# Reproductive Health Policy and Residency Application Patterns: Evidence from Abortion Bans following Dobbs v Jackson

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**ABSTRACT**

Residency decisions have large potential ramifications for the supply of health professionals in an area. Around half of residents continue to practice in the same state after completing their residency. As a result, policy changes that impact *where* individuals apply for residency may have meaningful impacts for healthcare access. This paper examines a policy change with the potential to impact the residency location decisions of obstetricians and gynecologists (OB-GYNs) — the 2022 Supreme Court decision in *Dobbs v. Jackson*, which revoked constitutional protections for the right to an abortion. Following this ruling, thirteen states immediately implemented full bans on abortions, with large consequences for physicians performing abortions in those states. We use a triple difference-in-differences design to examine whether these "trigger bans" enacted in the wake of Dobbs affect residency applications to OB-GYN programs in those states. We find that in the years following the Dobbs decisions, applications to residency programs in ban states decrease by 12%. Examining mechanisms, we find suggestive evidence that this change is driven by a shift in *where* OB-GYN applicants choose to apply rather than a shift away from applying to OB-GYN programs in general. Subgroup analyses reveal that this decrease is driven entirely by female applicants. These results suggest large potential ramifications of abortion bans for access to maternal healthcare in these states, many of which are existing maternity care deserts. They also indicate that training and practice environment can be a large determinant of residency location, and possibly of future practicing location, for OB-GYNs.

# I Introduction

Geographic disparities in access to maternity care are stark. In 2022, 36% of counties were considered "maternity care deserts", defined as having zero obstetric hospitals and obstetric providers in the county (Brigance, Lucas, Davis, Oinuma, Mishkin, and Henderson, 2022). In contexts like these, where access to maternal care is already low, policies that impact the pipeline of reproductive care physicians into the state can have large downstream ramifications for health care access and outcomes. A recent policy change of note in this setting is the 2022 Supreme Court decision, *Dobbs v. Jackson* (hereafter referred to as "Dobbs" for simplicity), which determined that "the Constitution does not confer a right to abortion". Following Dobbs, thirteen states implemented automatic abortion bans. In nearly half of these abortion-ban states, a majority of counties were already classified as maternity care deserts in 2022, suggesting that abortion restrictions were enacted in contexts with limited baseline access to obstetric care (March of Dimes, 2022).

In this paper, we examine whether the automatic imposition of abortion bans in thirteen states in the wake of the Dobbs decision affected the number of obstetrics and gynecological (OB-GYN) residency applications to programs located in those states.[1] While research on residency decisions often focuses on where individuals *complete* their residency, examining program applications provides novel insight into applicant preferences and decision-making factors, independent of the demand-side factors that may ultimately impact an individual's residency placement. Residency decisions (and the factors that contribute to those decisions) can have important and potentially long-lasting implications for access to reproductive care — 52% of residents continue to practice in the state in which they completed their residency (AAMC, 2021). As such, reductions in residency applications to a region could translate into persistent shortages in the physician workforce.

We study this question using data from the American Academy of Medical Colleges (AAMC) on residency applications at the program-specialty level. We use a triple differences-in-differences design, exploiting variation over time, specialty (OB-GYN vs control), and the abortion ban status of the state. In our primary specification, we use guidance provided to medical students on specialty selection to define a control group of specialties that are similar to OB-GYN in terms of applicant characteristics, training structure, and career considerations. Using this approach, we find that the Dobbs decision reduced applications to OB-GYN programs in ban states by 12%, and we find suggestive evidence that this is driven by a substitution *within the OB-GYN specialty* from ban to non-ban states, rather than a substitution away from OB-GYN specialties to other specialties.

[1] Appendix table B1 lists the ban-status of each state following Dobbs.

Subgroup analyses by gender reveal that this decrease is completely driven by female applicants. Our results are robust to defining the control group using a data-driven approach and accounting for potential double counting concerns.

