TEXAS
Health and Human
Services Commission

Building a Case for Sustainability Using Medicaid Data

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Project Background

- Transition Medicine Clinic (TMC) has been a DSRIP project under the 1115 Transformation Waiver since SFY12

- Provides a transitional medical home to young adults with chronic childhood conditions

- Provides additional social services not typically covered by public and private insurers
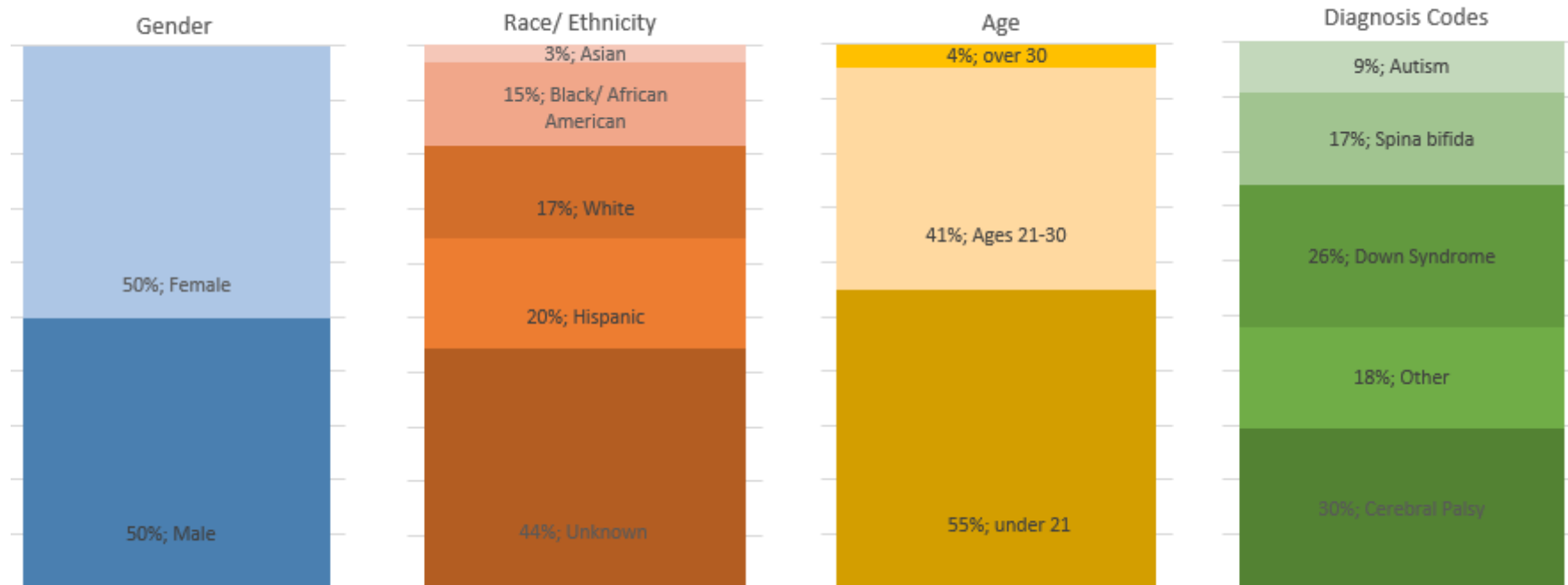
Evaluation Background

- TMC is building a case for value-based purchasing with evidence of positive health outcomes

- One of the project's stated goals is to reduce Emergency Department utilization by 25%

- Since a high proportion of TMC clients receive Medicaid, Data Analytics is using Medicaid enrollment, claims, and encounter data to measure TMC client ED utilization

Method

- TMC provided Medicaid IDs, first and last TMC visits, and diagnoses

- Define study group
  - 18 months continuous enrollment during SFY10-SFY15

- Create comparison group
  - Enrollment data to identify similar clients
  - Propensity score matching

- Identify ED visits in claims and conduct analysis
  - Average monthly visits
  - Pre-post design

Study group characteristics

CLIENT CHARACTERISTICS STUDY GROUP (n = 261)

Gender
- 50%; Female
- 50%; Male

Race/ Ethnicity
- 3%; Asian
- 15%; Black/ African American
- 17%; White
- 20%; Hispanic
- 44%; Unknown

