4-2022

Assessing and Addressing Barriers to Fertility Preservation in Pediatric and Adolescent Patients at Risk for Infertility

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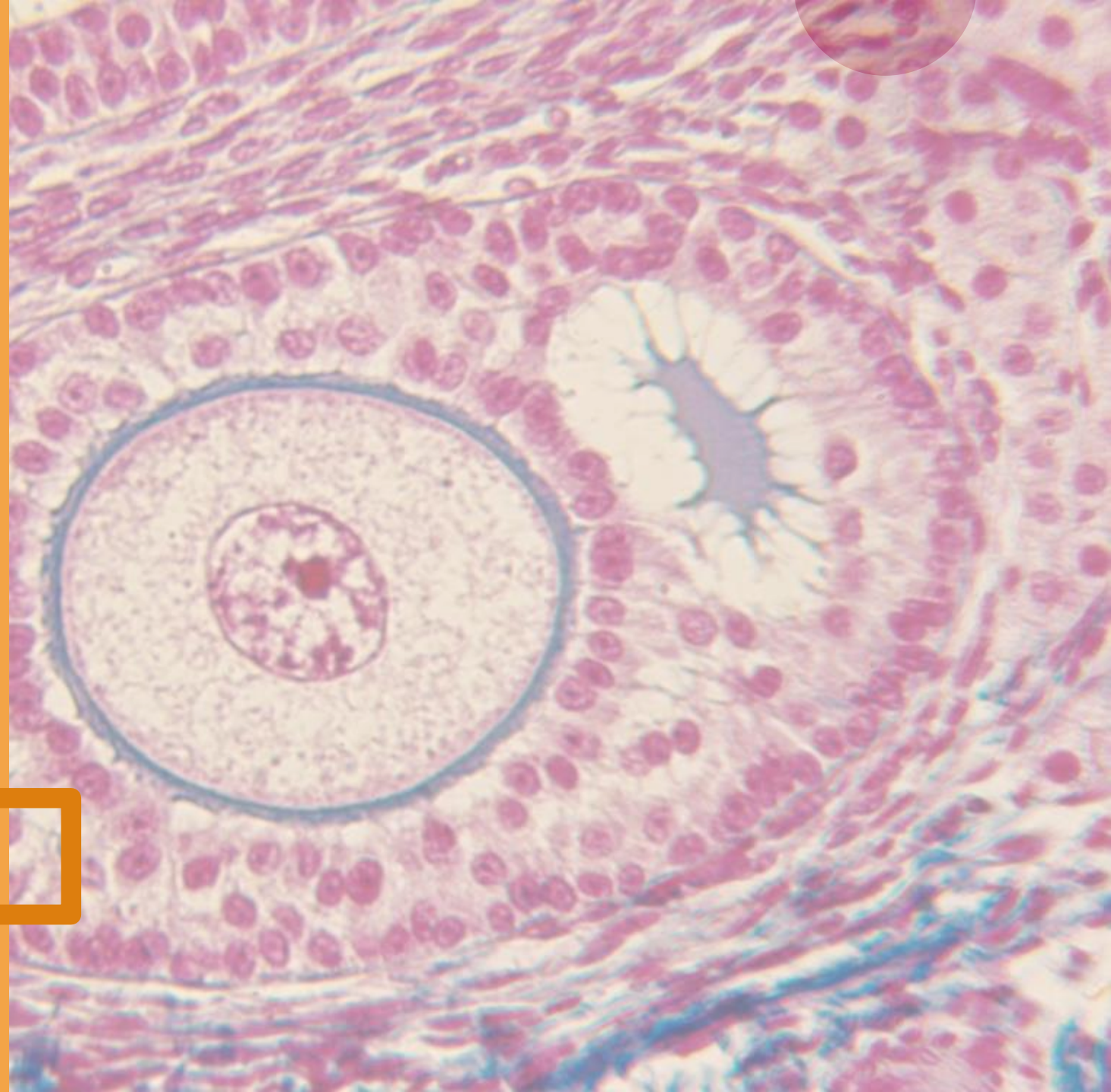

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April 2022

DISCLOSURES

I have NO financial disclosure or conflicts of interest with the material in this presentation.

ABBREVIATIONS

FP = Fertility preservation

CMH = Children's Mercy Hospital

OR = Oocyte retrieval

OTC = Ovarian tissue cryopreservation

SMD = Standardized mean difference

BACKGROUND

Fertility consultation is a recognized standard and should be offered to pediatric patients with fertility threatening diagnoses

- Key survivorship issue [1] *ASCO and ASRM
- Key measure of quality-of-care [1] *ASCO and ASRM
- Expeditious referral to fertility specialist is recommended
- Known communication and financial barriers

Majority of prior fertility preservation studies performed in oncologic patients

- Improved treatments increasing survivorship rate [1]
- Many therapies harmful to ovaries/fertility
- Efforts should be made to incorporate fertility preservation discussions into routine cancer care for all adolescents [4]

*ASCO - American Society of Clinical Oncology
*ASRM - American Society of Reproductive Medicine

BACKGROUND (CONTINUED)

Studies have shown early referral has benefits

- No significant delay in cancer treatment when pursuing fertility preservation options [1]
- Time investment required for oocyte retrieval and ovarian tissue cryopreservation does not significantly prolong the time interval from diagnosis to start of adjuvant chemotherapy [2]

When fertility preservation is carried out for non-oncological indications, oocyte cryopreservation by vitrification is clearly the highest-yield clinical strategy [3]

HYPOTHESIS #1

Patients who did proceed with the recommended fertility preservation procedure differ from those who did not proceed with the recommended procedure.

