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## Introduction

- Osteocutaneous fibula free flaps (FFFs) are a fundamental component of head and neck reconstruction, particularly following traumatic injuries or oncologic resections.
- Socioeconomic factors contribute to disparities in HNC pathogenesis and post-reconstruction outcomes.
- Limited data on socioeconomic risk factors for complications after FFF reconstruction.

## Objective

- To investigate the influence of socioeconomic variables, focusing on median household income (MHI), on the incidence of postoperative complications in FFF reconstruction for HNC.

## Study Design Data Collection Statistical Analysis

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|--|---|--|
| <ul style="list-style-type: none"> <li>Single-center, retrospective cohort study</li> <li>2016-2022</li> <li>HNC patients with FFF reconstruction</li> </ul> | <ul style="list-style-type: none"> <li>Demographics</li> <li>MHI</li> <li>Neoadjuvant radiation</li> <li>TNM staging</li> <li>Comorbidities</li> <li>30-, 90-, 180-day postoperative complications</li> </ul> | <ul style="list-style-type: none"> <li><math>\chi^2</math> tests and Fisher's exact and Wilcoxon rank sum tests</li> <li>Multivariate logistic regression (controlling for comorbidities)</li> </ul> |
|--|---|--|

## Primary Outcomes

## Independent Variables

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Incidence of 30-, 90-, and 180-day postoperative complications</li> <li>Readmission</li> <li>Unplanned reoperation</li> <li>Flap takeback</li> </ul> | <ul style="list-style-type: none"> <li>Race/Ethnicity</li> <li>Median household income (MHI)</li> <li>Neoadjuvant/adjvant radiation</li> <li>Patient comorbidities</li> <li>TNM Clinical Stage</li> </ul> |
|---|---|

## Results

- Sex**
  - Male: **54 (62.0%)**
  - Female: **33 (37.9%)**
- Mean (SD) age:** 56.1(17) years
- Race**
  - 81.4% Non-Hispanic White
  - 12.7% Non-Hispanic Black
  - 3.5% Asian
  - 2.3% Hispanic/Latinx
- MHI**
  - \$71,000** (IQR: \$56,000-\$96,000)