Age
- 4%; over 30
- 41%; Ages 21-30
- 55%; under 21

Diagnosis Codes
- 9%; Autism
- 17%; Spina bifida
- 26%; Down Syndrome
- 18%; Other
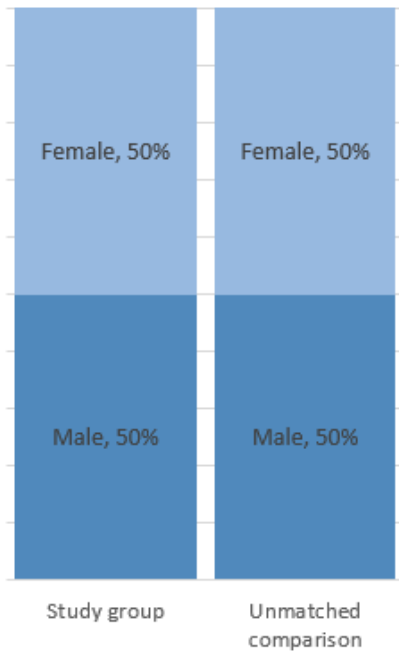- 30%; Cerebral Palsy

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Comparison Group

- Clinical programs not usually set up for experimental design

- Without randomized control group, more difficult to attribute any change in outcomes to program intervention

- Data provides opportunity to construct comparison group

- First step: identify clients from data with a set of characteristics found in the study group.
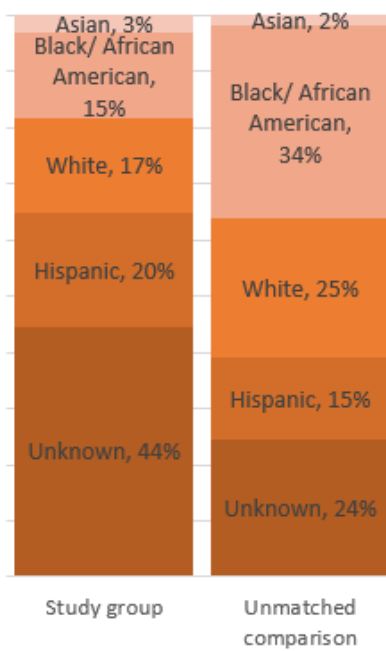 - Age, service area, and Medicaid program type

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Before Matching: Study and Comparison Group Characteristics

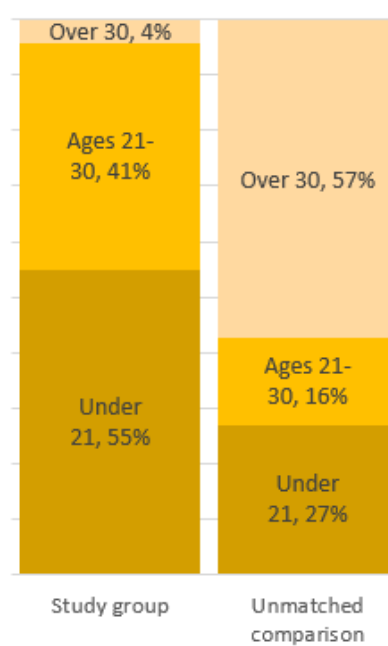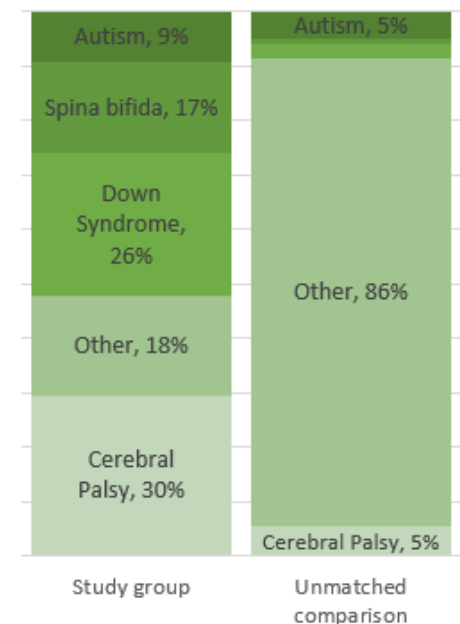STUDY GROUP (n = 261) and UNMATCHED COMPARISON GROUP (n = 66,402)

Gender
- Study group: Female, 50%; Male, 50%
- Unmatched comparison: Female, 50%; Male, 50%

Race
- Study group: Asian, 3%; Black/African American, 15%; White, 17%; Hispanic, 20%; Unknown, 44%
- Unmatched comparison: Asian, 2%; Black/African American, 34%; White, 25%; Hispanic, 15%; Unknown, 24%

