Letters to the Editor

Reassessing Mental Health Treatment Utilization Reduction in Transgender Individuals After Gender-Affirming Surgeries: A Comment by the Editor on the Process

On October 4, 2019, we published an article by Bränström and Pachankis in which it was reported that observed reductions in mental health treatment utilization lent support to the decision to provide gender-affirming surgeries to those who seek them (1). After this article's publication, we received several letters calling into question the statistical analyses employed and the conclusions drawn from said analyses. These letters follow this comment (2–8).

We enlisted the services of a statistical reviewer to look again at the article as well as the letters we received. We then sent the letters we received and the results of this statistical review, which called for a matched-pairs analysis, to the original authors. The study authors complied with the request to perform an additional analysis, as presented in their letter response (9).

We sent the original letters, statistical review, and author response to a second statistical reviewer. The response from this consultation convinced us that, given that the study used neither a prospective cohort design nor a randomized controlled trial design, the conclusion that "the longitudinal association between gender-affirming surgery and reduced likelihood of mental health treatment lends support to the decision to provide gender-affirming surgeries to transgender individuals who seek them" was too strong. In the August 2020 issue of the *Journal*, we are publishing a correction to this effect and including an addendum to the article pointing to this postpublication discussion and process, both of which were composed with contributions and approval from the original article authors.

We thank the letter writers, statistical reviewers, and the original study authors—as well as the editorialist we invited to place this study's findings in context (10)—for helping us to make clear to our readers and for the literature what the article shows and what still remains to be investigated in future research.

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Editor-in-Chief

The American Journal of Psychiatry

Am J Psychiatry 2020; 177:764; doi: 10.1176/appi.ajp.2020.20060803

Methodological Shortcomings Undercut Statement in Support of Gender-Affirming Surgery

TO THE EDITOR: The article by Bränström and Pachankis (1) has the stated aim "to ascertain the prevalence of mood and anxiety disorder health care visits and antidepressant and anxiolytic prescriptions in 2015 as a function of gender incongruence diagnosis and gender-affirming hormone and surgical treatment in the entire Swedish population." The authors conclude that "the longitudinal association between gender-affirming surgery and reduced likelihood of mental health treatment lends support to the decision to provide gender-affirming surgeries to transgender individuals who seek them." In support of this claim, the authors report that the time since "last gender-affirming surgery" (in 2005–2014) was associated with reduced "mental health treatment" (a combined variable of outpatient visits with a diagnosis of a mood or anxiety disorder and/or prescriptions for antidepressants or anxiolytics) during 2015 (adjusted odds ratio=0.92, 95% CI=0.87–0.98). The authors have also

shown that the group of people diagnosed with gender incongruence have a dramatically worse overall mental health outcome than the general population, which is, in fact, the answer to their stated aim and research question, but this finding is not even referred to in the title or in the Conclusions section of the article.

In view of the claim that surgery was shown to be an efficient treatment for gender incongruence, the following issues have to be raised:

1. Variables, hypotheses, and analytical strategies were not described pre hoc. Adequate power analyses and corrections for multiple comparisons were not provided.
2. The article is vague or noninformative with respect to key aspects. Biological sex ratios are not provided. Surgeries for complications or even unrelated surgeries (e.g., in the skin or the larynx) may have been included. Lithium and atypical antipsychotic medications were not included as treatments for mood disorders, while a histamine blocker such as hydroxyzine, which is mainly used for non-mental health problems, was. Outpatient visits for mood and anxiety disorders were included as "mental health treatment" but not care for sleeping disorders, substance-related disorders, major mental disorders, or any inpatient psychiatric treatment.
3. The nonnormal distribution of data, known secular changes, age effects, or people who left Sweden and moved abroad, died from suicide or other causes, or had surgery to desist were not considered in the interpretation of the analyses.

As the article stands, we actually have no way of knowing whether the four reported analyses of purported treatment effects (time elapsed since start of hormones OR since last surgery BY outpatient mental health treatment OR suicide attempt–related hospitalization), one of which was statistically significant by a small margin, were the first analyses made or the final setup chosen for publication after a "fishing expedition" in the database.

These methodological shortcomings preclude any statement on the suitability of early surgery in persons seeking treatment for gender noncongruence based on the results presented in this article.

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The authors report no financial relationships with commercial interests.

Accepted May 18, 2020.

Am J Psychiatry 2020; 177:764–765; doi: 10.1176/appi.ajp.2020.19111117

Gender-Affirmation Surgery Conclusion Lacks Evidence

TO THE EDITOR: We have concerns regarding severe shortcomings in the study by Bränström and Pachankis (1) that call into question the authors' conclusion that it "provides timely support for policies that ensure coverage of gender-affirming treatments."

This study covered outcomes only for calendar year 2015 for all individuals living in Sweden on December 31, 2014. The retrospective metric of "time since last gender-affirming surgery" in Figure 1 in the article is easily misinterpreted as a prospective 10-year follow-up that did not occur and leaves open the question of number and type of prior surgeries.

The 2,679 individuals diagnosed with gender incongruence in Sweden is a full order of magnitude below prevalence expectations from DSM-5. Table 3 in the article indicates that 38% of these individuals had any kind of gender-affirming surgery, but only 53% of those had surgery of reproductive organs. Given that such treatment in Sweden is free, ample loss to follow-up is implied.

Measured outcomes were limited to "mood and anxiety disorder health care visits, antidepressant and anxiolytic prescriptions, and hospitalization after a suicide attempt." This selection excludes completed suicides, suicide attempts without subsequent hospitalization, health care visits and hospitalizations for other medical or psychological issues still related to gender-affirming surgeries, individuals refusing treatment, and individuals choosing self-medication with alcohol or illicit substances. Again, significant loss to follow-up must be considered before declaring success.

Dhejne's cohort study of 324 persons in Sweden undergoing sex-reassignment surgery used 30 years of data, population controls, and matching by birth year, birth sex, and reassigned sex (2). Through the Hospital Discharge Register, the authors evaluated discharge diagnoses, external causes of morbidity and mortality, and surgical procedure codes. Compared with the general population, patients who had sex reassignment surgery had 19 times the rate of completed suicide, almost three times the rate of all-cause mortality, nearly three times the rate of inpatient psychiatric care, and close to five times the rate of suicide attempts.

These important findings could have been updated to the current period, given the sharp rise in adolescent case presentations, use of puberty blockers, and changes in cross-sex hormones from agents like ethinyl estradiol to 17β-estradiol.

For those whose last surgery was 10 or more years earlier, how many completed suicide, died of other causes, or left Sweden prior to study initiation? A drop in hospitalizations for suicide attempts alone provides a very incomplete picture. When the data for such findings are accessible in the Swedish national registers, this omission is glaring.

The lack of control subjects, the limited 1-year time frame, and the avoidance of examining completed suicides and psychiatric hospitalizations are substantial study shortfalls.