



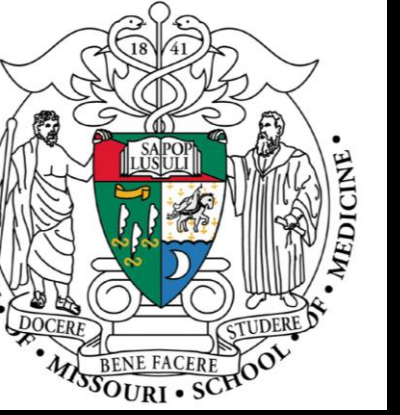
Impact of Demographics of Head and Neck Cancer Patients in Mid-Missouri on Staging at Diagnosis

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INTRODUCTION

- The **social determinates of health (SDOH)** are the social, economic, and physical conditions that impact quality-of-life and health outcomes¹.



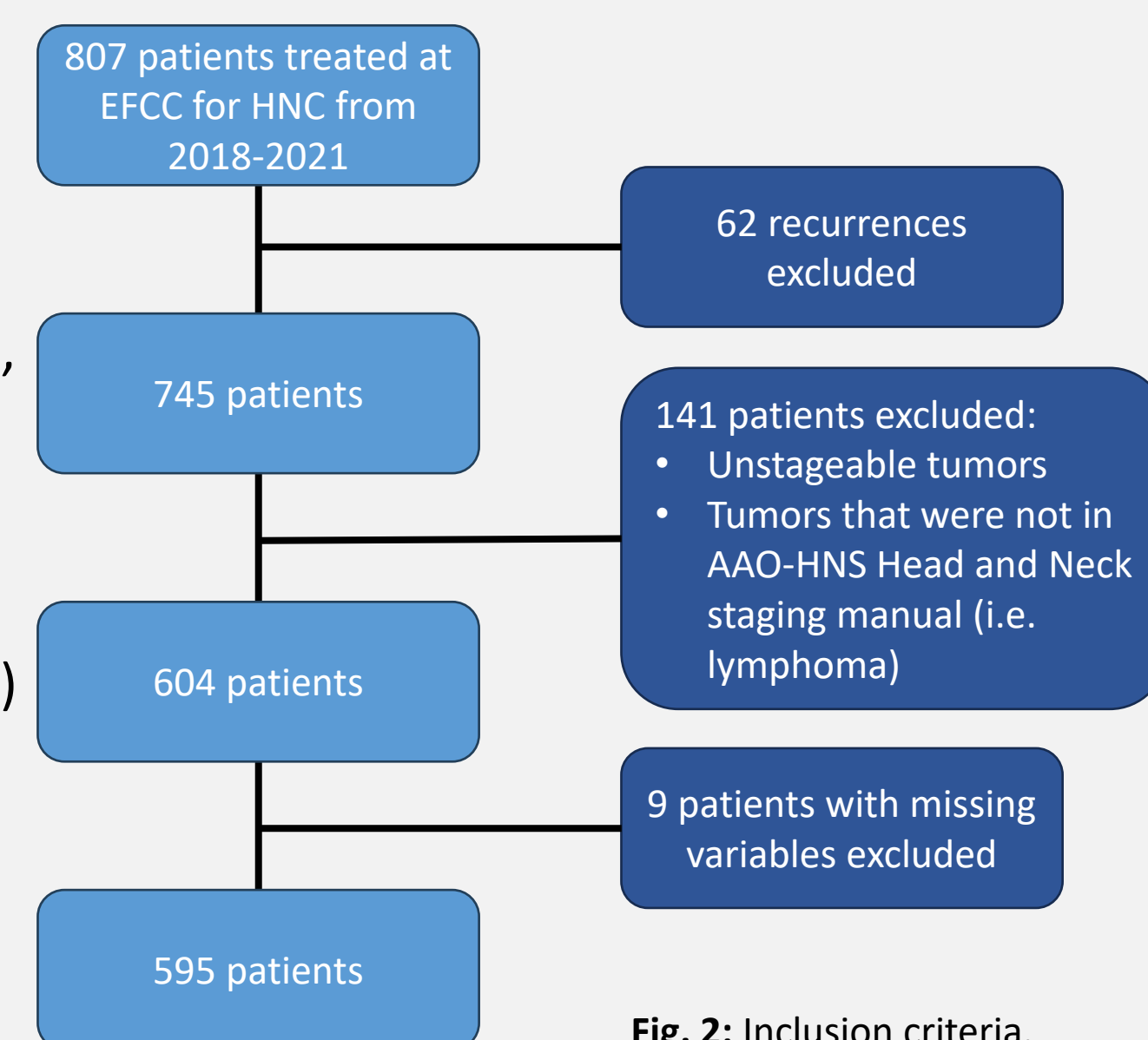
- Multiple studies have demonstrated that **disparities in individual factors** such as SES, lifestyle habits, and race/ethnicity are **associated with poorer outcomes and increased risk of chronic diseases**²
- The impact of SDOH on head and neck cancer patients is understudied
- The University of Missouri-Columbia healthcare system is the only academic center in central Missouri that provides care to patients all over the state.
- Many patients in central Missouri hail from rural backgrounds which may impact access to healthcare³
- Identification of disparities in SDOH is important to **improve personalized care, advances in research, and intervention targets** for head and neck cancer patients.