This paper contributes to a growing evidence-base on the effects of the Dobbs decision and of abortion bans more broadly. Recent quasi-experimental studies of the Dobbs decision have found evidence of impacts on travel time to obtain abortions (Myers, Dench, and Pineda-Torres, 2025), fertility (Dench, Pineda-Torres, and Myers, 2023), overall migration (Dench, Lifchez, Lindo, and Liu, 2025), intimate partner violence (Dave, Durrance, Erten, Wang, and Wolfe, 2025), women's college applications (Kane, 2025), and women's labor market participation (Oyenpemi, 2025). There is also related evidence on the impact of restricted abortion funding through the 1976 Hyde Amendment on fertility (Hoehn-Velasco, Dhingra, and Pineda-Torres, 2025). The literature on the relationship between Dobbs and residency applications largely consists of survey-based or descriptive papers (Hammoud, Morgan, George, Ollendorff, Dalrymple, Dunleavy, Zhu, Banks, Akingbola, and Connolly, 2024; Mermin-Bunnell, Traub, Wang, Aaron, King, and Kawwass, 2025; Orgera, Mahmood, and Grover, 2023). The work most closely related to our paper is Ganguly, Basu, and Morenz (2026), which examines the effect of Dobbs on residency applications to abortion-ban versus non-ban states separately by gender. Using a difference-in-differences framework, the authors compare applications across states before and after Dobbs and find the largest declines among abortion-related and highly competitive specialties. The next most closely related paper in this space is Bergmann (2026), which examines the effect of Dobbs on the stock and flow of OB-GYN providers, finding no overall effect on provider supply but important compositional changes by political affiliation and gender.

Our paper extends this literature in several ways. First, we incorporate an additional year of post-Dobbs data in our study of residency applications, allowing us to assess whether declines in applications reflect a short-term response or a more persistent shift in applicant preferences. Second, we specifically examine the differential effect of Dobbs on OB-GYN application decisions relative to a theoretically-appropriate control group of specialties. This distinction has important implications for the future pipeline of reproductive health providers in states with abortion bans. Moreover, it allows us to isolate the impact of training and practice conditions from the impact of broader state environments, by separating out the specialty that is most likely to see direct impacts in residency content and experiences after Dobbs.

This paper also contributes to the policy-relevant literature on the determinants of physician location decisions, given that residency location strongly predicts future practice location (AAMC, 2021). Understanding the relative importance of these determinants is critical for designing policies to increase the number of providers in shortage areas. Previous causal research has focused on physician responses to incentives that are financial in nature. For example, Khoury, Leganza, and Masucci (2022) finds that when a county is designated a Health Professional Shortage Area, which provides a 10% bonus payment to physicians billing in that area, it experiences an increase in the number of early-stage physicians practicing in that county. This paper offers a novel contribution by examining how physicians respond to non-pecuniary incentives — specifically, local "amenities" such as their training and practice environment. Although state abortion bans could also affect potential income-streams for practicing OB-GYNs in a state, in states with "trigger bans", baseline abortion rates were notably low prior to Dobbs (KFF, 2025). Given that abortion care may comprise a smaller fraction of total income for physicians practicing in those states, we expect that the primary shock to those residents in those states would be to the training and practice environment rather than income potential.

Finally, this paper offers a contribution to the literature on the determinants of physician specialty decisions. Previous literature has been largely descriptive in nature, surveying medical students on the relative importance of several factors when making specialty decisions.[2] These papers have found that the most predictive factors in explaining specialty choice are academic interest, the relative focus on patient care versus procedural medicine, and work-life balance, among others. Of the few papers that causally identify the effect of specific factors on specialty decisions, the most closely related to the current study is Wasserman (2023), which examines the effect of a duty hour cap on entry into specialties with previously high time requirements. Our paper is the first to causally identify the effect of legal restrictions on training and practice on residency decisions. The finding that individuals are not likely to change specialties in response to Dobbs suggests that geographic preferences may be stronger than specialty preferences in this context.

The remainder of the paper is structured as follows: Section II provides an institutional background on the residency application process and the Dobbs decision, Section III describes the data and sample, Section IV outlines our empirical approach, Section V presents our results, Section V.IV presents results from alternate specifications, and Section VI discusses the implications of our results for policy and future research.

[2]See Yang, Li, Wu, Wang, Li, Zhu, Chen, and Lin (2019) for a comprehensive review of the literature on specialty decisions.

# II Background

## Institutional Background: The Residency Application Process

During the third and fourth years of medical school, students rotate through various clinical specialties to gain hands-on experience and exposure to different fields. By the start of the fourth year, students are generally expected to have decided on their intended specialty. Several factors may influence medical students' specialty choices, including preferences for patient interaction versus procedural work, anticipated salary, and desired work-life balance (Association of American Medical Colleges, 2019; Yang, Li, Wu, Wang, Li, Zhu, Chen, and Lin, 2019). Notably, for residency purposes, students do not need to have chosen a subspecialty. For instance, a student interested in cardiology would apply to an internal medicine residency; subspecialty training, such as a cardiology fellowship, would follow the completion of the residency. This structure also applies to most surgical subspecialties, which typically require a general surgery residency as a prerequisite. There are certain specialties, including obstetrics and gynecology (OB-GYN), otolaryngology (ENT), family medicine, and ophthalmology, which have independent residency programs that do not require prior training in internal medicine.

