



Association Between Gender-Affirming Surgeries and Mental Health Outcomes

Anthony Almazan, BA,^{1,2} Alex Keuroghlian, MD, MPH^{1,3,4}

¹Harvard Medical School

²Harvard T.H. Chan School of Public Health

³Department of Psychiatry, Massachusetts General Hospital

⁴The Fenway Institute

Background

- Gender-affirming surgeries are medically necessary treatments for the alleviation of gender dysphoria in transgender and gender-diverse (TGD) people.¹
- The mental health benefits of gender-affirming surgeries remain controversial, as the existing literature on this subject is understood to be comprised of “low quality evidence.”^{2,3}

Objective

We present the largest study to date on the relationship between gender-affirming surgeries and mental health outcomes. We investigate the hypothesis that gender-affirming surgeries are associated with improved mental health outcomes, including psychological distress, substance use, and suicidality.

Methods

- Study design: Secondary analysis of the 2015 U.S. Transgender Survey (USTS).⁴
- Study population: 27,715 U.S. TGD adults.
- Outcomes: See **Table 1**.
- Exposure group: Respondents who underwent any of the following gender-affirming surgeries at least two years prior to taking the USTS: breast augmentation, orchiectomy, vaginoplasty/labiaplasty, trachea shave, facial feminization surgery, voice surgery, mastectomy, hysterectomy, metoidioplasty phalloplasty.
- Control group: Respondents who indicated desire for any of the above surgeries but had not yet received any.
- Covariates: Age, education level, employment status, gender identity, health insurance status, household income, race/ethnicity, sex assigned at birth, sexual orientation, family rejection, gender-affirming counseling, pubertal suppression, gender-affirming hormone therapy.
- Statistical analysis: Survey-weighted multivariable logistic regression. (Bonferroni correction: significant if $P < 0.002$).

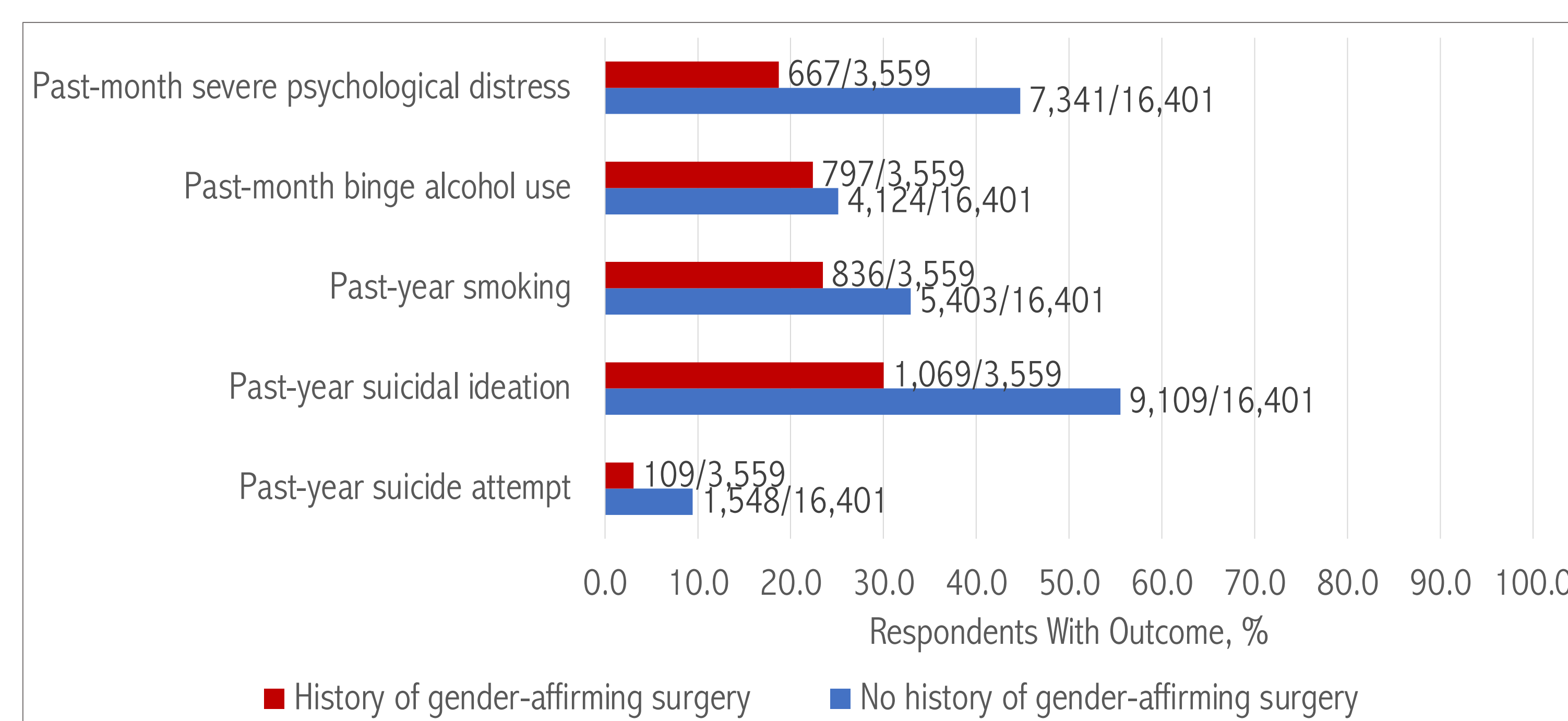
Table 1: Relationship Between History of Gender-Affirming Surgery and Mental Health Outcomes

