# Despite Higher Rates of Minimally Recommended Depression Treatment, Transgender and Gender Diverse Medicare Beneficiaries with Depression Have Poorer Mental Health Outcomes: Analysis of 2009-2016 Medicare Data

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## Objective

Compare rates of minimally recommended depression treatment, psychotropic medication use, mental health hospitalization, and suicide attempt between transgender and gender diverse (TGD) and non-TGD Medicare beneficiaries with depression

## Background

Transgender and gender diverse (TGD) health disparities

-Gender identity is rarely measured in national survey data or healthcare administrative datasets

-Limited population level health research, and mostly focused on TGD youth or veteran populations

Mental health among TGD individuals

-Higher rates of depression and anxiety likely due to gender identity related discrimination, minority stress, and barriers to healthcare.

-Transgender people report higher lifetime suicidal ideation (55% vs. 13.5%) and attempt (29% vs. 4.6%) than general population

Potentially elevated risk of negative mental health outcomes among older TGD adults

-Older TGD adults and TGD adults with disabilities face higher levels of social isolation / greater fear of accessing health services.

- Little known about service use of TGD adults with depression

## Methods

1. Medicare claims data 2009-2016 for older adults and adults living with disability
2. Gender Minority Identification Methods (no self-report)
   ICD-9 (and equivalent ICD-10s): Gender Identity Disorder (302.6, 302.85), Trans-Sexualism (302.5-302.53)
   N=2223 TGD benes 65+; N=8752 TGD benes with disability
3. Comparison Group:
   N=499,888 Comparison benes 65+; N=287,583 with disability
4. Outcomes Measurement:
   **'Recommended minimum'' treatment**: in a given year, either (1) at least eight outpatient mental health visits or (2) at least four outpatient mental health visits plus at least one psychotropic medication prescription.
   **Psychotropic Prescription Fills** (e.g., antidepressants, antipsychotics): binary indicators of any prescription fills in each year as identified in the Part D Event file (outpatient pharmacy claims)
   **Mental Health Inpatient Visits**: identified in inpatient file as claims with a MH diagnosis code in the primary diagnosis position
   **Suicide attempt**: using ICD-9suicide attempt code E95* (injuries of intentional intent); ICD-10 code T14.9, self-harm subcodes of the T36-T71 series, and X60-X84 (intentional selfharm).
5. Covariates
   Age, region, dual enrollment in Medicaid, and race/ ethnicity. number of comorbid conditions using CCW indicators, separately for 16 mental health or substance use conditions and 40 physical health conditions

6. Comparing TGD vs Other Patients
   1. Demographic comparison of cohorts Comparing all outcomes
   2. Rank and Replace Method operationalizing IOM definition of disparities

## Results

**Table 1. Person-Level Characteristics of Medicare Beneficiaries with Diagnosis of Depression Enrolled Continuously in 2009–2016, by Cohort and Transgender or Gender Diverse Status**

| | Originally eligible due to disability $n=296,335$ | | | Originally eligible due to age $n=502,111$ | | |
|---|---|---|---|---|---|---|
| | TGD ($n=8752$) | Comparison ($n=287,583$) | $p$ | TGD ($n=2223$) | Comparison ($n=499,888$) | $p$ |
| Age categories, years | | | | | | |
| 18–24 | 0.03 | 0.01 | <0.0001 | 0.00 | 0.00 | n/a |
| 25–34 | 0.17 | 0.05 | | 0.00 | 0.00 | |
| 35–44 | 0.21 | 0.10 | | 0.00 | 0.00 | |
| 45–54 | 0.25 | 0.21 | | 0.00 | 0.00 | |
| 55–64 | 0.23 | 0.32 | | 0.00 | 0.00 | |
| 65+ | 0.11 | 0.32 | | 1.00 | 1.00 | |
| Dual eligible for Medicaid | 0.81 | 0.61 | <0.0001 | 0.31 | 0.24 | <0.0001 |
| Part D enrollment (≥12 months) | 0.91 | 0.81 | <0.0001 | 0.71 | 0.68 | 0.0013 |
| Race/ethnicity | | | | | | |
| Non-Hispanic White | 0.76 | 0.76 | 0.0035 | 0.88 | 0.88 | 0.8271 |
| Black or African American | 0.14 | 0.15 | | 0.05 | 0.05 | |
| Hispanic | 0.08 | 0.08 | | 0.05 | 0.05 | |
| Other or Unknown | 0.02 | 0.02 | | 0.02 | 0.02 | |
| Chronic conditions | | | | | | |
| Any mental health conditions (besides depression) | 0.85 | 0.77 | <0.0001 | 0.72 | 0.68 | <0.0001 |
| Any physical health conditions | 0.90 | 0.93 | <0.0001 | 0.98 | 0.98 | 0.9341 |
| Health care use | | | | | | |
| Any mental health outpatient visit | 0.85 | 0.63 | <0.0001 | 0.55 | 0.44 | <0.0001 |
| Any psychotropic drug use | 0.86 | 0.77 | <0.0001 | 0.65 | 0.63 | 0.0065 |
| Any ED visit | 0.79 | 0.69 | <0.0001 | 0.64 | 0.56 | <0.0001 |
| Any mental health inpatient visit | 0.32 | 0.13 | <0.0001 | 0.08 | 0.04 | <0.0001 |
| Any physical health inpatient visit | 0.32 | 0.36 | <0.0001 | 0.46 | 0.39 | <0.0001 |

Notes: Authors' analysis of data for 2009–2016 from the Medicare Research Identifiable Files. $p$-Values are from chi-square tests. Demographic information was from the *first year* in which beneficiaries met the inclusion criteria. Health care use descriptors are based on comparison at person level and represent individuals meeting criteria for at least one use in any year between 2009 and 2016. Comparison beneficiaries were from a 5% random sample of Medicare beneficiaries in each year who had at least one claim and who were not identified as gender minority beneficiaries. All beneficiaries in both cohorts were enrolled continuously in Medicare Parts A and B (and not Part C) for 12 months in each year studied. Inclusion criteria for Comparison beneficiaries also included at least one non-pharmacy claim in the year studied. Beneficiaries with end-stage renal disease were excluded.
ED, Emergency Department; n/a, not applicable; TGD, transgender and gender diverse.