Age
- Study group: Over 30, 4%; Ages 21-30, 41%; Under 21, 55%
- Unmatched comparison: Over 30, 57%; Ages 21-30, 16%; Under 21, 27%

Diagnosis Codes
- Study group: Autism, 9%; Spina bifida, 17%; Down Syndrome, 26%; Other, 18%; Cerebral Palsy, 30%
- Unmatched comparison: Autism, 5%; Other, 86%; Cerebral Palsy, 5%
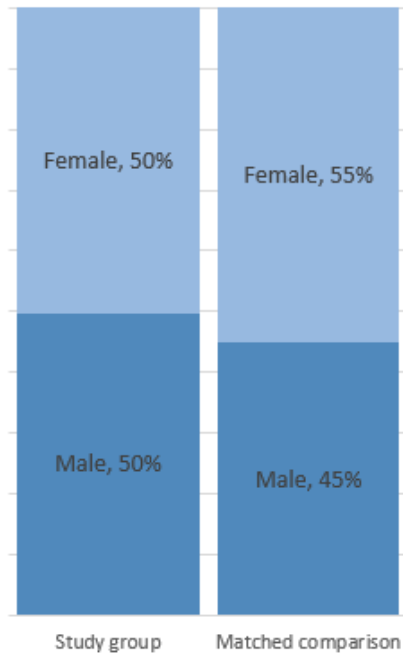
Comparison Group, cont.

- Propensity score matching:

    - Ensures that the distribution of client characteristics is similar

    - Generates a score for each treatment and potential comparison group subject based on client characteristics

    - Clients are matched by most similar score

- Matched variables include:

    - Gender
    - Race
    - Age
    - Program Type
    - Risk Group
    - ICD code
    - Fiscal Year of first TMC visit
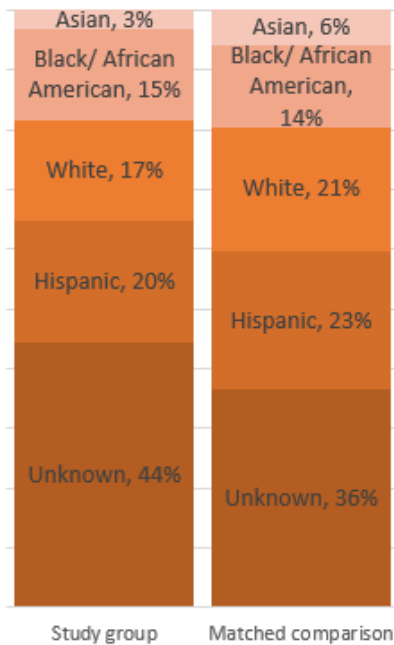   - Number of ED visits in 6 months before TMC