The residency application process consists of 4 parts: initial applications, candidate interviews, ranking institutions, and "The Match". Most people apply to around 60-70 residency programs. Prior to 2025, initial applications for most specialties were submitted towards the end of September through the Electronic Residency Application Service (ERAS), a large centralized online portal.[3] The application includes standardized portions such as personal information, extracurricular activities and research, as well as a personal statement. After sending out applications, an applicant will hear back from programs with interview offers between October and November. Certain specialties, including OB-GYN, set a specific day on which applicants hear back from all of the programs regarding their interview status. Other specialties typically roll out interview offers over the course of 1-2 months.[4]

After the interview stage, applicants make a "Match List" by ranking the programs that offered them interviews from most desired to least desired. The ranked list is due towards the end of

[3] The majority of application-related costs stem from ERAS. In 2018, the fee was $11 per program for the first 30 applications, and $30 for each additional application. OB-GYN applicants submitted an average of 61.3 applications, while there were 241 OB-GYN programs nationwide. OB-GYN residency programs switched from using the centralized ERAS portal to a separate online system called ResidencyCAS in the 2024-2025 application cycle. Emergency Medicine programs switched to ResidencyCAS in the 2025-2026 application cycle. Since these changes are outside of the study window, we expect that the shift in application platforms is unlikely to impact our study estimates.

[4] While in-person interviews were the norm prior to 2020, most interviews have since transitioned to virtual formats.

February for most specialties and marks the last stage of the process at which applicants can express their program preferences. Concurrently, each program ranks the students that they interviewed in order of interest. The programs' and applicants' "Match Lists" are put into a system where an algorithm makes 1-1 pairings of students to residency programs.[5] Finally, matches between students and programs are announced around the second week of March over the course of approximately one week. On Monday of this week, students find out *if* they matched, and on Friday of the same week they find out *where* they matched. The gap in timing allows students who did not receive matches through the initial process to re-apply through a supplemental match program, which releases their results on the same Friday as the programs from the initial match.

### Policy Background: Dobbs v. Jackson (2022)

Dobbs v. Jackson Women's Health Organization (2022) was a Supreme Court decision that overturned Roe v. Wade (1973), eliminating the federal constitutional protection for abortion and granting states the authority to regulate or ban the procedure. In the immediate aftermath, more than a dozen states enacted total abortion bans through existing "trigger laws" which were designed to automatically initiate if the federal protection for abortions was removed. Several other states that did not have full trigger bans implemented severe restrictions on abortion access. Penalties for violating these laws vary by state but can include felony convictions and fines of up to $100,000. These legal consequences are particularly salient for OB-GYNs, who are often at the forefront of providing abortion and miscarriage care. According to a survey by the Kaiser Family Foundation, 61% of OB-GYNs in abortion-ban states reported concern about their legal risk when making decisions about abortion care, compared to 27% in non-ban states (Frederikson, Ranji, Gomez, and Salganicoff, 2023). These abortion laws also affected physicians in training: in states with abortion bans, OB-GYN residency programs were prohibited from providing abortion training and often had to send residents to out-of-state rotations to obtain this experience, even though abortion care is considered a core element of OB-GYN education (Grzeskowiak et al., 2024).

## III Data

Our data on residency applications comes from the American Association of Medical Colleges (AAMC), which oversees the ERAS residency application system. The data cover all applications submitted for academic years 2017-2018 through 2023-2024 at the institution–by–specialty level,

[5] See Roth (2003) for an overview of the residency match algorithm.

and include the number of applications submitted to each program and specialty disaggregated by applicant gender.[6] The data include 28 unique specialty codes and a catch-all code for "all other specialties", which consists of specialties, often combined programs, with a small sample size that would violate minimum cell size requirements.[7] The limited set of specialty codes in the AAMC data may preclude us from studying the behavior of students who apply to any of the 32 specialties classified in the "other" category. We also observe selected aggregate applicant characteristics, such as the average number of specialties applied to, the share with an MD/PhD and the share with membership in Alpha Omega Alpha (AOA), the national medical honor society.[8]

A key feature of the dataset is a three-level categorical variable indicating the abortion policy status of the program's state at the time of the Dobbs decision: legal, limited (e.g., gestational limits), or banned (i.e., trigger bans). State identifiers are not provided due to confidentiality constraints. Figure 1 shows the states falling into each of the three categories.[9] In addition, the data contain time-varying program-level characteristics, including the availability of parental leave and on-site childcare.