- Among the disability and aged 65+ samples, TGD benes were more likely than comparison benes to be dually eligible and to have MH conditions.
- TGD benes more likely than non-TGD benes to use health care across visit types for mental and physical health

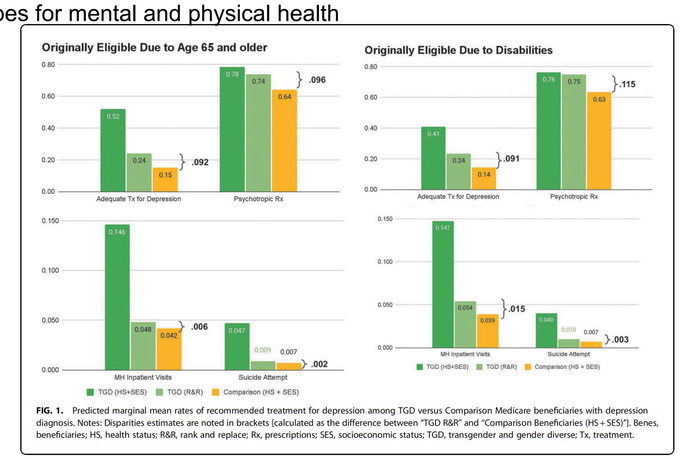


**FIG. 1.** Predicted marginal mean rates of recommended treatment for depression among TGD versus Comparison Medicare beneficiaries with depression diagnosis. Notes: Disparities estimates are noted in brackets [calculated as the difference between "TGD R&R" and "Comparison Beneficiaries (HS + SES)"]. Benes, beneficiaries; HS, health status; R&R, rank and replace; Rx, prescriptions; SES, socioeconomic status; TGD, transgender and gender diverse; Tx, treatment.

- After adjustment for need/sociodemographics among 65+, TGD benes had a higher proportion of minimally recommended treatment for depression (0.52 vs. 0.15), psychotropic medication fills (0.78 vs. 0.64), inpatient mental health visits (0.15 vs. 0.04), and suicide attempt (0.05 vs. 0.007).
- In the disability eligibility sample, TGD beneficiaries had higher proportions of minimally recommended depression treatment (0.41 vs. 0.14), psychotropic medication fills (0.76 vs. 0.63), mental health inpatient visits (0.15 vs. 0.04), and suicide attempt (0.04 vs. 0.007).
- IOM adjustment narrowed these gaps but still significant.

**Table 2. Disparity Estimates (Predicted Means) Among Medicare Beneficiaries with Depression**

| | IOM-concordant disparity estimates (predicted means and 95% CIs) | | | |
|---|---|---|---|---|
| | Originally eligible due to 65+ | $p$-value | Originally eligible due to disability | $p$-value |
| Minimally recommended treatment for depression | 0.092 (0.082–0.101) | <0.0001 | 0.091 (0.085–0.097) | <0.0001 |
| Psychotropic prescription fills | 0.096 (0.080–0.112) | <0.0001 | 0.115 (0.110–0.121) | <0.0001 |
| Mental health inpatient visits | 0.006 (0.002–0.010) | 0.005 | 0.015 (0.011–0.018) | <0.0001 |
| Suicide attempt | 0.002 (0.001–0.004) | 0.004 | 0.003 (0.002–0.005) | <0.0001 |

Notes: The $p$-values were calculated from running bootstrapping with 100 replications. Higher numbers indicate higher rates of each outcome in the TGD sample compared with the non-TGD sample in each subgroup. All $p$-values were significant after controlling for the false discovery rate using the Benjamini–Hochberg procedure, as well as after considering a more conservative Bonferroni correction (where a $p$-value <0.006 indicated statistical significance).
CI, confidence interval; IOM, Institute of Medicine.

## Community Forum (Sept. 2018)

- Fear of reporting
  - Lack of trust in the system: "people are told to avoid the ER at all costs"
  - Discussing ideation without being assumed to need inpatient hospitalization (Section 12 fears)
- Are we asking the right questions?
  - Who asks about Suicide Ideation can be a crucial factor (trusted provider/friend)
  - Existing screeners don't ask about trans-specific discrimination, trauma, or experiences with transition-related care; and questions around violence almost all focused on IPV
- Intersectionality with other issues:
  - Social & family support, homelessness, substance abuse, insurance issues as barriers
  - Transgender and Gender non-binary communities of color – even higher violence exposure
  - Structural: Lack of trans-specific resources and safe shelters and settings

Rates: "The majority of my friends attempt suicide."

People didn't see a standard way of being asked about personal safety, yet: "Everyone can recite the Kessler 6 off the top of their head."

Observed Violence Rates: "That's too low."

## Limitations

- Algorithm likely misses some TGD individuals and may be less likely to pick up people with nonbinary/ fluid gender identities.
- Suicide outcome using ICD codes likely under-reported

## Conclusions

1. TGD benes with depression had higher rates of minimally recommended treatment, psychotropic prescription fills, than their non-TGD comparison group among older beneficiaries and benes eligible for Medicare because of disability.
2. Despite having greater outpatient treatment and psychotropic medication, TGD benes had higher rates of MH inpatient hospitalization and suicide attempts compared to other benes.
3. These data point to large disparities in troubling health outcomes.

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