After Matching: Study and Comparison Group Characteristics

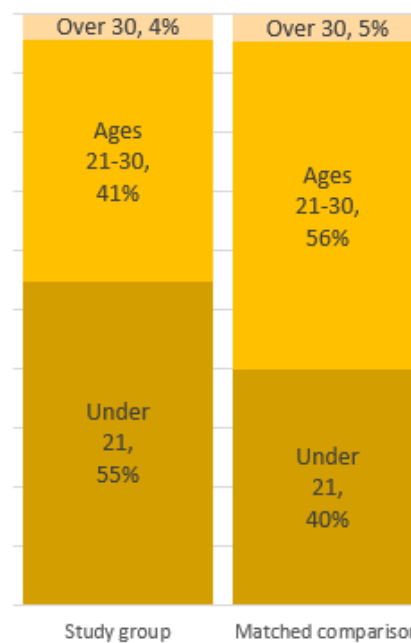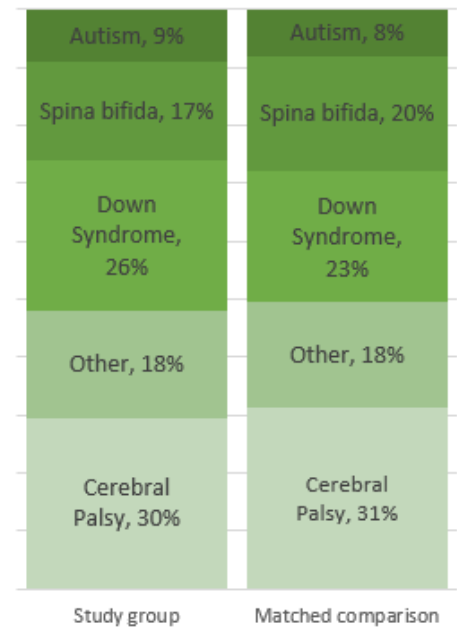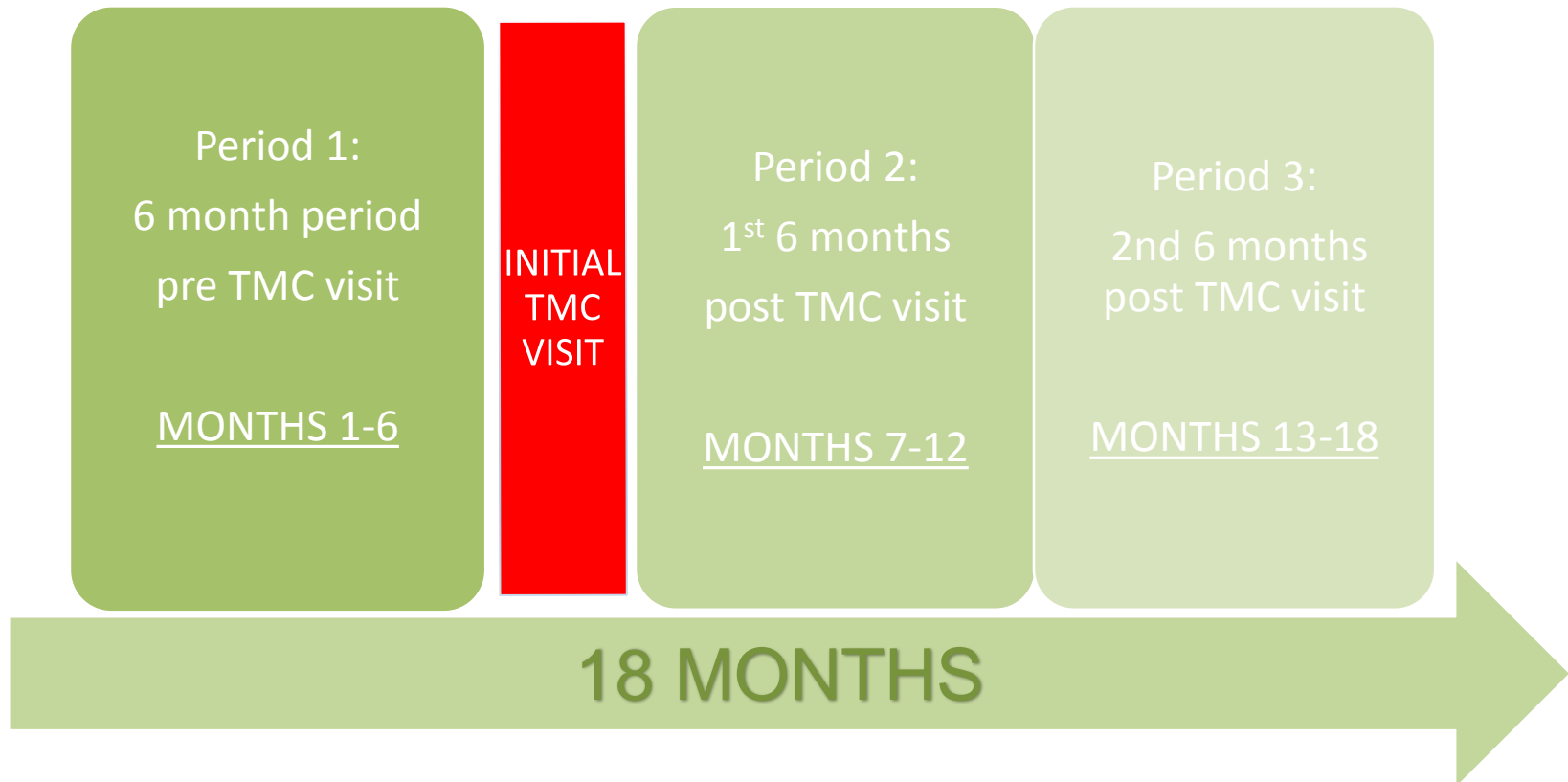STUDY GROUP (n = 261) and MATCHED COMPARISON GROUP (n = 261)

Gender
- Study group: Female, 50%; Male, 50%
- Matched comparison: Female, 55%; Male, 45%

Race
- Study group: Asian, 3%; Black/African American, 15%; White, 17%; Hispanic, 20%; Unknown, 44%
- Matched comparison: Asian, 6%; Black/African American, 14%; White, 21%; Hispanic, 23%; Unknown, 36%

