

## Search Trends Signal Increased Vasectomy Interest in States with Sparsity of Urologists after Overrule of Roe vs. Wade

**Key Words:** vasectomy; practice patterns, physicians'; legislation and jurisprudence

The Supreme Court of the United States' (SCOTUS) decision to overrule Roe vs. Wade has rendered abortion illegal across a multitude of states. While this decision primarily impacts the management of women's reproductive health, urologists around the country may feel the rippling effect as more men start seeking options for contraception. Although the number of vasectomies performed in the United States has steadily declined across all age groups over the last decade,<sup>1</sup> urologists may see a sudden reversal of this trend, particularly in states that are disproportionately affected by the SCOTUS decision.

As a surrogate measure for public interest in vasectomies, we conducted an analysis of Google Trends™'s relative search volume (RSV) by individual state for the topic "vasectomy." RSV is measured on a scale from 0–100 and is normalized to the time and location of a query. We compiled search data from 3 months prior to the SCOTUS decision to establish a baseline and quantified the immediate change by comparing to the values from 3 days after the decision. For each state, we calculated the ratio of licensed urologists to adult men (per 100,000) using data from the American Urological Association's 2021 census and the United States' 2020 census. Lastly, we referenced *The New*

### Abbreviations and Acronyms

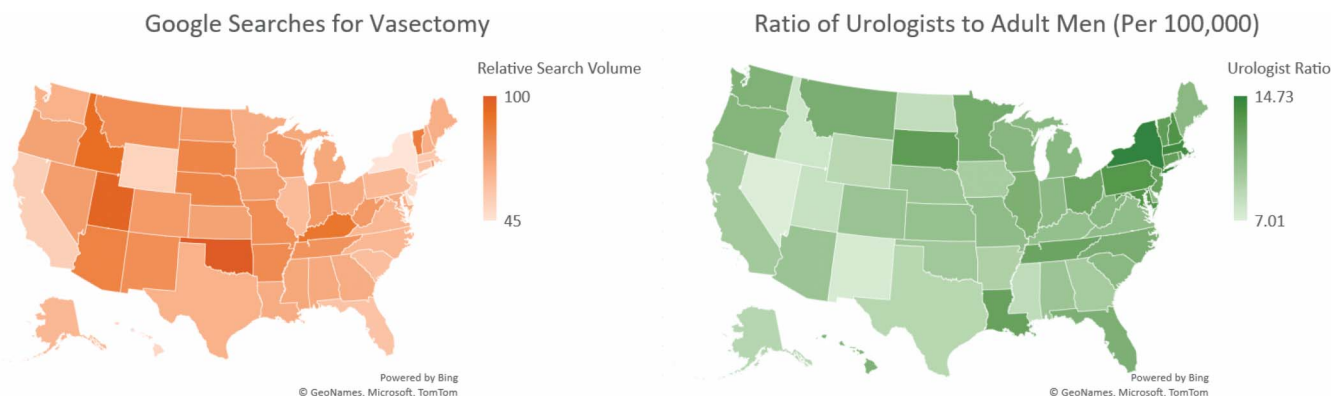
RSV = relative search volume

SCOTUS = Supreme Court of the United States

State	RSV	Urologist-to-Male-Adult Ratio	Legal Status of Abortion
Arkansas	81	9.30	Prohibited
Missouri	80	10.79	Prohibited
Montana	80	11.76	Uncertain
New Mexico	80	7.33	Legal
Tennessee	78	12.39	Prohibited
Indiana	76	10.98	Uncertain
North Dakota	76	8.39	Prohibited
West Virginia	76	11.18	Prohibited
Colorado	75	10.32	Legal
Wisconsin	75	11.13	Prohibited
Iowa	74	9.64	Uncertain
Nevada	74	7.01	Legal
Rhode Island	73	12.70	Legal
Kansas	72	10.46	Uncertain
Oregon	72	11.32	Legal
Michigan	70	11.09	Uncertain
Mississippi	70	8.49	Prohibited
Alabama	69	10.18	Prohibited
Ohio	69	12.31	Restricted
Georgia	68	9.69	Restricted
Louisiana	68	12.63	Prohibited
Maryland	68	13.52	Legal
Minnesota	68	12.00	Legal
Maine	67	11.00	Legal
New Hampshire	67	13.52	Legal
Texas	66	8.93	Prohibited
Washington	66	11.53	Legal
Alaska	64	8.95	Legal
North Carolina	64	11.76	Uncertain
Virginia	64	10.74	Uncertain
Pennsylvania	63	13.35	Uncertain
Illinois	62	11.65	Legal
South Carolina	61	11.04	Restricted
Connecticut	59	12.74	Legal
Florida	59	11.64	Restricted
Massachusetts	57	14.20	Legal
California	54	9.86	Legal
Wyoming	52	8.81	Prohibited
Hawaii	50	11.50	Legal
New Jersey	50	12.62	Legal
Delaware	47	10.98	Legal
New York	45	14.73	Legal