# IV Methods

To examine the impact of Dobbs and the subsequent enforcement of state abortion bans on residency application decisions, we use a triple difference-in-differences strategy that relies on variation over time, across specialties (OB-GYN vs. selected comparison specialties), and across states (states with abortion bans vs. states without bans). One challenge faced by a simple difference-in-differences approach (which in this setting would compare ban and non-ban states before and after Dobbs) is that it cannot conclude whether changes in outcomes reflect Dobbs-specific effects on OB-GYN training environments or broader declines in the attractiveness of applying to any residency program in an abortion-ban state. The triple difference-in-differences approach addresses this by comparing trends in OB-GYN applications to trends in other specialties within the same states over time, thus isolating specialty-specific responses to Dobbs. Our primary specification is shown in Equation 1.

[6] Throughout, we refer to the fall of the application year. For example, 2019 refers to the 2019–2020 academic year. The Dobbs decision occurred during the 2021 academic year.

[7] See Appendix Appendix B: for the full list of specialties included in the"Other Specialties" category.

[8] National Resident Matching Program (2018) reports that 17% of matched seniors were AOA members compared to 6.4% of unmatched seniors; 4% of matched seniors held an MD/PhD compared to 2.9% of unmatched seniors.

[9] The following states and territories changed status between 2022 and 2023 and are dropped from the data: Arizona, Indiana, Puerto Rico, Ohio, Utah, Wisconsin, and Wyoming.

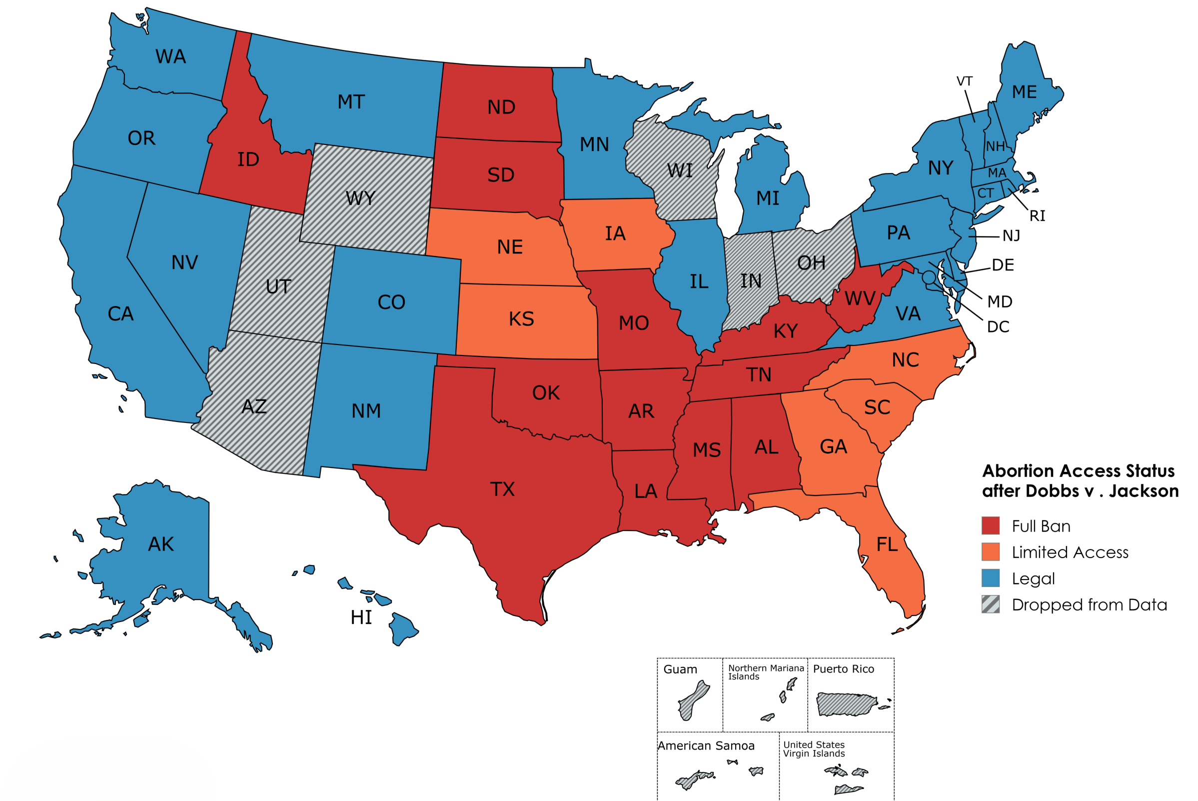


Figure 1: Map of the 50 contiguous U.S. states, Alaska, Hawaii, and six U.S. territories colored by abortion access status after the passing of Dobbs v. Jackson in 2021. ***Source:*** *mapchart.net*

$$\text{Applications}_{ipst} = \alpha + \beta_1 \text{OB-GYN}_p \times \text{StateBan}_s \times \text{Post}_t + \gamma_{ip} + \delta_t + \epsilon_{ipst} \quad (1)$$

