

Hughes L, Shireman TI, Hughto J. Privately insured transgender people are at elevated risk for chronic conditions compared with cisgender counterparts. Health Aff (Millwood). 2021;40(9).

Appendix

Exhibit 1. Predicted means and probabilities of chronic conditions, weighted and age-adjusted, 2001-2019

| | n | TFN 5,796 | | | TMN 10,682 | | | Cis Men 547,771 | Cis Women 715,501 |
|---|-------|------------------------|-----------|-------|------------------------|-----------|-------|--------------------|----------------------|
| | | comparison group p-val | | | comparison group p-val | | | | |
| | | Cis Men | Cis Women | TMN | Cis Men | Cis Women | TMN | | |
| Total Morbidity Score, (mean) | 2.62 | <.001 | <.001 | <.001 | 3.50 | <.001 | <.001 | 1.89 | 2.08 |
| Cardiovascular Conditions (%) | | | | | | | | | |
| Hypertension | 28.50 | 0.221 | <.001 | <.001 | 29.93 | 0.024 | <.001 | 22.90 | 27.89 |
| Cardiac Arrhythmia | 13.96 | <.001 | <.001 | <.001 | 19.83 | <.001 | <.001 | 12.25 | 11.68 |
| Valvular Disease | 6.45 | 0.617 | 0.446 | <.001 | 12.22 | <.001 | <.001 | 6.30 | 6.69 |
| Peripheral Vascular Disorders | 6.09 | 0.6863 | 0.003 | <.001 | 6.53 | 0.231 | 0.020 | 5.97 | 5.22 |
| Congestive Heart Failure ^a | 3.04 | <.001 | 0.292 | 0.571 | 3.38 | 0.226 | <.001 | 4.18 | 3.28 |
| Coagulopathy | 4.05 | <.001 | <.001 | <.001 | 4.86 | 0.014 | <.001 | 2.90 | 2.81 |
| Pulmonary Circulation Disorders | 2.16 | 0.0314 | 0.046 | 0.001 | 2.27 | 0.641 | <.001 | 1.75 | 1.78 |
| Neurological Conditions (%) | | | | | | | | | |
| Other Neurological Disorders | 6.40 | <.001 | <.001 | <.001 | 8.00 | <.001 | <.001 | 4.86 | 5.04 |
| Paralysis | 1.05 | 0.744 | 0.159 | 0.045 | 1.07 | 0.929 | 0.569 | 1.01 | 0.86 |
| Weight, Diabetic, and Thyroid Conditions (%) | | | | | | | | | |
| Obesity | 19.17 | <.001 | 0.001 | <.001 | 26.68 | <.001 | <.001 | 14.73 | 17.50 |
| Fluid and Electrolyte Disorders | 13.89 | <.001 | <.001 | <.001 | 17.95 | <.001 | <.001 | 9.20 | 10.70 |
| Hypothyroidism | 12.51 | <.001 | <.001 | <.001 | 30.82 | <.001 | <.001 | 7.40 | 16.34 |
| Diabetes | 12.09 | 0.316 | <.001 | <.001 | 13.24 | 0.025 | <.001 | 11.69 | 9.97 |
| Abnormal Weight Loss | 5.99 | <.001 | 0.002 | <.001 | 8.59 | <.001 | <.001 | 4.40 | 5.01 |
| Mental Health and Substance Use (%) | | | | | | | | | |
| Depression | 51.85 | <.001 | <.001 | <.001 | 53.54 | 0.038 | <.001 | 18.68 | 27.85 |
| Drug Abuse | 8.66 | <.001 | <.001 | <.001 | 7.02 | <.001 | <.001 | 4.56 | 3.22 |
| Psychoses | 5.04 | <.001 | <.001 | <.001 | 4.12 | 0.008 | <.001 | 1.73 | 1.79 |
| Alcohol Abuse ^a | 5.49 | <.001 | <.001 | <.001 | 4.17 | <.001 | 0.363 | 4.35 | 2.29 |
| Other Chronic Conditions (%) | | | | | | | | | |
| Chronic Pulmonary Disease | 20.79 | 0.051 | 0.147 | <.001 | 31.92 | <.001 | <.001 | 19.73 | 21.57 |
| Blood Loss or Deficiency Anemia | 6.28 | <.001 | <.001 | <.001 | 15.58 | <.001 | <.001 | 4.39 | 8.61 |
| Liver Disease ^a | 6.85 | 0.055 | 0.002 | <.001 | 13.31 | <.001 | <.001 | 6.18 | 5.79 |
| Renal Failure ^a | 4.22 | 0.286 | 0.055 | 0.406 | 3.57 | 0.036 | <.001 | 4.50 | 3.72 |
| Rheumatoid Arthritis/collagen | 3.93 | 0.870 | <.001 | <.001 | 13.83 | <.001 | <.001 | 3.89 | 6.87 |
| Cancer ^a | 4.95 | 0.769 | 0.689 | <.001 | 3.04 | <.001 | <.001 | 5.03 | 5.06 |
| AIDS/HIV | 3.00 | <.001 | <.001 | <.001 | 0.35 | <.001 | 0.000 | 0.58 | 0.14 |
| Peptic Ulcer Disease excluding bleeding | 1.17 | 0.775 | 0.150 | <.001 | 3.31 | <.001 | <.001 | 1.21 | 1.38 |

SOURCE: The authors' analysis is derived from administrative data from Optum's Clinformatics® Data Mart Database, which included de-identified insurance claims for privately insured and Medicare Advantage individuals from 2001-2019 in the U.S.

NOTES: Total Morbidity Score was determined using the Elixhauser Morbidity Index. The underlying trans n's vary due to trans inclusion criteria, as some condition and exclusion codes overlap. Therefore, we removed those from the sample who were only eligible if they fell into an inclusion category that required that an individual did not have a specific condition as to not downwardly bias our estimates. a TFN n of 5,658; b TMN n of 4,660. Logit models were fit predicting the likelihood of each condition by gender and age while applying the matched weights. Predicted probabilities were calculated using Stata's 'margins' by gender. A similar approach was used to examine the Total Morbidity Score, except linear regression was used instead of logistic.