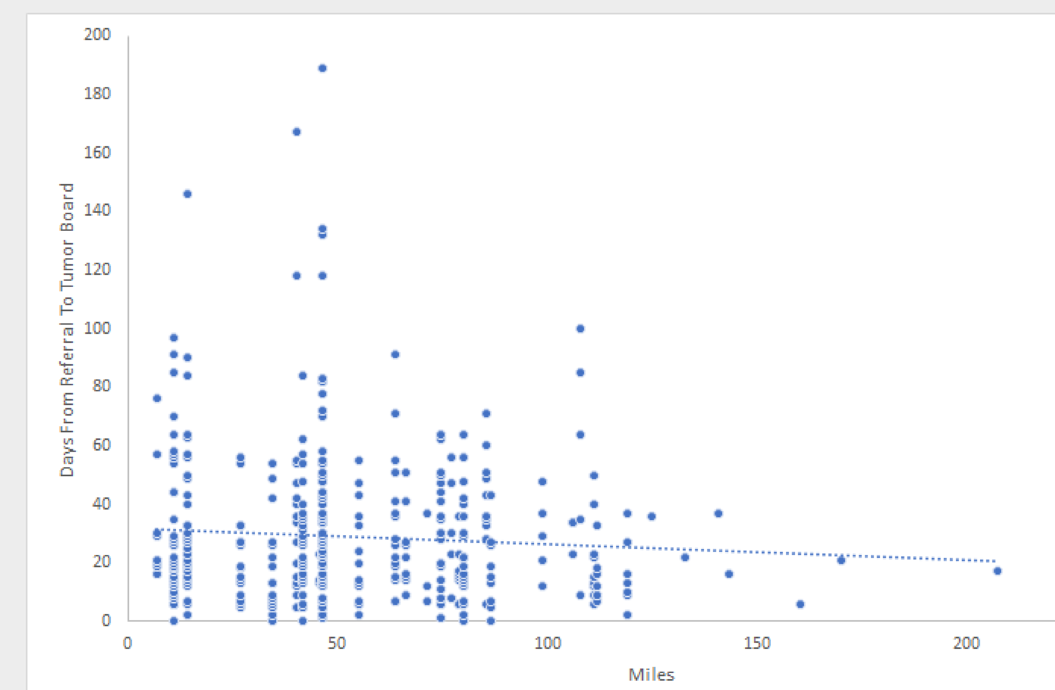
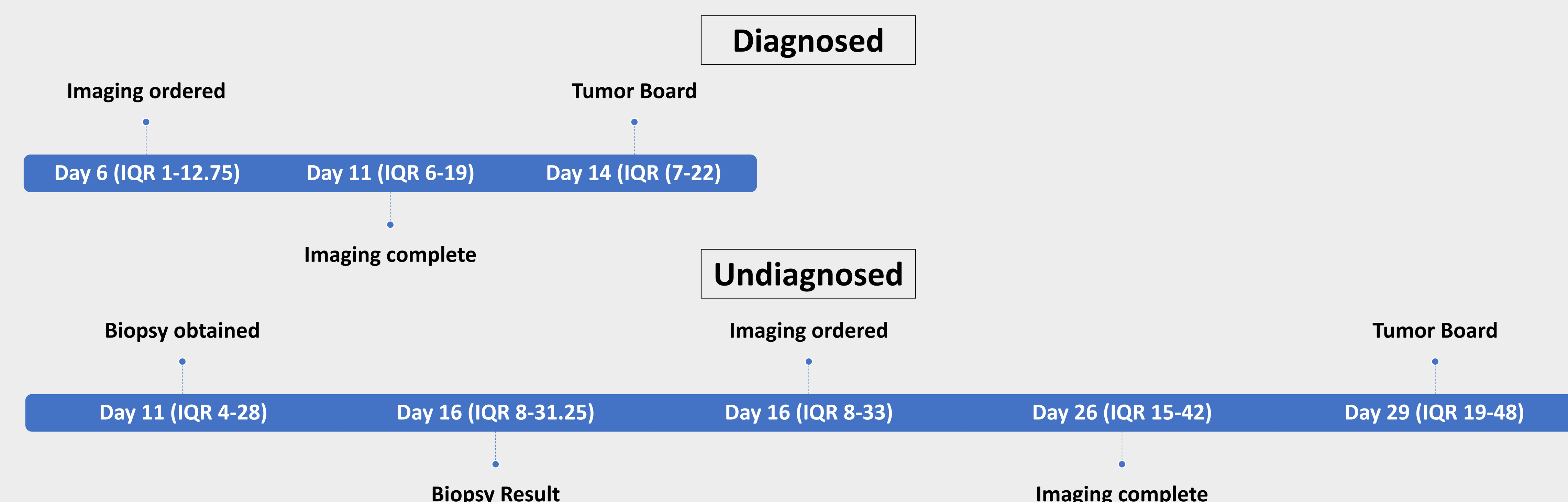


Figure 4. Timeline of care by status of diagnosis at time of referral, median (IQR)



DISCUSSION/CONCLUSIONS

- 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

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