The dependent variable is the number of applications to institution $i$, of specialty $p$, in state $s$, in application year $t$. $\text{OB-GYN}_p$ is an indicator that equals 1 if the specialty $p$ is an OB-GYN program and 0 otherwise, $\text{StateBan}_s$ is an indicator that equals 1 if state $s$ enforced a trigger ban and 0 otherwise, and $\text{Post}_t$ is an indicator that equals 1 if year $y$ is after 2022 (the year of the policy change). Although there are three categories for the abortion ban status of states, we group states in the "legal" and "limited" categories based on raw plots suggesting that applications to "limited" states trend more similarly to applications to "legal" states than those in "ban" states (see Appendix figure A1). $\gamma_{ip}$ and $\delta_t$ represent program-by-specialty and application-year fixed effects, respectively. To account for the small number of specialties, we adjust standard errors using the wild bootstrap method. The coefficient of interest is $\beta_1$, estimates the *differential change* in applications to OB-GYN residency programs in trigger-ban states after 2022, relative to the corresponding differential change between OB-GYN and comparison specialties in non-ban states. To test whether the types of students who applied to ban and non-ban states changed after Dobbs, we use the two best proxies for applicant quality available in our data: the proportion of applicants with an AOA membership, and the average number of specialties listed by applicants. Previous analysis of match rates suggest that these variables are correlated with match success (National Resident Matching Program, 2018).[10]

**Selecting a Control Group**

Our analysis of residency applications relies on comparing OB-GYN application rates to those of a set of control specialties that we would expect to have similar application trends, absent the policy change. In our preferred specification, we define this control group based on theoretical similarities across specialties. Specifically, we follow publicly-available guidance provided to medical students by Stanford University, which classifies specialties into three broad categories—"medical", "surgical", and "mixed"—based on preferences for direct versus indirect patient care and the degree of procedural involvement. According to this framework, OB-GYN is categorized within the "Mixed" group, which includes specialties that combine direct patient care with a balance of clinical rea-

[10]Note that we also observe the share of applicants with an MD-PhD. However, having a dual degree is rare (3% in our data), so we do not use this variable in our analysis.

soning and surgical procedures. Other specialties in this group include otolaryngology (ENT), ophthalmology, urology, anesthesiology, dermatology, and emergency medicine (Totman, 2015).

The final control group includes ENT, urology, anesthesiology and dermatology. We exclude emergency medicine from the control group for two reasons. First, interest in the specialty declined substantially in the aftermath of the COVID-19 pandemic. Second, emergency physicians may provide urgent abortion care, which could lead to measurement error and attenuate our estimates. Ophthalmology is also excluded since the data does not include a distinct code for this specialty. In Section V.IV we show that our results do not meaningfully change when we use an alternative, data-driven method for selecting a control group that leverages dual-application (applying to more than one specialty) patterns among OB-GYN applicants.

# V Results

## V.I Effect on Applications to OB-GYN Residencies in Abortion-Ban States

Figure 2 presents event-study estimates of the triple difference-in-differences specification in Equation 1.[11] The comparison group includes applications to ENT, urology, general anesthesiology, and dermatology residencies, which are the subset of specialties expected to have a similar mix of medical and surgical components to the OB-GYN residency (Totman, 2015).[12]

Figure 2 reveals no statistically significant differences prior to 2021, the academic year in which Dobbs was enacted. In the year Dobbs was enacted, applications to OB-GYN residencies in ban states decrease by 38.9 applications relative to residencies for comparison specialties in ban and non-ban states. This drop persists through academic year 2023, one year following the Supreme Court ruling. This amounts to a 12% decrease relative to applications for OB-GYN residencies in non-ban states prior to 2022, and an 11% decrease relative to applications for comparison residencies in ban states prior to 2022. Table 1 shows the corresponding triple difference-in-differences estimate comparing the average effect in the post-ruling years to the average in the pre-ruling years. This pre-post estimate suggests that the magnitude of the decrease may be as large as 43.72 applications, an 11.9% decrease from the comparison specialty mean in the pre-period.

[11]The category of states without bans includes both states with no ban and states with limited restrictions.
[12]See Section IV for detailed descriptions of the control group.