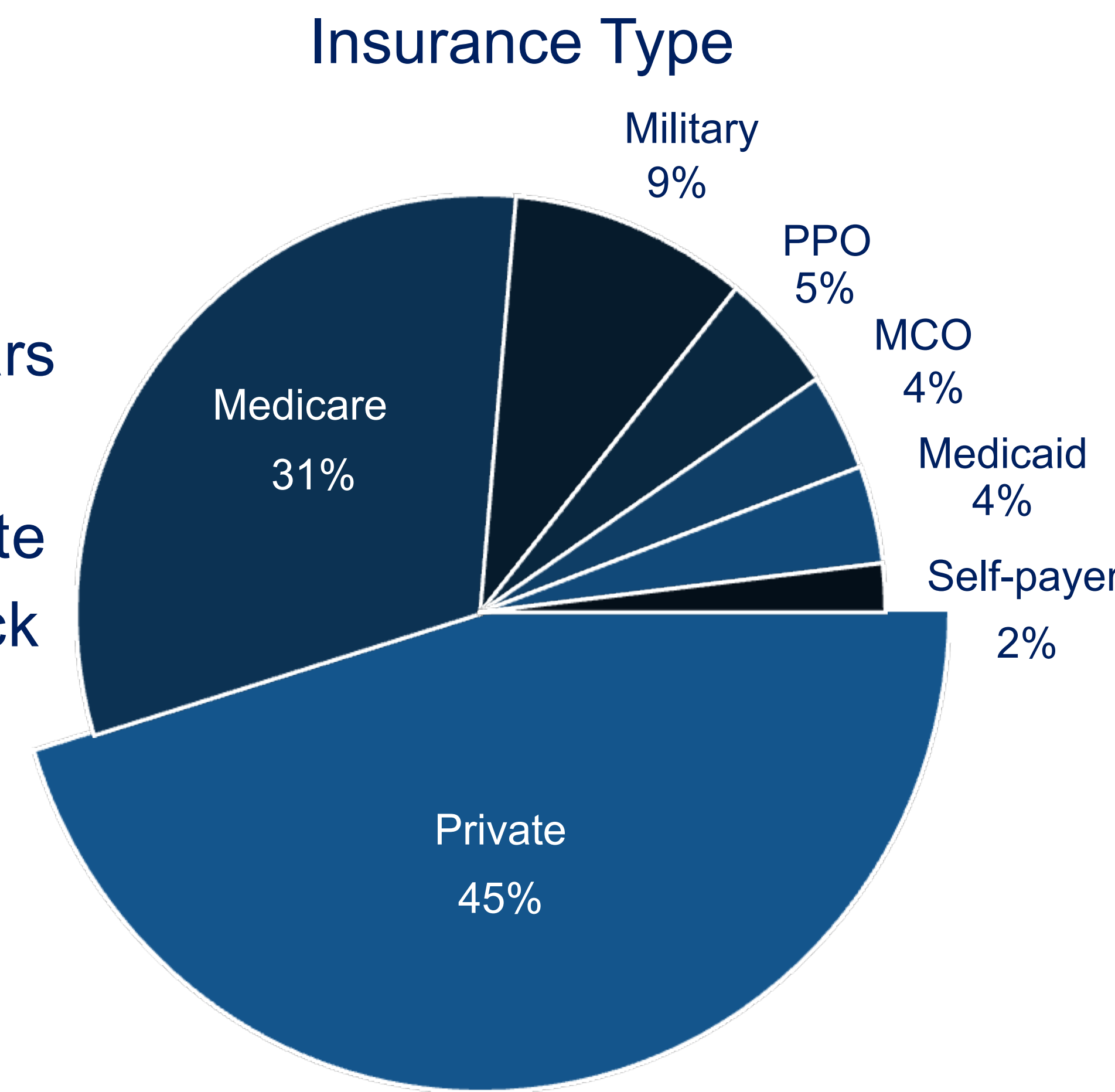


Figure 1. Patient Demographics.

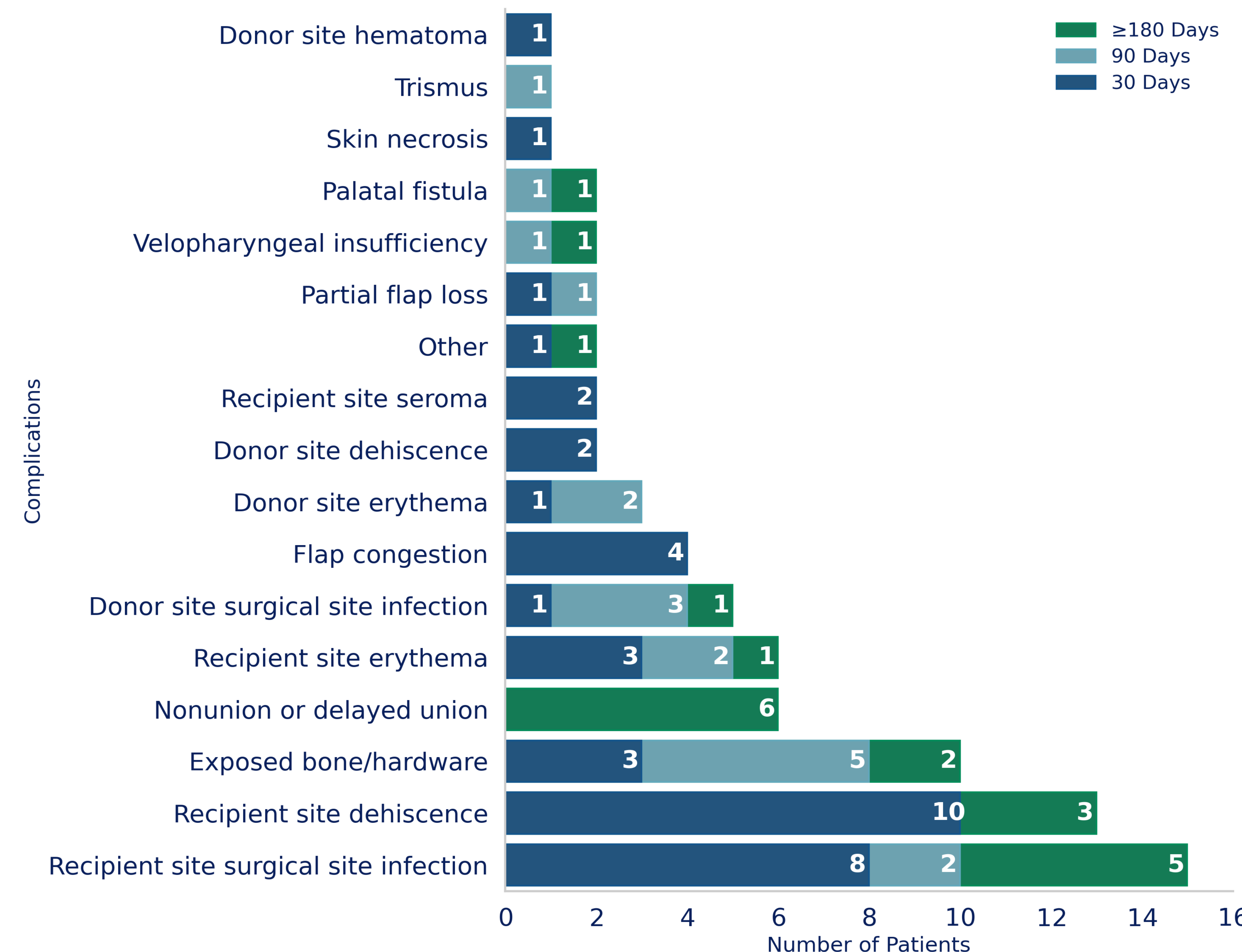


Figure 2. Incidence of surgical complications and number of patients by postoperative periods.