HYPOTHESIS #2

There are modifiable barriers contributing to the underutilization of fertility preservation procedures.

OBJECTIVES

Primary objective: How do patients who proceeded with fertility preservation differ from those who did not proceed with the recommended procedure?

Secondary objective: Assessment of barriers that may contribute to underutilization of fertility preservation procedures.

STUDY METHODS

- Single-site
- Retrospective chart review
- 2016-present
- Females aged 0-21
- Fertility consultation database
- Patient factors
- Non-patient factors

STATISTICAL METHODS

- Wilcoxon-rank sum test – continuous variables
- Fisher's exact test – categorical variables
- Cohen's D / Effect size SMD (standardized mean difference) calculations

RESULTS

104 Total Patients

Underwent recommended procedure	Did not undergo recommended procedure
34% N=35	66% N=69

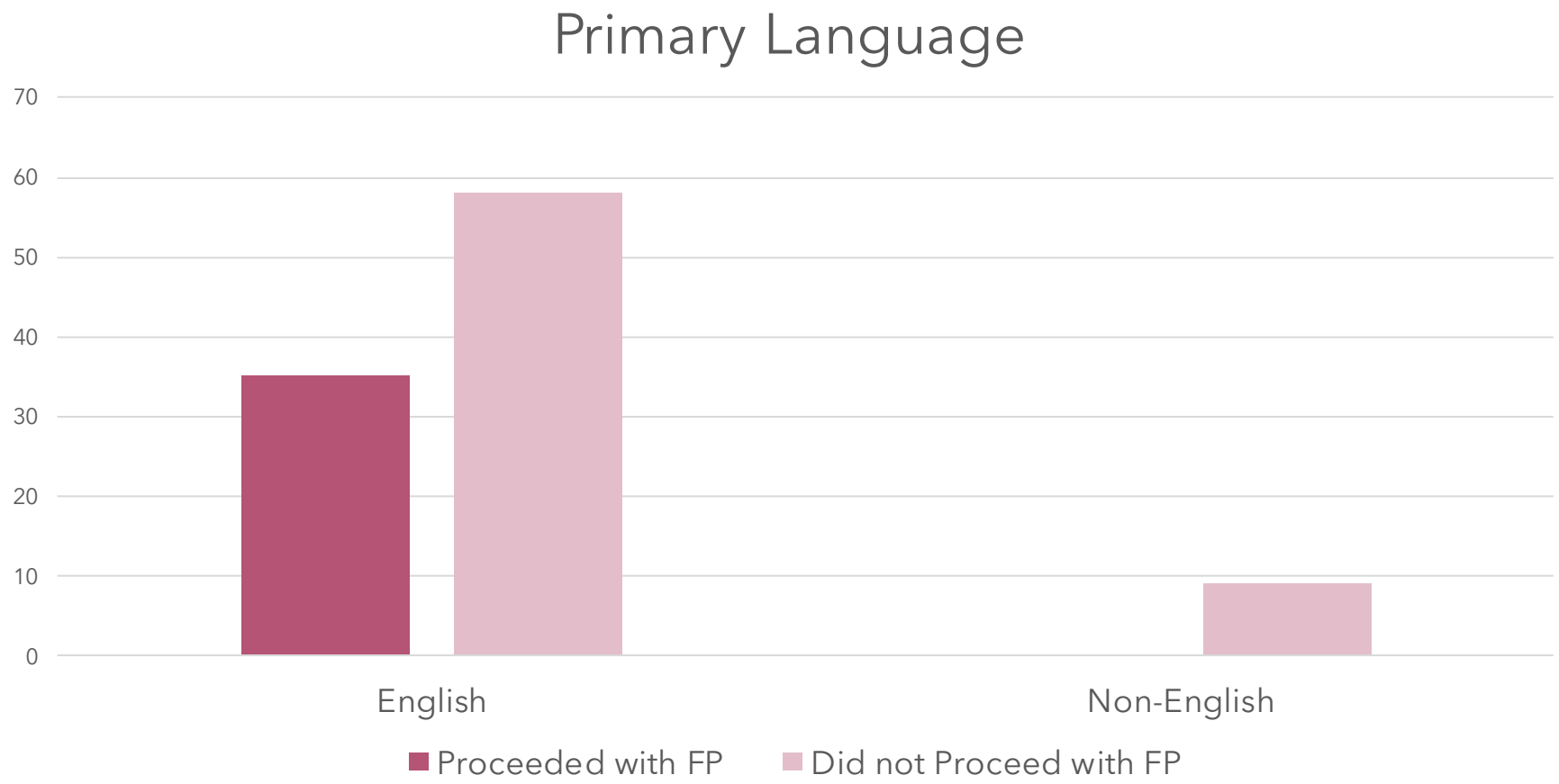
RESULTS

Median Age at Diagnosis

Underwent recommended procedure	Did not undergo recommended procedure
12.0 Years-old	13.0 Years-old

