

Analyzing Telemental Health Service Modality Effects on Treatment Engagement

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Background

- Telemental Health (TMH) expanded rapidly during COVID-19.
- Prior to the pandemic, TMH was uncommon, especially in community mental health (CMH) centers
- TMH is now offered in 80% of mental health (MH) facilities across the U.S.¹
- The COVID-19 pandemic accelerated clinical and technological adaptation in mental healthcare.
- TMH has become a common practice, addressing longstanding barriers in mental health care such as accessibility and continuity of care.

Understanding Telemental Health

TMH Modalities:

- Web-based Video conferencing & phone sessions
- Designed to reduce logistical and psychological barriers to care.²

Current Research:

- TMH is associated with increased accessibility, particularly in underserved areas.^{3,4}
- Mixed findings on engagement, with some studies noting challenges in sustaining attendance and provider-client.⁵
- Demonstrates efficacy comparable to in-person care for many conditions, including anxiety and depression.^{6,7}

Study Goal: Evaluate TMH's impact on treatment engagement post-pandemic.

Research Questions

How do different TMH modalities influence client attendance and engagement?

How does TMH usage impact the likelihood of clients completing their treatment plans?

General Methodology

Study Design:

- Retrospective observational study using administrative claims data via EHR.
- Time period: January 2021 to June 2023.

Community Mental Health Center:

- Large organization with multiple sites across an urban Los Angeles County in Southern California.
- Provides outpatient, residential, substance use, and suicide prevention services.
- Over 700 employees serving over 6,000 clients annually
- Contracted provider for Los Angeles County Department of Mental Health.
- Operates 9 locations serving diverse populations under Medi-Cal, focusing on essential healthcare for individuals and families with limited income and resources.

Operationalizing Engagement

No-Show

- No-show Rate: Number and percentage of appointments missed.
- Attendance reflects immediate engagement (no-show rate).

Premature Termination

- Premature Termination: Early discontinuation of services before treatment goals are met.
- Completion of treatment reflects sustained engagement (premature termination).

Methodology: No-Show Rates

Data:

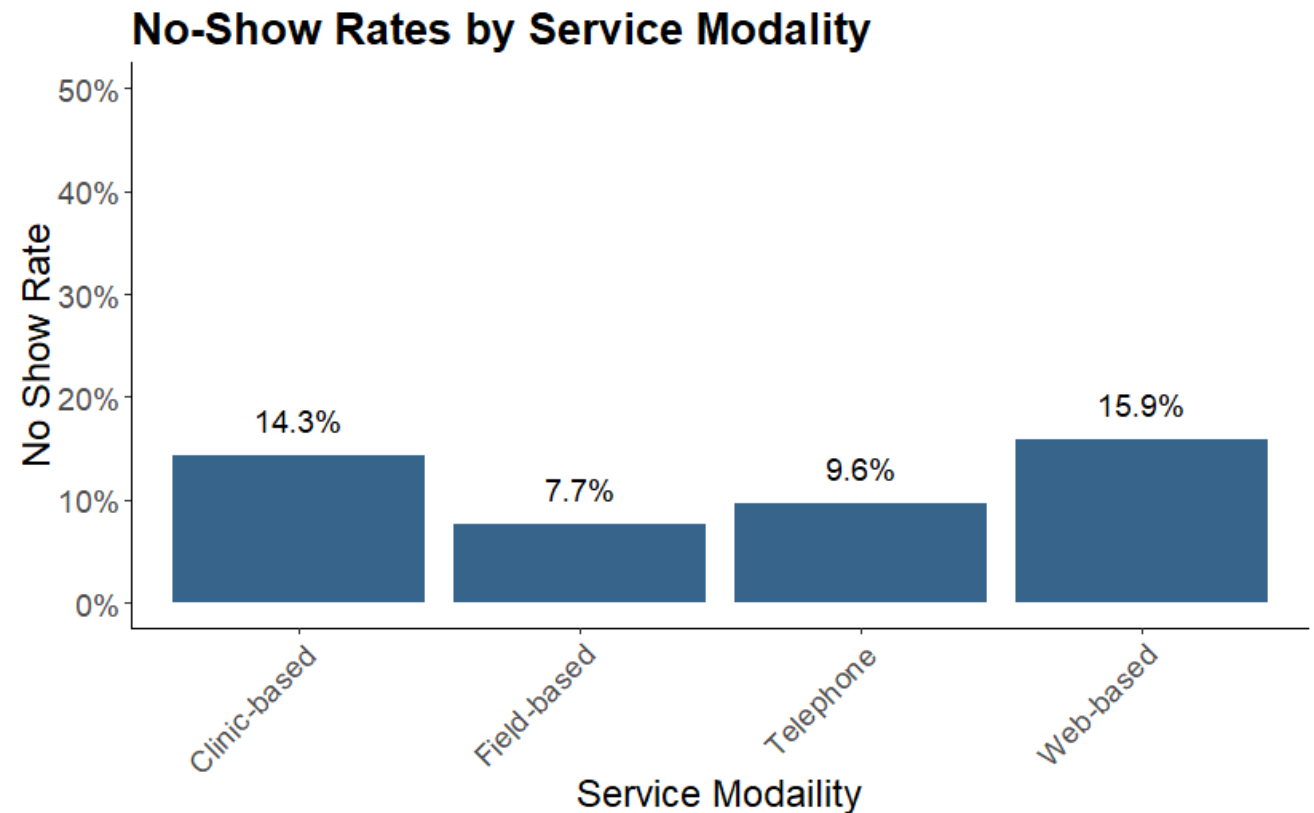
- Retrospective observational study using administrative claims data (Jan 2021–Jun 2023).
- 93,621 service activities; 2,587 clients.