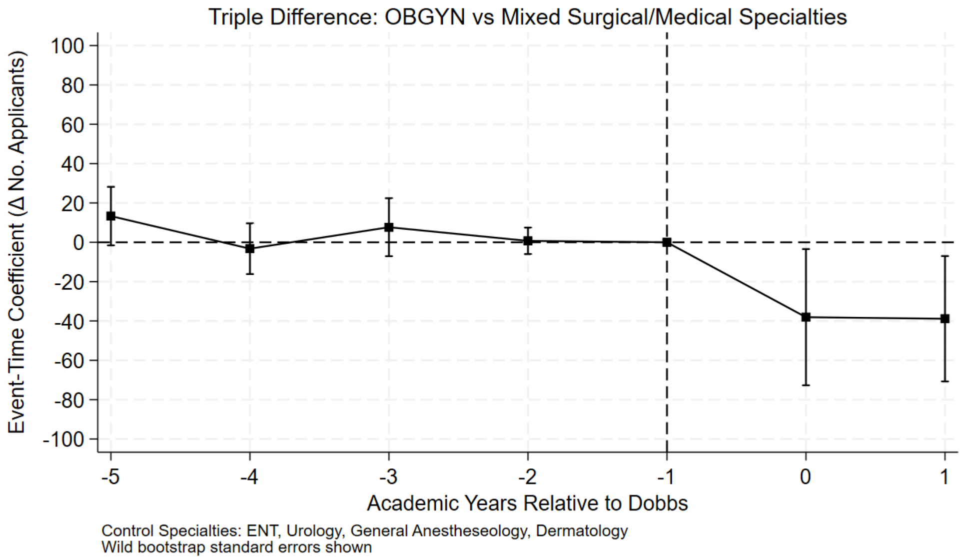


Figure 2: Event study estimates for the triple difference-in-differences model, where OB-GYN is the treated specialty and control specialties are the other specialties in the "Mixed Surgical/Medical" category defined by the Stanford 2015 Roadmap to Choosing a Specialty. Standard errors are adjusted using the Wild Bootstrap method.

Table 1: Triple difference-in-differences estimates using the mixed surgical/medical comparison group

| | (1) |
|---|---|
| Post x Treated Spec. x Ban State | -43.72$^{*}$ |
| | (10.02) |
| Constant | 335.7$^{***}$ |
| | (10.91) |
| $N$ | 5008 |
| Control Baseline Mean | 364.9 |
| Treated Baseline Mean | 323.0 |

Standard errors in parentheses
$^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

### V.II Mechanisms

The triple difference-in-differences model suggests that OB-GYN residency applications in ban states decreased after the passing of Dobbs. There are two primary channels through which this decrease might occur. First, the law change may have changed *where* individuals choose to apply for OB-GYN residencies, shifting OB-GYN residence applications away from states with bans. Second, the law may have changed *the types of specialties* individuals choose to apply for in states with bans, shifting applicants who would previously have applied to OB-GYN residences to apply for residencies in alternative specialties.

To assess which channels are driving this decrease, Table 2 shows estimates from separate difference-in-differences models run within ban-states only (Column 1) and within treated specialties only (Column 2). The model in Column 1 compares treated and non-treated specialties before and after the overturn of Dobbs for states with trigger bans in place. The model in column 2 compares non-ban and ban states for OB-GYN residency applications. Column (2) reveals that among OB-GYN-residency applicants, applications to residencies in ban states decreased by 55.19 applications, a 17% decrease from the pre-period mean number of OB-GYN applications submitted in non-ban states. In contrast, these seems to be no statistically significant effect on the number of applications to OB-GYN relative to comparison specialties within ban states. This suggests that the decrease in OB-GYN residency applications in ban states may be driven by a shift in *where* applicants apply rather than in their specialty choice. Appendix Figures A2 and A3 show corresponding event studies for these sub-sample regressions.[13]

### V.III Heterogeneity by Type of Applicant

To better understand which subgroups of applicants are driving the decrease in OB-GYN applications in ban states, this section examines heterogeneity by gender and applicant quality. Table 3 shows separate triple difference-in-difference estimates following Equation 1 for women (Column 2) and men (Column 3). As a point of comparison, Column 1 shows the same full-sample regression presented in Table 1. Table 3 reveals that OB-GYN applications in ban states decrease by 51.57 applications for women (an 18% decrease from the pre-ban number of applications for women in comparison states). For men, in contrast, there is a small, statistically insignificant increase in applications. We are not able to disentangle whether this larger impact for women reflects differences

[13] Though the coefficient in Column (1) is large, Appendix Figure A2 suggests that is largely driven by pre-trends starting 3 years prior to the policy. This further reinforces the need to use a triple differences strategy to estimate causal impacts in this setting

Table 2: Difference-in-differences within ban-states only and treated specialties only

| | (1) Ban States | (2) Treated Specialties |
|---|---|---|
| Post x Treated | -102.9 | -55.19*** |
| | (42.00) | (8.770) |
| Constant | 324.3** | 323.0*** |
| | (69.75) | (13.51) |
| $N$ | 1052 | 1715 |
| Control Baseline Mean # Applications | 324.3 | 323.0 |
| Treated Baseline Mean # Applications | 278.4 | 278.4 |