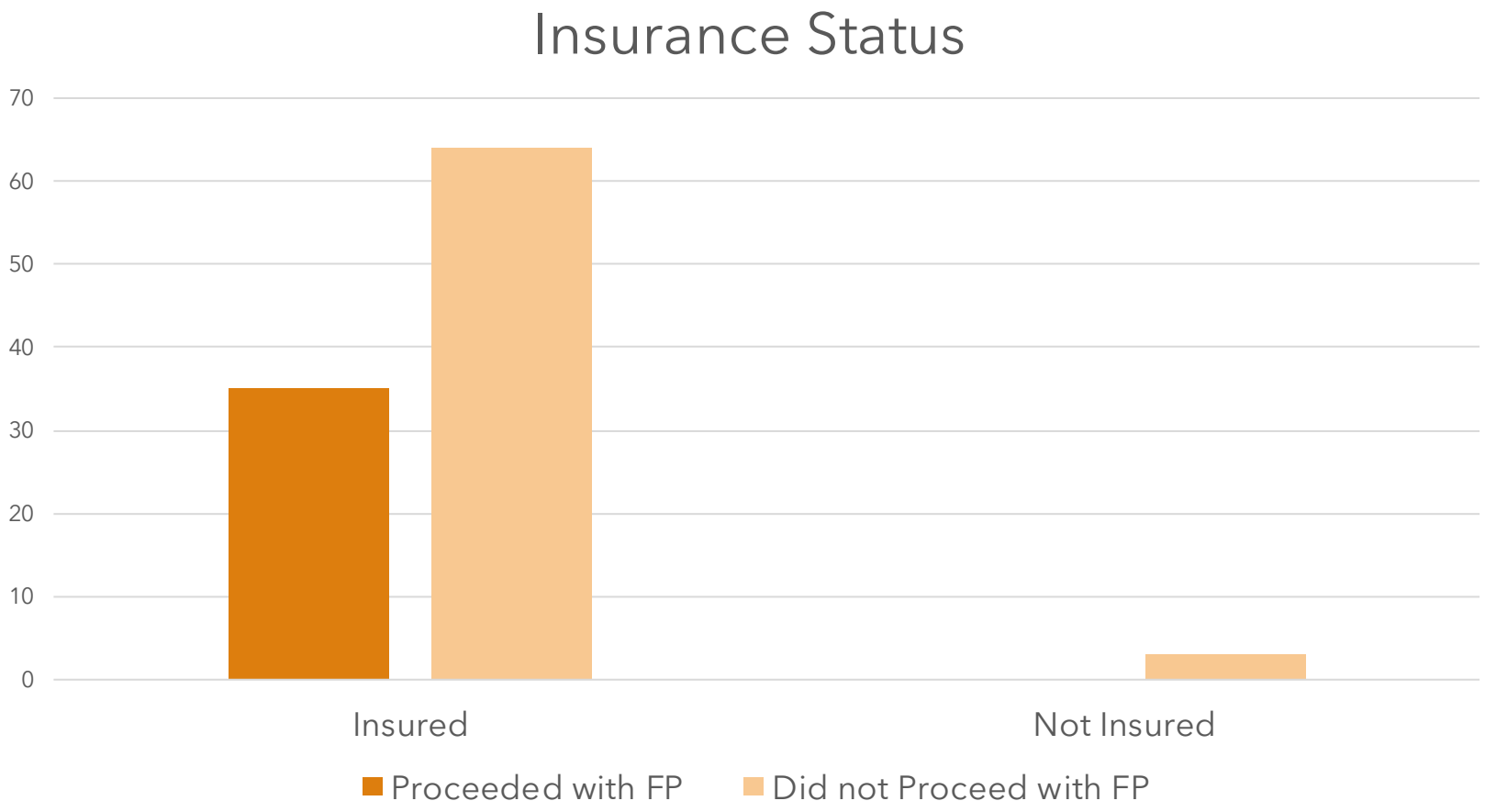
p-value = 0.31
SMD = 0.22, Small Effect

RESULTS