Analysis:

- Generalized Linear Mixed Model (GLMM) with binomial family and logit link function.
- Random intercept for client to account for client-specific variations in no-show activities not explained by fixed effects.
- Main explanatory variable: Service delivery mode (in-office, field, telephone, video).
- Response variable: Instances of client not showing to an appointment.
- Covariates:
 - Division (Adult and Family).
 - Service program (General Outpatient, FSP, or Prevention and Early Intervention (PEI)).
 - Activity type (Assessments, Case Management, Mental Health).
 - Client age.

Findings: No-Show Rates

- Field-based and telephone sessions had lower no-show rates.
- Video sessions had slightly higher no-show rates compared to clinic-based services.
- The Child & Family Division experienced consistently higher no-show rates (15.4% compared to 11.3% with Adult Services).



Methodology: Premature Termination

Data:

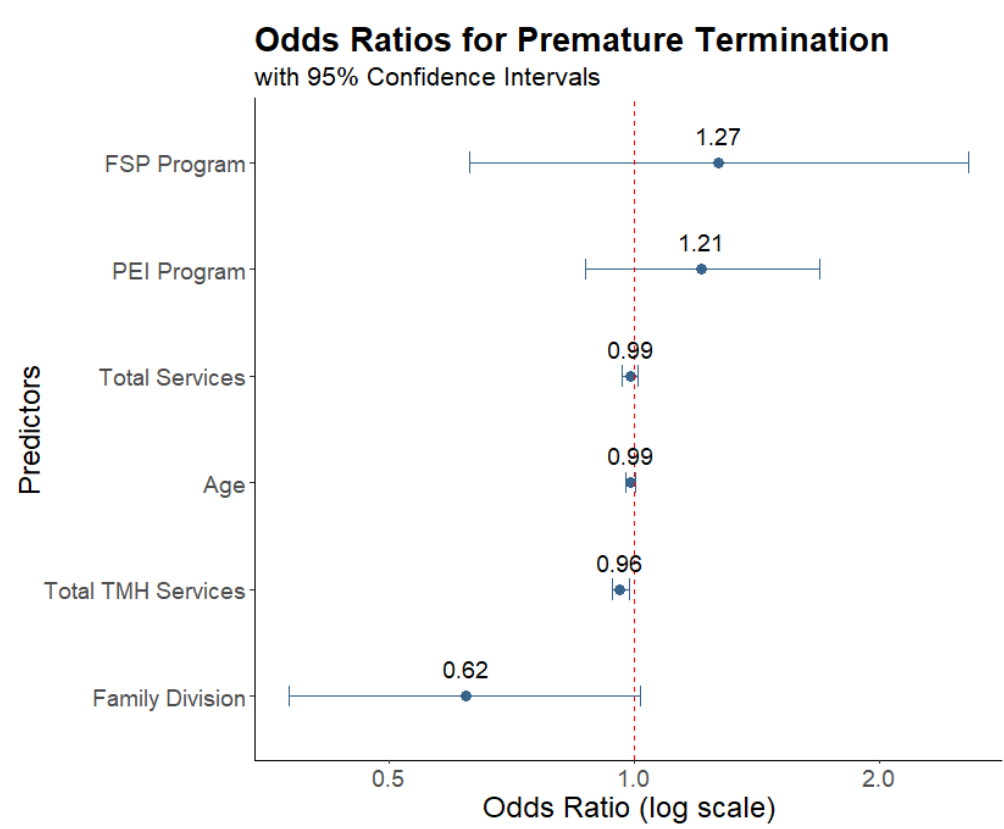
- Retrospective observational study using administrative claims data (Jan 2022–Jun 2023).
- 786 clients included in the analysis.