Standard errors in parentheses

$^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

in responsiveness to training environment by gender or differences in the baseline number of male applications to OB-GYN residencies.[14] In Columns 4 and 5, we look at effects on the share of applicants with an AOA membership and the average number of specialties to which individuals applied. In Column 4, we find that the share of OB-GYN applicants with an AOA membership decreased by 10 percentage points (12% relative to the mean) for ban states, while the average number of specialties decreased by 10% relative to the baseline mean. The decrease in the AOA share is suggestive evidence that the "quality" of applicants to OB-GYN programs in ban states decreased as a result of Dobbs.[15] The decrease in the average number of specialties could suggest that OB-GYN applicants who choose to apply to programs ban states after Dobbs are less undecided regarding their specialty choice. In other words, applicants on the margin between OB-GYN and other specialties are those who are more likely to be deterred by the policy.

## V.IV Robustness

### Defining Control Specialties Using Cross-Specialty Applications

Our primary specification defines the comparison group for OB-GYN residencies based on the expected mix of surgical and medical components. A key limitation of this definition is that is based on a single observable factor, whereas the decision to apply to a certain residency may reflect

[14] The number of male applications to OB-GYN residencies was nearly 83% lower than the number of female applications during the baseline year

[15] It is worth noting that while AOA-status is the best proxy for applicant quality available in this data, it is not necessarily a perfect proxy. For example, if more competitive programs take AOA-status into account as part of the application process, this would lead to higher shares of AOA applicants in those programs, regardless of relative applicant quality.

Table 3: Triple difference-in-differences by gender sub-groups using the mixed surgical/medical comparison group

| | # of Applications | | | Share AOA | Avg. # of Specialties |
|---|---|---|---|---|---|
| | (1) All | (2) Women | (3) Men | (4) All | (5) All |
| Post x Treated Spec. x Ban State | -43.72* | -51.57*** | 8.727 | -10.15** | -0.531*** |
| | (10.02) | (4.040) | (6.145) | (1.928) | (0.0347) |
| Constant | 335.7*** | 183.9*** | 151.8*** | 63.55*** | 5.326*** |
| | (10.91) | (3.594) | (8.152) | (1.532) | (0.00975) |
| N Observations | 5008 | 5008 | 5008 | 5008 | 5008 |
| Control Baseline Mean | 364.9 | 150.3 | 214.6 | 81.61 | 5.545 |
| Treated Baseline Mean | 323.0 | 277.2 | 45.66 | 37.67 | 4.943 |

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

a diverse set of candidate preferences. We proxy for these "preferences" using data on applicants who apply to multiple specialties. It is important to note that cross-specialty applicants represent only a portion of total residency applicants: between 2022 and 2025, roughly 30% of all MD graduates cross-applied to more than one specialty.

Figure 3 shows results from the triple difference-in-differences regression where the comparison group is the set of specialties that received the most cross-applications from OB-GYN cross-applicants (specifically, specialties that were above the 50th percentile in the distribution of OB-GYN cross-applicants per specialty).[16] Compared to this alternate comparison group, we still see a statistically significant decrease in applications to OB-GYN residencies in ban states. Table 4 shows the corresponding triple-difference-in-differences estimates. The magnitude of the decrease relative to this alternate control group is remarkably similar (around 43.11 applications, or 8.5% of the comparison group mean).

Note that the comparison group in this alternate analysis is chosen based on the subset of OB-GYN applicants who choose to apply to more than one specialty. If this subset of applicants has different preferences over specialties than applicants who only apply to a single specialty, this comparison group may not accurately represent the set of specialties that are the most substitutable or comparable to OB-GYN residencies.

[16] The control specialties for this alternate specification are: Psychology, General Anesthesiology, Surgery, and Internal Medicine