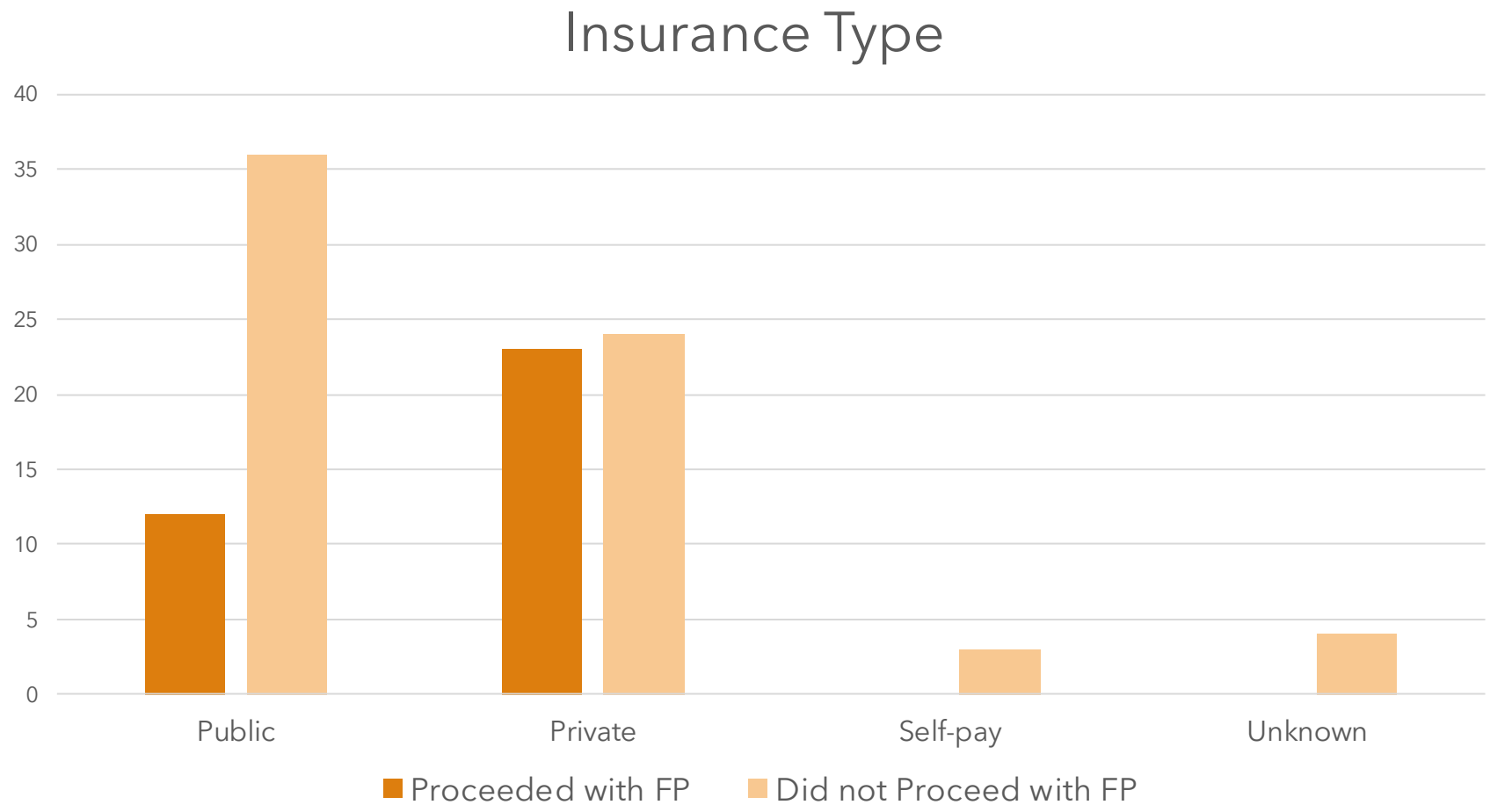
*p-value = 0.026
SMD = 0.56, Medium Effect