Analysis:

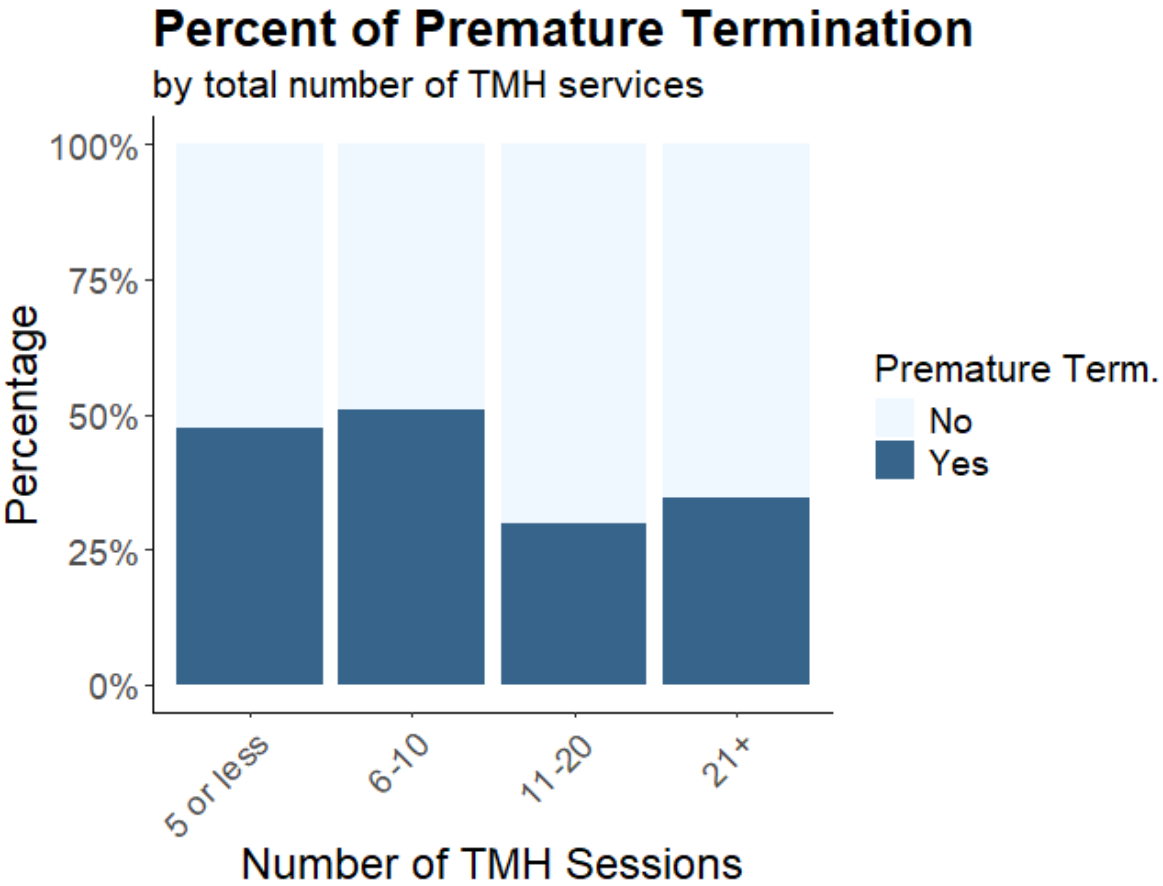
- Model: Logistic regression.
- Primary explanatory variable: TMH Service amount (cumulative number of completed billable TMH activities, i.e., activities delivered via telephone or video).
- Response variable: Premature termination (client discontinuing services before treatment goals were met).
- Covariates:
 - Client's total number of completed billable activities.
 - Division (Adult and Family).
 - Service program (General Outpatient, FSP, PEI, Specified Outpatient).
 - Client age.