Age
- Study group: Over 30, 4%; Ages 21-30, 41%; Under 21, 55%
- Matched comparison: Over 30, 5%; Ages 21-30, 56%; Under 21, 40%

Diagnosis Codes
- Study group: Autism, 9%; Spina bifida, 17%; Down Syndrome, 26%; Other, 18%; Cerebral Palsy, 30%
- Matched comparison: Autism, 8%; Spina bifida, 20%; Down Syndrome, 23%; Other, 18%; Cerebral Palsy, 31%

Study Period Design

Period 1:
6 month period
pre TMC visit

<u>MONTHS 1-6</u>

INITIAL TMC VISIT

Period 2:
1st 6 months
post TMC visit

<u>MONTHS 7-12</u>

Period 3:
2nd 6 months
post TMC visit

<u>MONTHS 13-18</u>

18 MONTHS
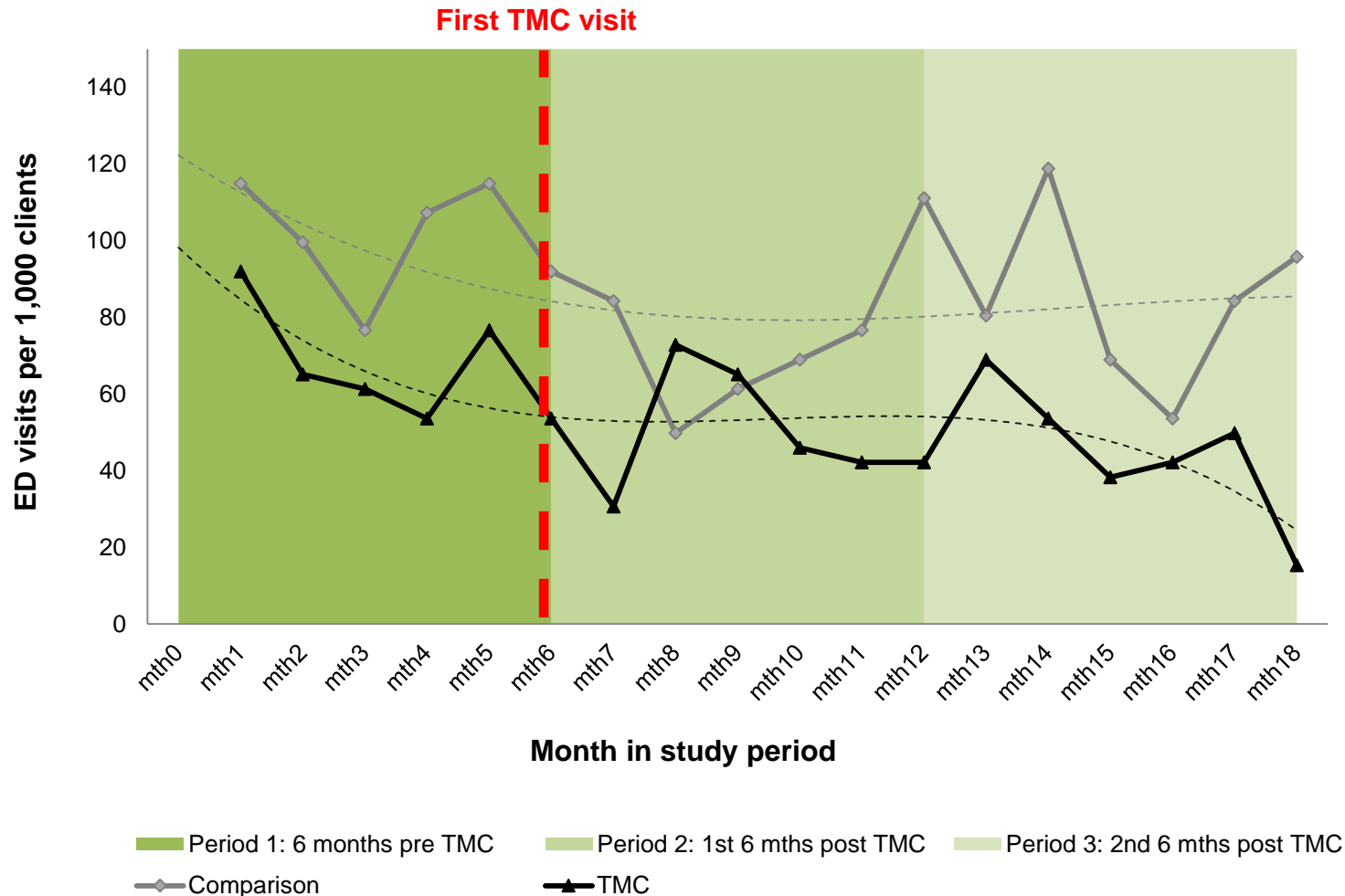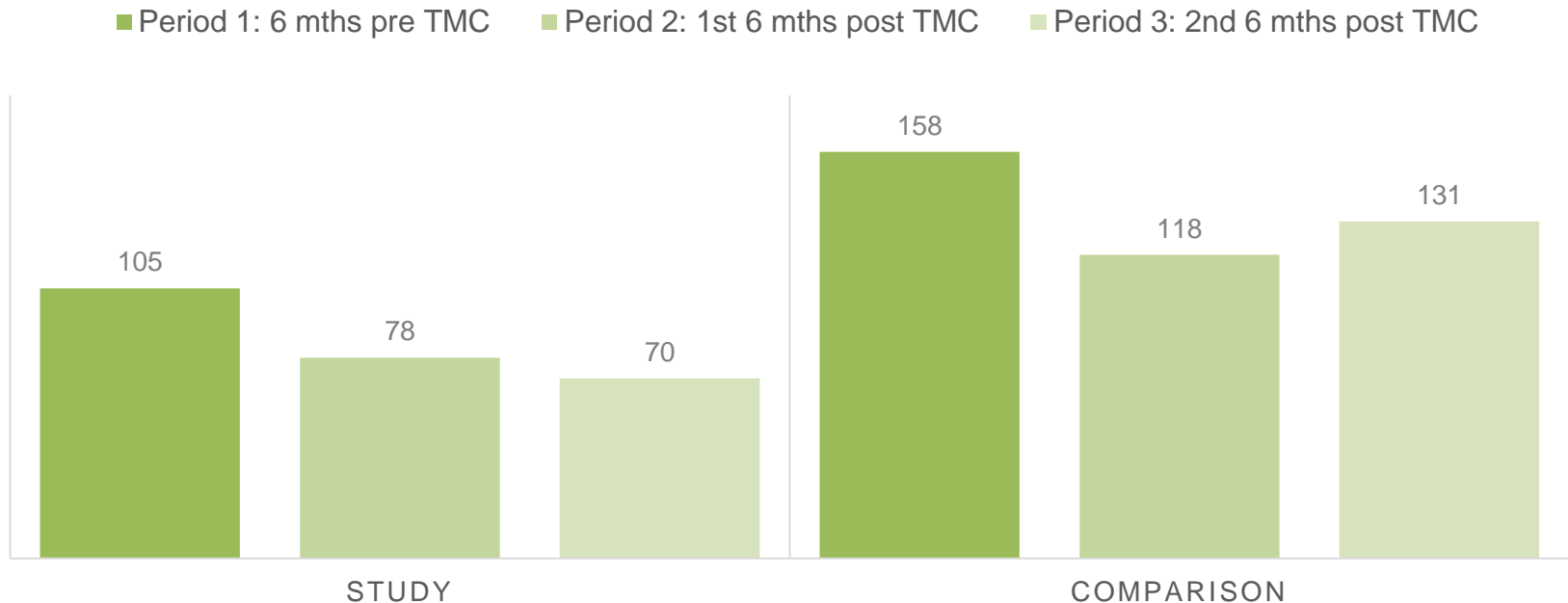
Average Monthly ED Visits per 1,000 Clients: TMC and Matched Comparison Group

Study and Matched Comparison Group: Total Visits by 6 Month Period

■ Period 1: 6 mths pre TMC   ■ Period 2: 1st 6 mths post TMC   ■ Period 3: 2nd 6 mths post TMC

STUDY: 105, 78, 70

COMPARISON: 158, 118, 131

PERCENT CHANGES AND P VALUES			
STUDY GROUP			
Period 1 to 2	-26%	p = .099	
Period 1 to 3	**-33%**	**p = .019**	**Significant at 95% CI, 5% margin of error**
COMPARISON GROUP			
Period 1 to 2	-25%	p = .055	
Period 1 to 3	-17%	p = .270	

SUMMARY

Preliminary Findings:

- ED visits for TMC clients decreased by over 25%, their desired outcome

- ED visits for both groups decreased from Period 1 to Period 2

- The decrease for TMC clients was statistically significant from Period 1 to Period 3

Next steps:

- Add more quarters of ED data as available

- Refine comparison group

- Regression analysis to clarify major contributors to decrease