RESULTS



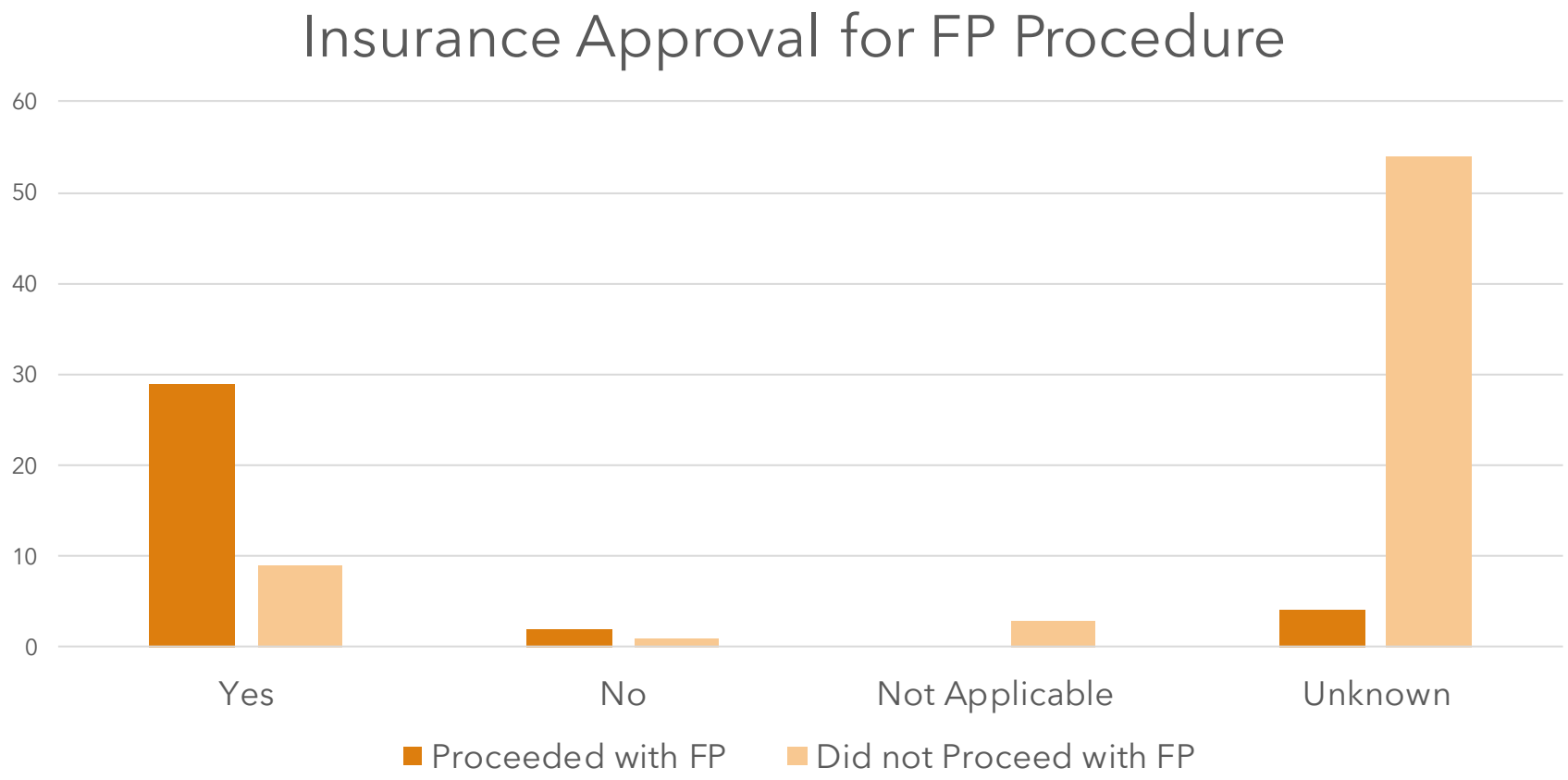
p-value = 0.55
SMD = 0.31, Small Effect

RESULTS



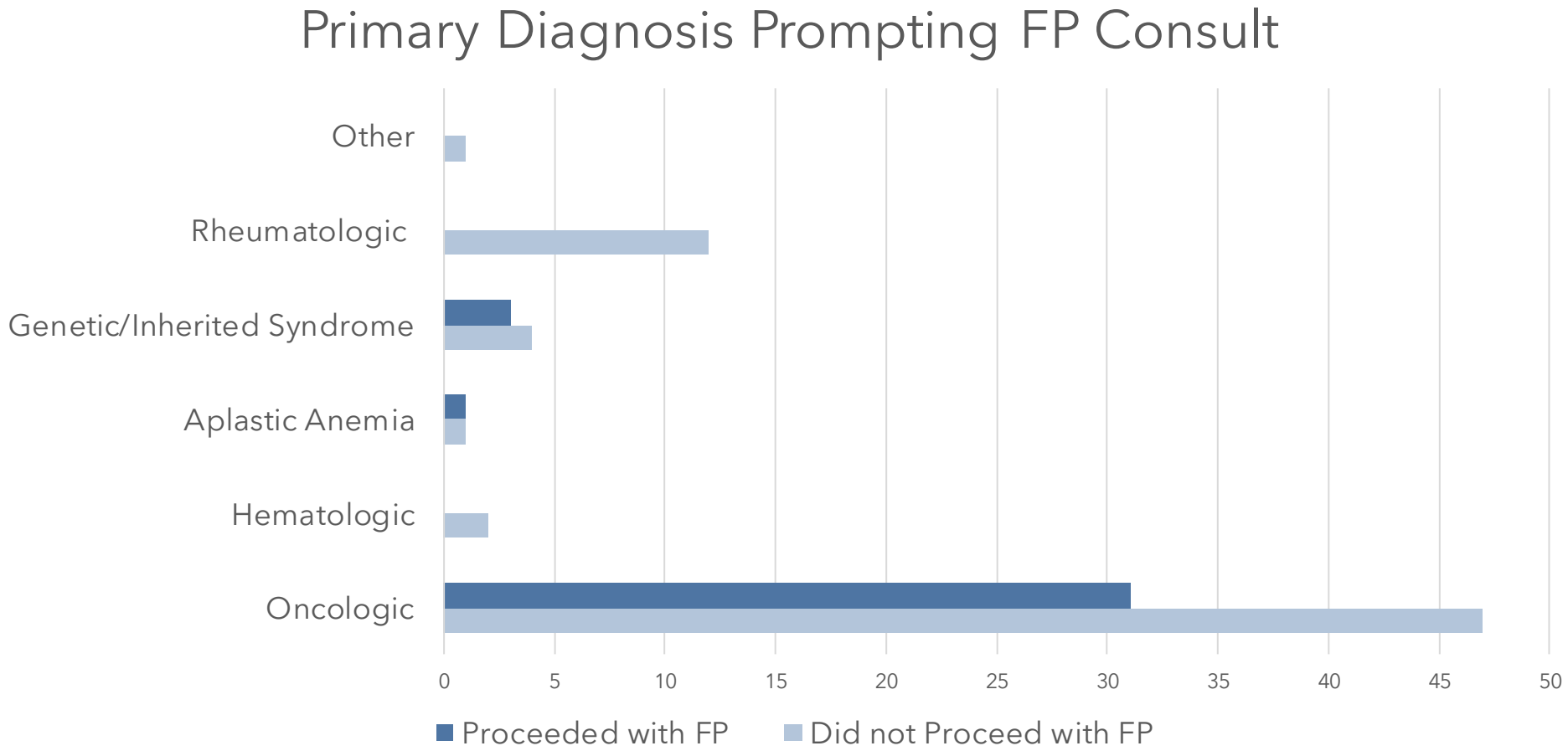
*p-value = 0.018
SMD = 0.73, Medium Effect