Findings: Premature Termination

TMH usage reduced the odds of premature termination by ~3.9% per session



Note: Total TMH Service was significantly associated with lower odds of premature termination (OR = 0.96, 95% CI [0.94, 0.98], $b = -0.04$, $SEb = 0.01$, $z = -3.32$, $p < .001$).



Implications for Behavioral Health

Video challenges: tech issues, privacy concerns, reduced planning.

Convenience may lead to client forgetfulness but allows easier rescheduling.

Lower no-show rates for field-based and telephone sessions may stem from provider-initiated contact.

TMH promotes treatment continuity.

Hybrid models could address barriers while optimizing flexibility.

Limitations

- Retrospective observational design limits causal inference.
- Data derived from a single large community mental health center, limiting generalizability.
- Unmeasured variables, such as socioeconomic status, internet reliability, and caregiver involvement, may have influenced findings.
- Data collection during the COVID-19 pandemic may not reflect engagement trends in more stable periods.

Future Directions

Client-Centric Research:

- Conduct qualitative studies on client perceptions and engagement behaviors.
- Examine how convenience in video TMH influences no-shows and rescheduling patterns.

Address Socioeconomic and Digital Disparities:

- Investigate barriers related to socioeconomic status, digital literacy, and internet access.
- Develop targeted strategies to improve access and engagement for underserved populations.

Hybrid Models:

- Evaluate models that integrate TMH and in-person services.
- Explore the optimal balance to enhance treatment outcomes and client satisfaction.

Expand Research Scope:

- Include multiple centers and diverse populations to improve generalizability.
- Investigate variations in service delivery and engagement across different contexts.

Conclusion

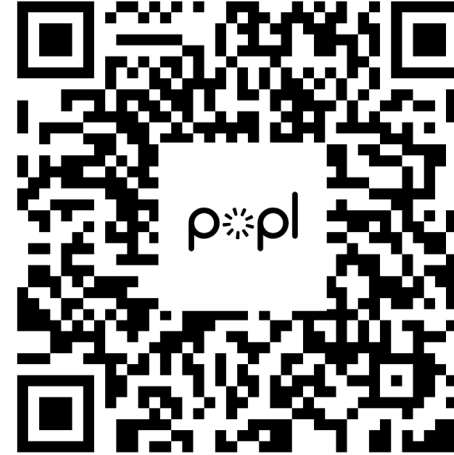
- TMH services allow for flexibility and increased accessibility, which can lead to greater treatment engagement.
- Challenges Still Remain
 - Privacy concerns and technological limitations.
 - Digital access disparities disproportionately affect underserved communities
- Hybrid models of care
 - Combining TMH and in-person care.
 - Balance accessibility, flexibility, and personalized support.
 - Address systemic barriers to maximize TMH's potential.

References

- ¹ Cantor, J. H., McBain, R. K., Pera, M. F., Bravata, D. M., Whaley, C. M., & Stein, B. D. (2024). *Understanding the availability of mental telehealth services. JAMA Health Forum*, 5(1), e230006.
- ² Siegel, A., Zuo, Y., Moghaddamcharkari, N., & Rosenblat, J. D. (2021). Barriers, benefits, and interventions for improving the delivery of telemental health services during the COVID-19 pandemic: A systematic review. *Current Opinion in Psychiatry*, 34(4), 434–443.
- ³ Gajarawala, S. N., & Pelkowski, J. N. (2020). Telehealth benefits and barriers. *The Journal for Nurse Practitioners*, 16(9), 602–607.
- ⁴ Lipschitz, J. M., Connolly, S. L., Bernstein, S. L., & Eisen, S. V. (2022). Enhancing mental health care through telehealth technology. *Psychiatric Services*, 73(5), 517–523.
- ⁵ L., Donovan, J., Sharp, D., & Gunnell, D. (2023). Factors influencing the acceptability and use of telehealth services for mental health care: A qualitative study. *BMC Psychiatry*, 23, Article 45.
- ⁶ Appleton, R., Williams, J., Vera San Juan, N., Needle, J. J., Schlieff, M., & Jordan, H. (2021). Implementation, adoption, and perceptions of telemental health during the COVID-19 pandemic: Systematic review. *Journal of Medical Internet Research*, 23(12), e31746.
- ⁷ American Psychological Association. (2020). *Guidelines for the practice of telepsychology*.



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