

## MEMORANDUM

**To:** Mathew Rish

**From:** Kenneth C. Vieira, FSA, MAAA  
Peter Wang, Phd, ASA

**Date:** January 29, 2021

**Re:** Transgender Cost Estimate

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Section 1557 of the ACA prohibits discrimination in health programs on the basis of age, race, sex, national origin, color, or disability. We have attached Segal's publication in June 2016 that provides additional details and supporting documentation.

This brief memo is focused on the calculation of potential cost impact to the North Carolina State Health Plan. Please note that there is a lack of information and data to provide specific information on estimated cost to the Plan. Therefore, we have provided a range of estimates based on potential utilization information gathered from research and treatment cost estimates from BCBSNC. Please also note there are wide variations in some of these studies, and past experience from various counties that have provided coverage long enough to have data to review have shown the prior estimates to be overstated.

We understand that plan covered transgender dysphoria in 2017, giving us some limited experience to support our assumptions and calculations.

### Key Assumptions

Three key assumptions drive our cost estimates: prevalence of transgender members, percentage of those who seek benefits (including surgery) and the cost of the various treatment options.

**Prevalence** – According to the Centers for Disease Control and Prevention (CDC) 2015 Behavioral Risk Factor Surveillance System (BRFSS), approximately 0.58% of adults in the United States self-identify as transgender. This has increased slightly from 2014 & 2013. Other published statistics seems to support this estimate.

The Williams Institute in June of 2016 published a paper entitled "How Many Adults Identify as Transgender in the United States?" which goes a little further by drilling down on prevalence by state and also providing ranges. This paper estimated a prevalence range of 0.35% to 1.03% for North Carolina.

The studies are frequently mentioned and referenced and are a good estimate of the prevalence of transgenders among the State Health Plan population – between 1,500 to 4,500 adults age 18-64.

**Percentage Who Seek Benefits** – Those seeking benefits is difficult to predict since a new benefit may alter past patterns. One study was published by Olyslager, F. & Conway, L. (September 2007) entitled "On the Calculation of the Prevalence of Transsexualism." This paper was presented at the WPATH 20th

International Symposium, Chicago, Illinois. This study from 2007 estimates that, of those who identify as transgender, between 0.1% and 0.5% have taken some steps to transition from one gender to another. Looking at the 2017 plan data, it appears that about 20-30 additional members utilized benefits related to transgender dysphoria when compared to 2018 and 2019 data. Due to the new information, we have increased the utilization to 1% from the 0.5% in the study.

NCSHP membership from age 18 to 64 is approximately 442,000. Applying the prevalence and utilization assumptions above, we would expect 15 to 45 members to use transgender benefits.

For those who seek benefits, the vast majority of cost comes from members choosing to have gender reassignment surgery. There are a couple of sources we found (Mohammed A. Memon, MD; February 22, 2016; "Gender Dysphoria and Transgenderism: Epidemiology" Medscape, as well as HealthResearchFunding.Org) that site prevalence rates for adults seeking reassignment surgery of 1 in 30,000 for males and 1 in 100,000 for females. Using these statistics, we would expect 6 males and 3 females in our expected scenario, and we have applied a range of +/- 50% to get a range of 6-13 adults in total.

**Cost of Treatment** – Prior information was provided at a very high level from BCBSNC in 2016. Their pricing analysis was based entirely on external studies and sources, so they caution that this may differ from what Dr. McCauley or others may say—

- For male to female surgery they assumed roughly \$28K, with \$3,600 in hormonal therapy
- For female to male surgery they assumed about \$56K, with \$7,200 in hormonal therapy

They also noted that there would be fairly substantial counseling costs associated with the surgery—roughly \$10K in a given year.

No updated cost estimates were provided.

## Financial Impact

Using the above, we have estimated the annual cost to range from \$440,000 to \$1,150,000. The costs are highly variable based on the assumptions described above. Below is brief summary;

		Prevalence		Estimated Cost	Cost Estimate	
		Low	High		Low	High
Surgical Benefits	Male	3.57	8.02	\$ 41,600	\$ 148,371	\$ 333,834
Surgical Benefits	Female	1.88	4.23	\$ 73,200	\$ 137,537	\$ 309,459
Surgical Benefits	Total	5.45	12.25	\$ 52,503	\$ 285,908	\$ 643,293
Non-Surgical Benefits	Male/Female	10.04	33.31	\$ 15,400	\$ 154,558	\$ 512,946
Total Using Benefits	Male/Female	15.48	45.56		\$ 440,466	\$ 1,156,239
Adult Members					442,336	
Total PMPM					\$ 0.08	\$ 0.22

There are a few other sources we found and reviewed that provide similar information and would bring us to a similar range of cost estimates. The costs are also consistent with the limited data available for 2017, when the benefits were covered.

Based on approximately \$3.8 billion of premiums, the cost for NCSHP is estimated to be 0.01% to 0.03% of premium.