RESULTS



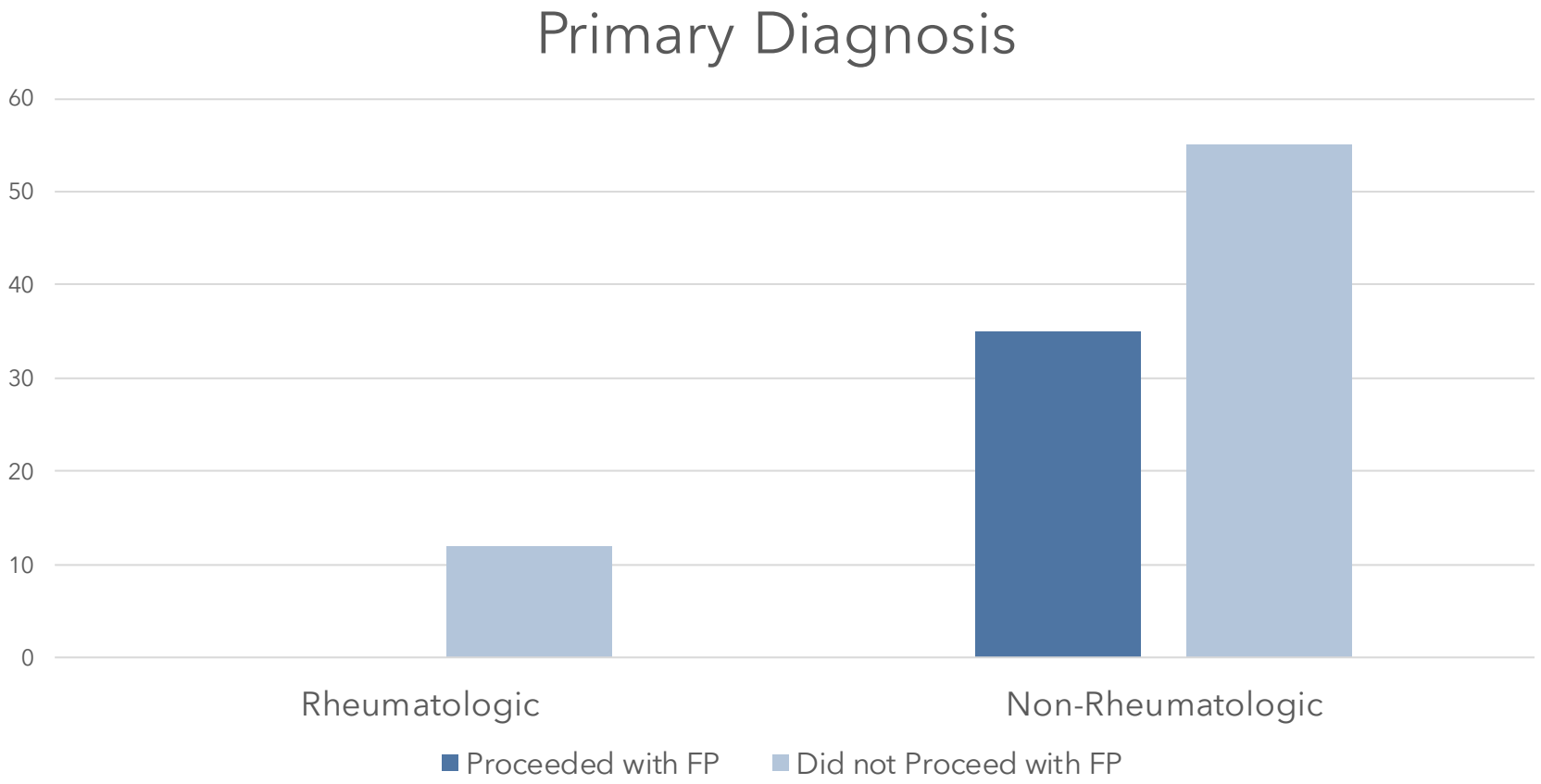
*p-value = <0.001
SMD = 2.19, Large Effect