**Table.** RSV, urologist-to-adult-male ratio (per 100,000), and legal status of abortion as of July 29, 2022 for each state

State	RSV	Urologist-to-Male-Adult Ratio	Legal Status of Abortion
Oklahoma	100	9.95	Prohibited
Utah	96	8.10	Prohibited
Idaho	92	7.82	Prohibited
Kentucky	89	10.54	Prohibited
Vermont	86	12.87	Legal
Arizona	84	10.23	Prohibited
Nebraska	83	10.20	Uncertain
South Dakota	83	12.91	Prohibited



**Figure.** Visual representation of the inverse relation between RSV and urologist-to-adult-men ratio.

*York Times* to sort states based on legal status of abortion.<sup>2</sup> States were categorized as either Prohibited (abortion banned or expected to be), Restricted (gestational limit in effect or expected to be), Uncertain (decision based on 2022 ballot), or Legal.

Following the SCOTUS' decision, public interest (RSV) in vasectomies was greatest in Oklahoma (100), Utah (96), and Idaho (92), and lowest in New York (45), Delaware (47), and New Jersey (50; see Table). The ratio of urologist to adult men was highest in New York (14.73), Massachusetts (14.20), and New Hampshire (13.52), and lowest in Nevada (7.01), New Mexico (7.33), and Idaho (7.82). Abortion status was prohibited in 17 states (34%), restricted in 4 states (8%), uncertain in 9 states (18%), and legal in 20 states (40%). Interestingly, New York state had the lowest interest in vasectomies (45) while also having the highest ratio of urologists to adult men (14.73) in the country (see Figure). Conversely, Idaho was in the bottom 3 for urologist-to-adult men ratio (7.82) and top 3 for vasectomy interest (92).

Mean RSV differed significantly between states based on the legal status of abortion ( $p=0.017$ ), which was highest in prohibited states (78.5) and lowest in legal states (64.2). Additionally, Spearman's test showed a significant correlation between states with a lower ratio of urologists to adult men and those with higher RSV ( $R=-0.36$ ,  $p=0.017$ ). When adjusting for both urologist ratio and current abortion status, multivariable linear regression revealed that only prohibited abortion status remained significantly correlated with RSV ( $B=12.23$ ,  $p=0.002$ ).

In the wake of the SCOTUS decision to overturn *Roe vs. Wade*, public interest in vasectomies is rising exponentially, particularly in states where abortion is or is expected to be prohibited. Concurrently, these

states have significantly lower ratios of urologists to adult men, which will likely pose difficulties for men seeking access to this procedure. Thus, the amalgam of high public interest in vasectomies, low urologist-to-adult male ratio, and abortion prohibition is anticipated to further strain a urological workforce that presently faces a shortage of physicians, particularly in rural areas.

A limitation of this study is that Google search trends are not a perfect substitute for public interest in vasectomies. However, despite this limitation, Google's large market share does allow for real-time analysis of the overall sentiment of large populations. Previous analyses have also shown increased Google searches to be significantly correlated with disease outbreaks<sup>3</sup> as well as with surgical procedure volume.<sup>4</sup>

After a SCOTUS decision that has challenged reproductive rights of women and access to contraception, we believe our findings may allow urologists to better prepare for anticipated trends in alternative forms of contraception, some of which are already being reported anecdotally.<sup>5</sup>

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