Outcomes	aOR	95% CI	P value
Psychological distress (past-month)	0.58	(0.50, 0.67)	<0.001
Substance use			
Binge alcohol use (past-month)	0.83	(0.72, 0.96)	0.01
Smoking (past-year)	0.65	(0.57, 0.75)	<0.001
Suicidality (past-year)			
Ideation	0.56	(0.50, 0.64)	<0.001
Attempt	0.65	(0.47, 0.90)	0.009

Table 2: Relationship Between Degree of Surgical Gender Affirmation and Mental Health Outcomes

Outcomes	Received Some Desired Surgeries (n=3,311)	Received All Desired Surgeries (n=2,448)
	aOR; 95% CI; P value	aOR; 95% CI; P value
Psychological distress (past-month)	0.70; (0.60, 0.81); $P < 0.001$	0.47; (0.39, 0.56); $P < 0.001$
Substance use		
Binge alcohol use (past-month)	0.97; (0.64, 0.87); $P = 0.63$	0.75; (0.64, 0.87); $P < 0.001$
Smoking (past-year)	0.75; (0.66, 0.86); $P < 0.001$	0.58; (0.49, 0.68); $P < 0.001$
Suicidality (past-year)		
Ideation	0.72; (0.63, 0.81); $P < 0.001$	0.44; (0.38, 0.51); $P < 0.001$
Attempt	0.70; (0.53, 0.93); $P = 0.01$	0.44; (0.28, 0.70); $P < 0.001$

Figure 1: Comparison of Mental Health Outcomes Among Respondents Who Did and Did Not Undergo Gender-Affirming Surgery



Results

- History of one or more gender-affirming surgeries was associated with lower odds of past-month psychological distress, past-month smoking, and past-year suicidal ideation (**Table 1, Figure 1**).
- After stratifying by degree of surgical gender affirmation, individuals who had received all desired surgeries had even more favorable mental health outcomes compared to individuals who only received some desired surgeries (**Table 2**).

Limitations

- Non-probability sampling of the USTS may limit generalizability.
- Observational design may be vulnerable to unmeasured confounding.

Conclusion

- This is the first large-scale, controlled study to demonstrate an association between gender-affirming surgeries and improved mental health outcomes.
- Our findings offer empirical evidence to support provision of gender-affirming surgical care for TGD people who seek it.

Acknowledgements

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References

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