Objectives

- Identify the proportion of patients traveling from far distances
- Investigate the relationship between sex and distance traveled on stage at presentation at our institution

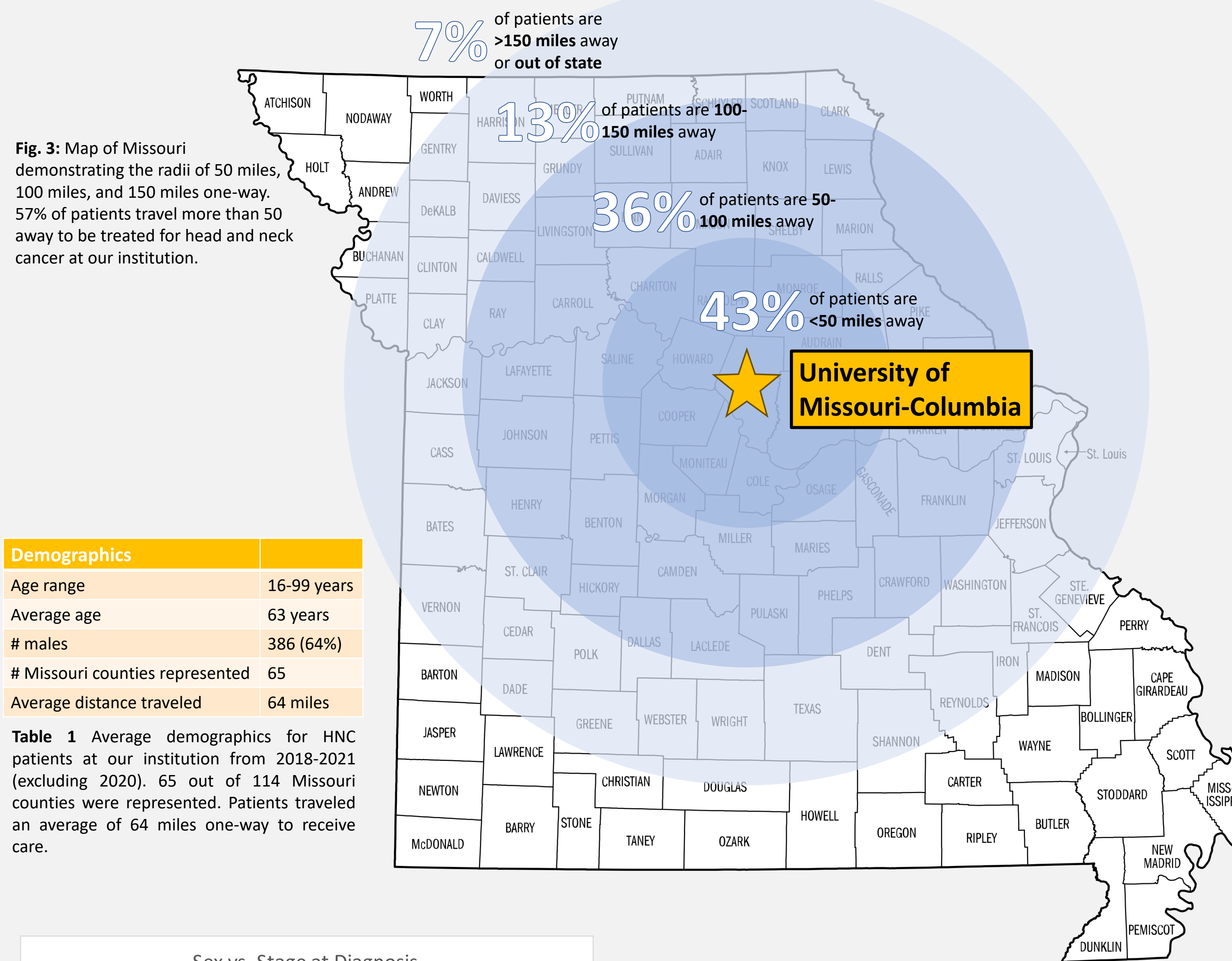
METHODS

- Age, sex, county of residence, distance to travel Ellis Fischel Cancer Center (EFCC) [based on fastest one-way route via Google Maps], TNM stage, and overall staging were identified.
- Patient distance groups:
 - 0 miles (Boone county)
 - ≤50 miles away
 - >50 and ≤100 miles
 - >100 and ≤150 miles
 - >150 miles or out of state