RESULTS



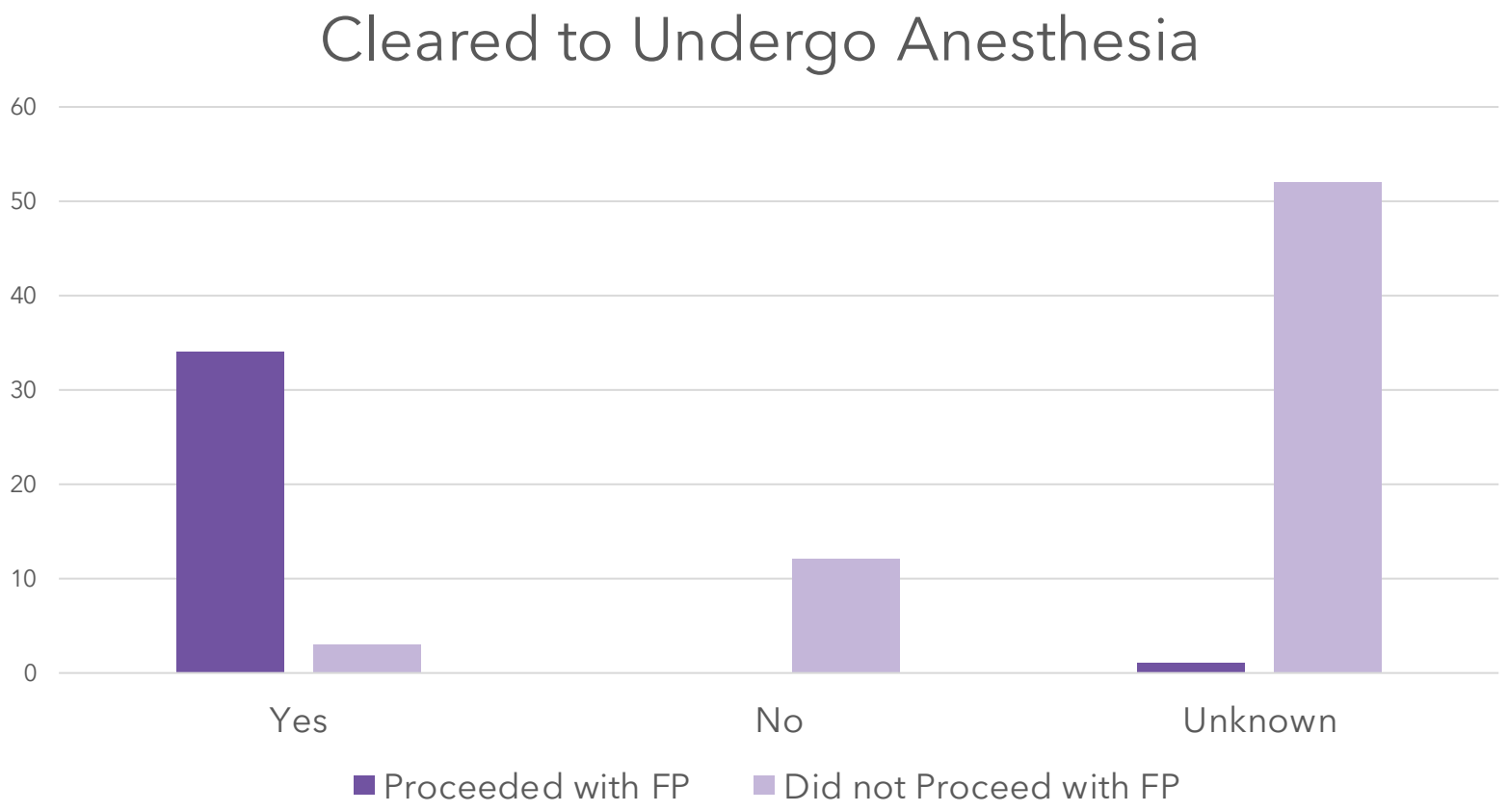
*p-value = 0.026

RESULTS



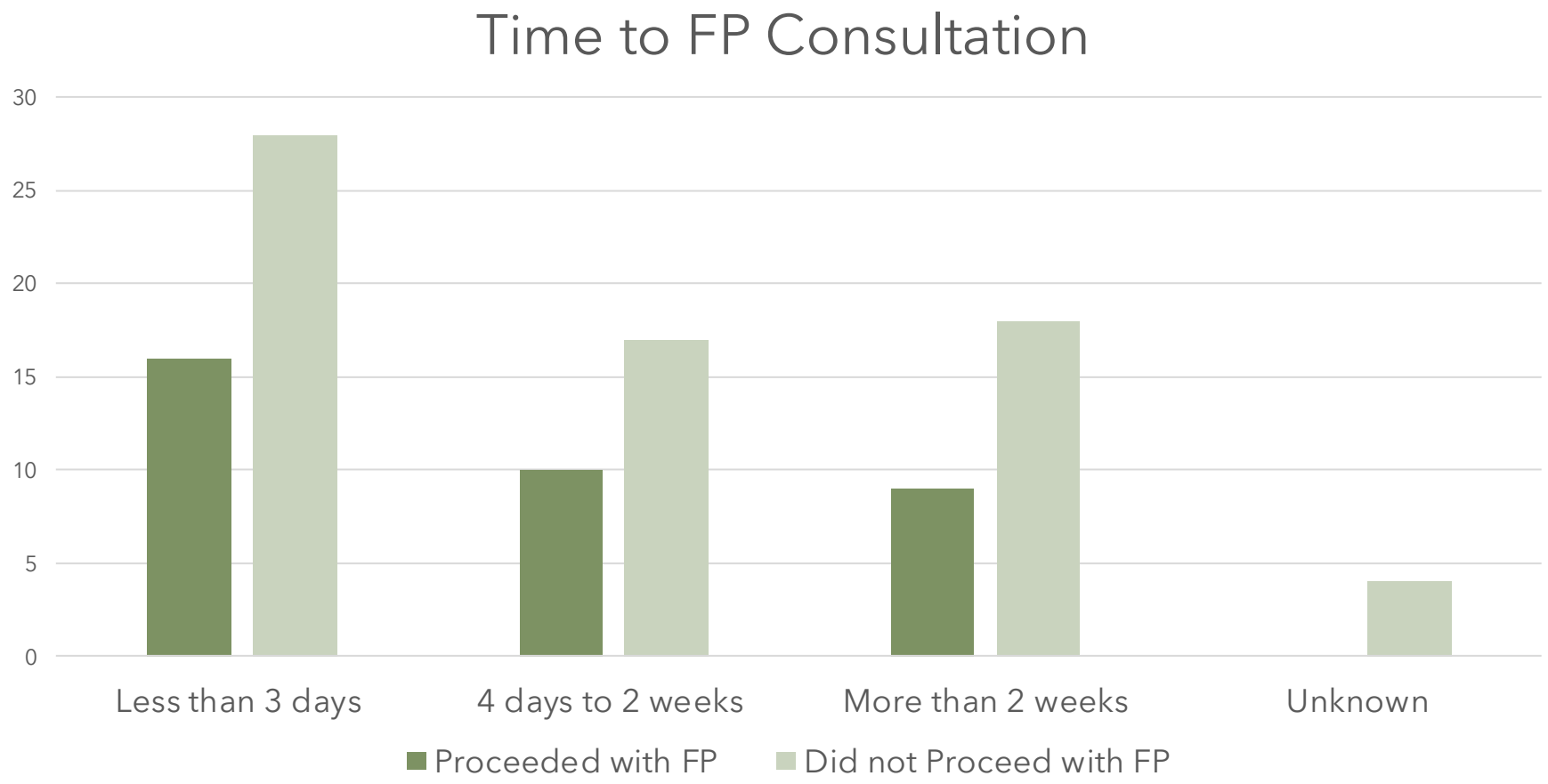
*p-value = 0.007
SMD = 0.66, Medium Effect

RESULTS



*p-value = <0.001
SMD = 4.94, Large Effect

RESULTS



p-value = 0.608
SMD = 0.36, Small Effect

CONCLUSIONS

Patients who did undergo the recommended procedure were more likely to be English-speaking, privately insured, and have a primary oncologic diagnosis or non-Rheumatologic diagnosis prompting fertility consultation.

Majority of patients in both groups had a primary oncologic diagnosis and majority of fertility consultations took place within 72 hours of diagnosis.

CONCLUSIONS (CONTINUED)

Barriers to retrieval

- Large Effect Size:
  - Not cleared to undergo anesthesia
  - No insurance approval for procedure

- Medium Effect Size:
  - Non-English primary language
  - Non-private insurance type
  - Primary Rheumatologic diagnosis

- Effects of longer time to fertility consultation (small to negligible), not insured, and age of diagnosis were small or weaker

LIMITATIONS

Sparsity of data prevented using logistic regression to evaluate single or multiple factors in terms of odds ratios.

Results need further larger data for confirmation due to sparsity in some variable categories.

VISIONS

- Enrich and expand database
- Further research on the barriers identified in this population
- Risk modification
  - Education sessions with Rheumatology
  - Various education strategies/information distribution
- Address modifiable barriers identified, specifically language barrier, and attempt to identify how interpreting services are being utilized
  - Experienced interpreters
  - Closer follow-up for additional questions
- Advocacy (state and local)
  - Recent Missouri Medicaid Expansion; examine whether this will cover procedure and improve access to treatment

REFERENCES

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SPECIAL THANKS

Dr. Julie Strickland, MD MPH
Tennille Hilyard, APRN
Hung-Wen (Henry) Yeh, PhD