Table 1. Tumor Stage Distribution Across MHI Categories

MHI Category	Early	Intermediate	Late	Unreported
<\$55,000	1 (1.4)	3 (4.3)	6 (8.6)	3 (4.3)
\$55,000-\$100,000	4 (5.7)	11 (15.7)	24 (34.3)	8 (11.4)
\$100,000-\$150,000	-	1 (1.4)	5 (7.1)	2 (2.9)
>\$150,000	-	1 (1.4)	1 (1.4)	-

Stages categorized as early (I-II), intermediate (III), and late (IVA-IVB). Percentages based on the total number of patients with HNC (N = 70). Frequency data are shown in n (%).

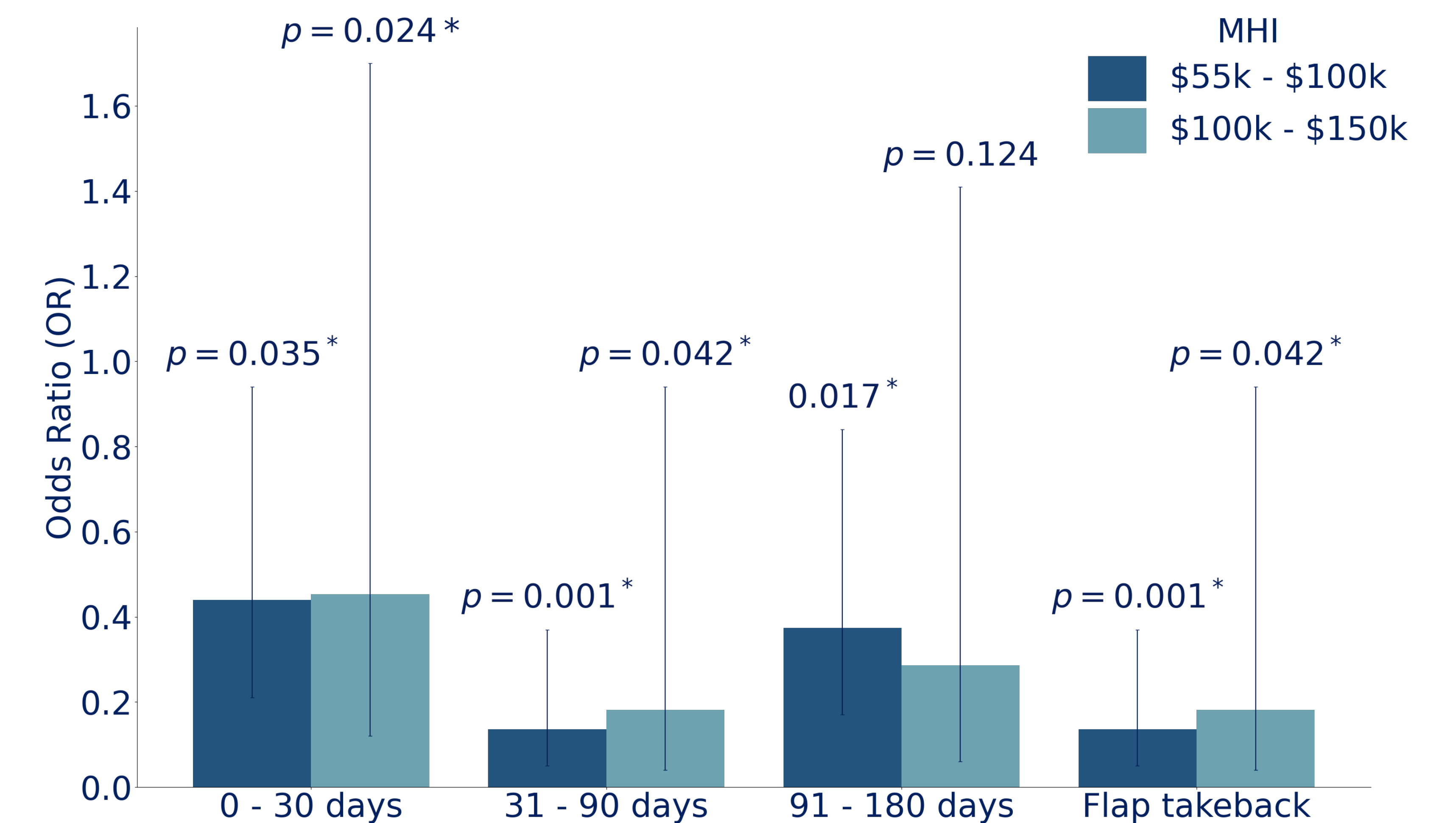


Figure 3. Effect of MHI on Postoperative Outcomes With Logistic Regression Analysis Controlling for Comorbidities. Reference category: income < \$55,000

## Conclusion

- Patients in the **lower MHI bracket (<\$55,000)** faced significantly **higher odds** of wound dehiscence and SSIs, as well as a greater likelihood of requiring flap takeback.
- MHI** is a significant determinant and potentially a **more influential factor than neoadjuvant radiation** in predicting postoperative complications following FFF reconstruction.