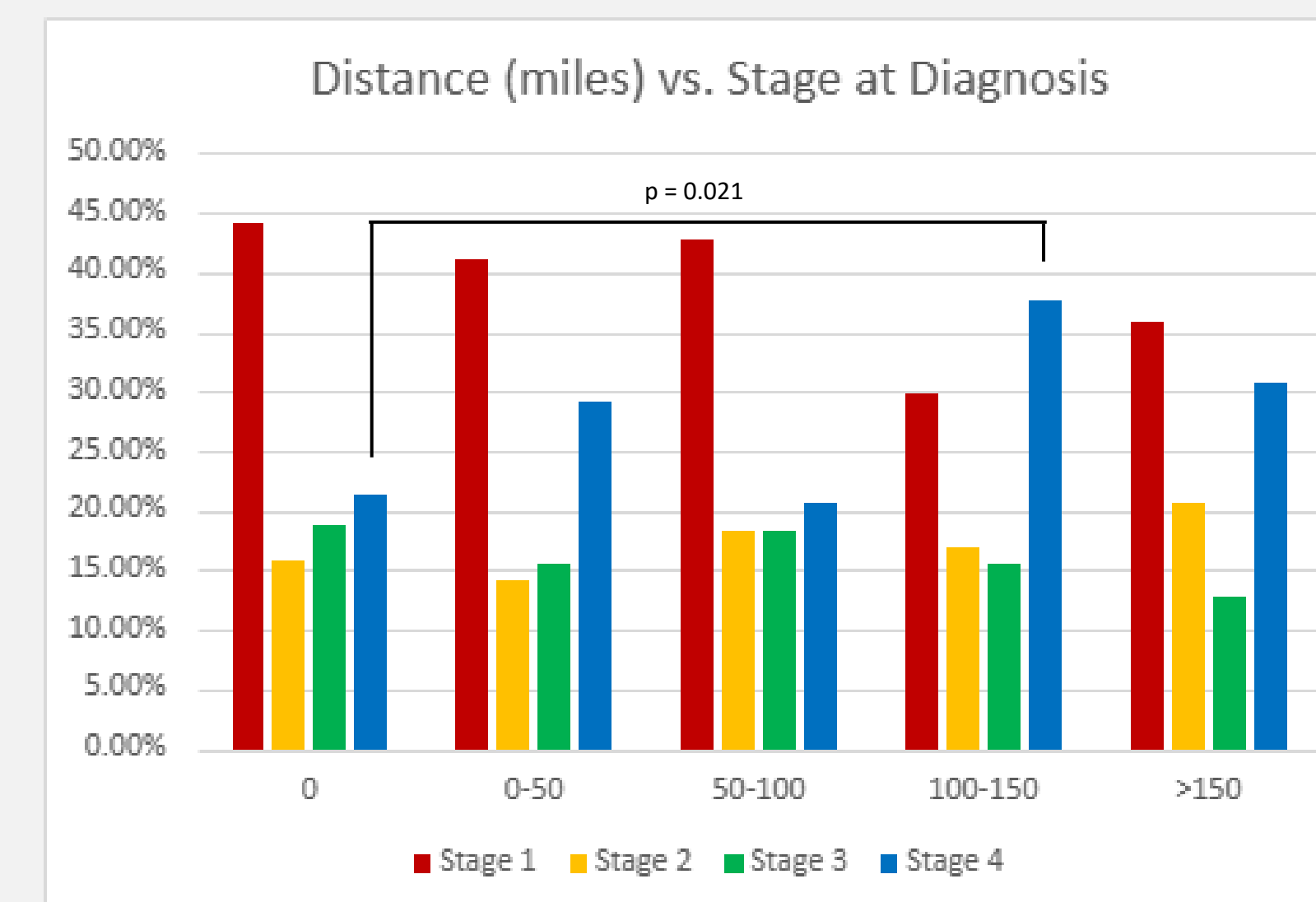
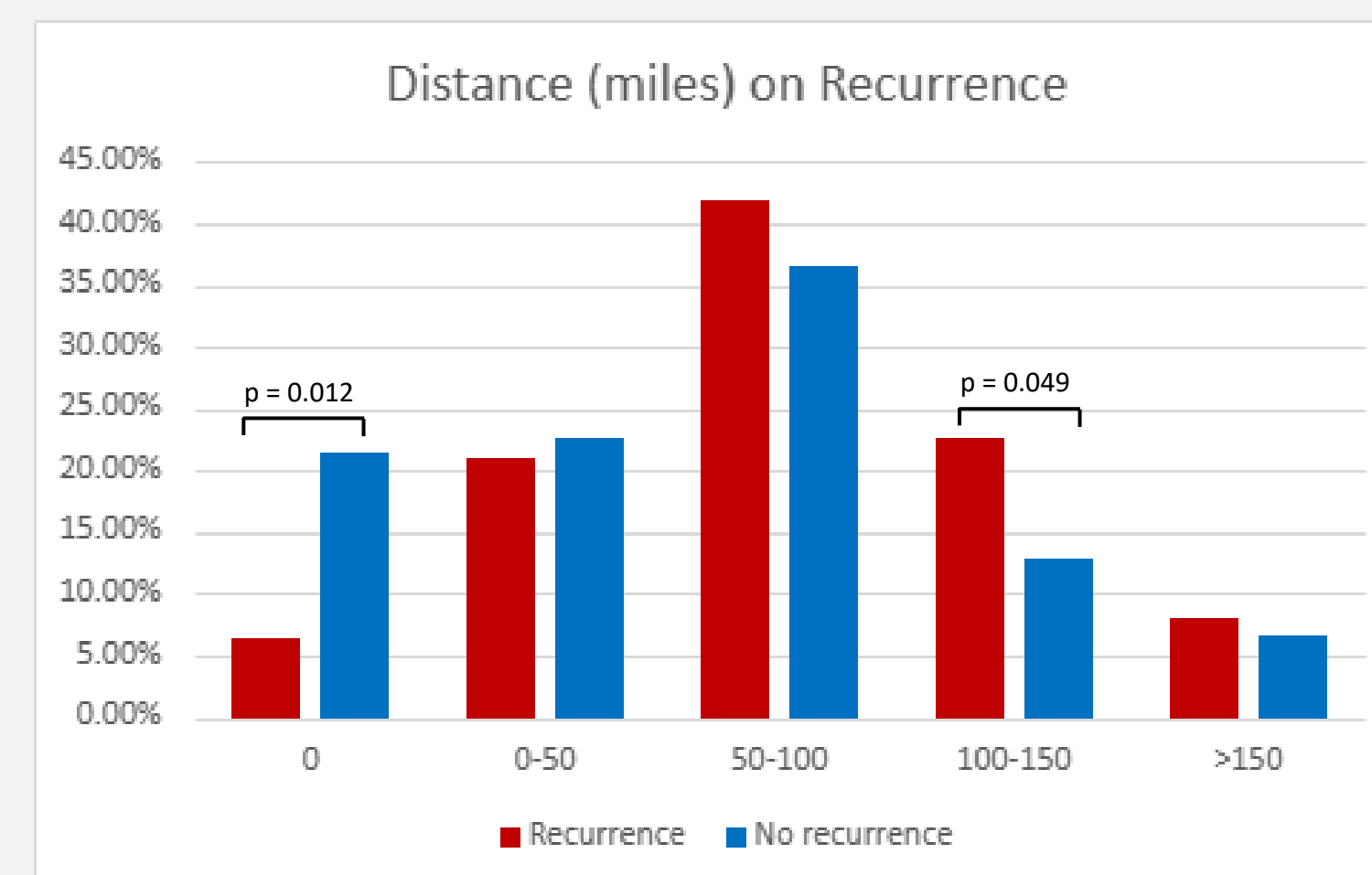
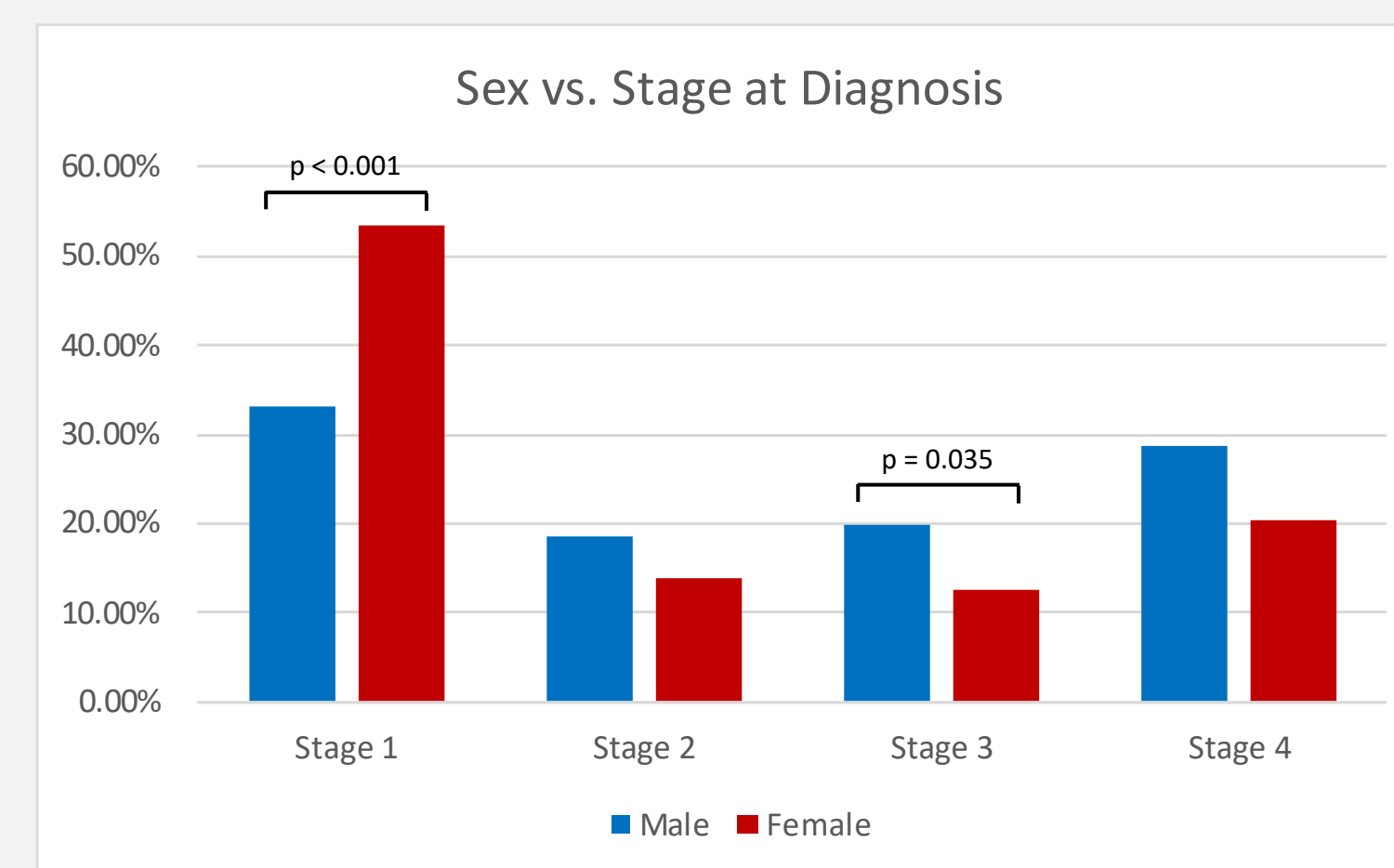
- Patients from the year 2020 were excluded due to pandemic
- Chi-square tests were performed to identify differences amongst cancer stage groups for distance, sex, and patients who had a recurrence.

