

National Trends in Gender Affirming Surgical Procedures: A Google Trends Analysis

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Background

- Gender affirming surgery (GAS) has become increasingly popular. Yet, is not available and barriers to access exist.¹
- Search engines can provide valuable information about healthcare-related search trends and improve access to care.
- The largest keyword search engine, Google Trends (GT) allows researchers to analyze geographic and temporal trends in relative search volumes (RSVs) for search terms.²
- GT is gaining popularity in healthcare-related research in a wide array of medical fields.³ GT has yet to be utilized to analyze national interest in GAS.

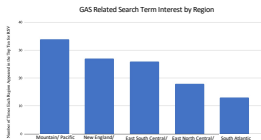
Research Objectives

- Hypothesis:** There will be discrepancies across various national regions between GT search demand for GAS and available surgical providers and academic medical centers offering such care.
- Primary Objective:** Describe national trends in demand for specific GAS procedures and determine where a lack of accessible care exists.
- Secondary Objective:** Help providers determine where there might be unmet demand and tailor their internet presence to include popular search terms that meet the widest audience.

Methods

- GT search terms were analyzed for national queries regarding GAS from January 2004 to February 2021.
- The 14 selected keywords covered GAS topics including but not limited to: "transgender surgery," "gender-affirming surgery," "top surgery," and "bottom surgery."
- The number of plastic surgery providers and academic surgery centers was collected from the World Professional Association for Transgender Health (WPATH) and Trans-health.com.^{4,5}
- RSVs were analyzed by metro area to determine the relationship between search demand and personal income as defined by the Bureau of Economic Analysis.⁶
- State Medicaid policies for transgender health services were also determined.
- Descriptive statistics were used to evaluate trends, relative search volumes, and geographical distribution in searches and available care.
- To account for population size, all data was collected as RSVs.

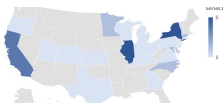
Figure 1. GAS Related Search Term Interest by Region



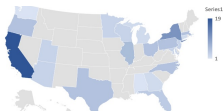
For search terms, states with the top ten RSVs were listed. The number of times each state appeared was added into its regions as described by the American Society of Plastic Surgeons.

Figures 2, 3. Gender Affirming Care in the United States

Academic Medical Centers in the United States with Dedicated TG Care



Plastic Surgeon Providers Offering GAS



Access to gender affirming care across the United States.

Results

- All search terms demonstrated a positive increase in RSVs except "sex reassignment surgery" and "penectomy".
- The Mountain/Pacific region had the greatest search interest for all terms relating to GAS and number of providers offering care.
- East and West South Central ranked last for both number of providers and academic medical centers offering care and had no states with explicit Medicaid policies covering gender affirming care.
- Metro areas in the top 10 for RSV but bottom quartile for per capita personal income included: Florence, South Carolina, Beckley, West Virginia, and Bowling Green, Kentucky.

Limitations

- Only search terms with sufficient interest to generate an RSV value on GT were used in this analysis.
- Our analysis is limited in the sense that we are only assessing interest of the patient population with the ability to search online.
- GT is one of many search engines used by individuals.

Conclusions

- There has been an increase in general interest related to GAS.
- Regional RSVs were higher in states with explicit Medicaid policies related to transgender health than states without these policies. Finances are therefore likely a barrier to seeking care.
- 67% of the low-income metro areas that demonstrated high search demand fell into the two regions with the fewest providers offering GAS.
- Using GT can help target care efforts to low-income areas with limited providers but high interest. Monitoring regional and metro trends in search terms will help ensure that interest in GAS is being matched with access to providers offering it.

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