RESULTS



Demographics	
Age range	16-99 years
Average age	63 years
# males	386 (64%)
# Missouri counties represented	65
Average distance traveled	64 miles

Table 1 Average demographics for HNC patients at our institution from 2018-2021 (excluding 2020). 65 out of 114 Missouri counties were represented. Patients traveled an average of 64 miles one-way to receive care.



- Females were significantly more likely than males to present at stage 1 ($p < 0.001$) and less likely than males to present at stage 3 ($p = 0.035$)
- Patients within Boone county were less likely to present with recurrences, and patients 100-150 miles were more likely to present with recurrences.
- Patients traveling 100-150 miles away had a higher proportion of stage 4 initial diagnoses than patients who reside in Boone County.

DISCUSSION

Distance

- There were no statistically significant correlations between distance traveled on stage at diagnosis, however a greater percentage of patients in the 100-150 distance category presented in stage 4 than stage 1 (37% vs. 21%).
- 13/39 (33%) of patients from >150 miles away were out of state, and may have been more likely to be referred from an outside hospital system.
- Patients traveled an average of 64 miles one-way to receive care at our institution.

Sex

- HNC is known to be more common in males due to increased rates of smoking and drinking⁴
- A greater proportion of males presented at later stages than females, and were significantly less likely to present at stage 1.

Recurrence

- Patients from Boone County had a smaller percentage recurrences compared to patients 100-150 miles away.

Limitations

- Did not specify outside hospital referral versus initial presentation
- Small sample for patients >150 miles away ($n = 39$)
- Retrospective study

FUTURE DIRECTIONS

- Investigation into other social determinates of health, including but not limited to: education level, socioeconomic status, insurance status, employment status, and rural status on its impacts on stage at diagnosis.
- Examine other outcomes, such as survival rate, treatments received, and adherence to treatment timeline
- Conduct a survey on newly diagnosed patients to identify specific factors causing delay to care

CONCLUSION

- When providing patient care, head and neck surgeons should be mindful of patients' backgrounds and possible barriers to care in order to personalize care and improve outcomes.

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