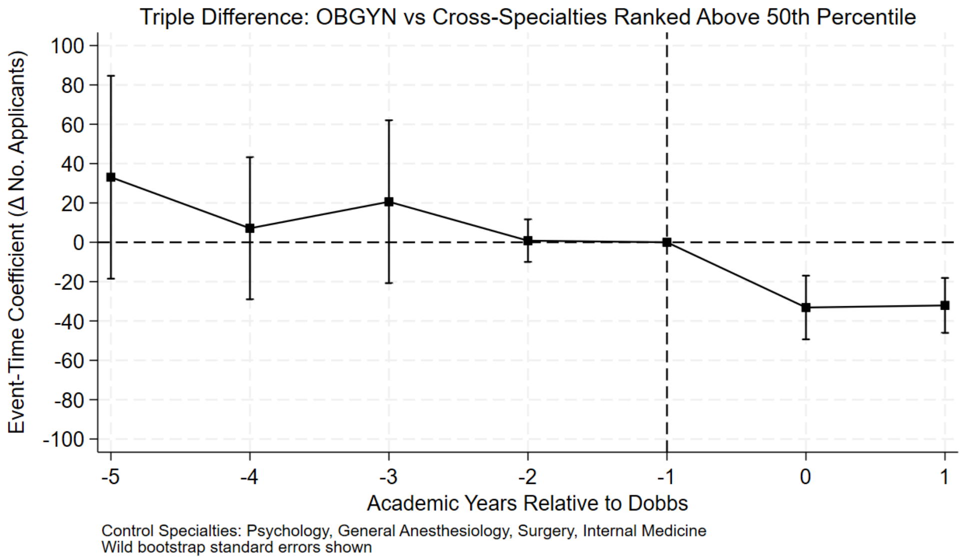


Figure 3: Event study estimates for the triple difference-in-differences model, where OB-GYN is the treated specialty and comparison specialties are the cross-ranked specialties above the 50th percentile according to the 2021 ERAS rankings. Standard errors are adjusted using the Wild Bootstrap method.

Table 4: Triple difference-in-differences estimates using the cross-ranked specialties above the 50th percentile according to the 2021 ERAS rankings

| | (1) |
|---|---|
| Post x Treated Spec. x Ban State | -43.11* |
| | (11.76) |
| Constant | 439.9*** |
| | (9.987) |
| $N$ | 9462 |
| Control Baseline Mean | 501.1 |
| Treated Baseline Mean | 323.0 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

### Double Counting

One potential concern with our primary specification is overestimating the effect size due to double counting. For example, in a simplified difference-in-difference model that compares applications to ban vs non-ban states for OB-GYN applicants, if all students who decide not to submit an application to a program in a ban state instead submit that application to a program in a non-ban states, we would be subtracting and adding the same number of application from the treatment and control group. In an extreme scenario with perfect application substitution across states, the difference-in-differences estimates could be twice as large as the true impact. We take several approaches to deal with this. First, our primary triple differences specification uses variation across specialties and across states; therefore, if perfect substitution exists only across treated and control states or only across treated and control specialties, the presence of the third difference should negate any double counting. Second, our analysis sample only includes 5 of the total 29 specialties that exist in the data.[17] This limits potential for perfect substitution between treatment and control specialties.

To assess whether our estimates are inflated because of the choice of comparison specialties or states, Tables 5 and 6 show robustness to alternative control groups. Table 5 shows that the significance and direction of our primary estimates are robust to alternative control specialties that are less substitutable with OB-GYN. In Column (1) the comparison group is specialties that were cross-ranked by a lower number of applicants (between the 25th - 50th percentile of the distribution of cross-ranked applications). In Columns (2) and (3) the comparison group is defined by the groups of "surgical-only" and "medical-only" specialties respectively, as defined by the same Stanford University guidance on selecting a specialty that is used to select the comparison group in Section IV. The effect sizes across specifications range from a 9% - 24% decrease from the baseline control group mean, which is reasonably aligned with the 11% decrease in our primary specification. Appendix Figures A4, A8, and A5 show the corresponding event-study figures and confirm that all three comparison groups show statistically insignificant estimates in the years prior to the policy.

Table 6, shows that the significance and magnitude of our results are robust to two alternative definitions of "treated" states. For contrast, column (1) repeats the main specification, where ban and limited states are included in the comparison group. Column (2) includes states with limited access to abortion in the treated group, while column (3) removes states with limited access from

[17]Two of the categories included in this count are "Transitional", representing applications for a transition-year, and "Other" which serves as a catch-all for specialties without their own category.

Table 5: Triple difference-in-differences results for double-counting robustness specifications

| | (1) 25th-50th Percentile | (2) Surgical | (3) Medical |
|---|---|---|---|
| Post x Treated Spec. x Ban State | -59.75** | -66.72*** | -38.19* |
| | (8.513) | (5.556) | (8.844) |
| Constant | 259.5*** | 386.5*** | 365.2*** |
| | (6.128) | (4.857) | (4.403) |
| $N$ | 5196 | 5593 | 8151 |
| Control Baseline Mean | 243.6 | 433.2 | 413.0 |
| Treated Baseline Mean | 323.0 | 323.0 | 323.0 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

the analytic sample entirely. These alternative specifications address potential double-counting that may result from geographic substitution across treatment and control states.

Finally, we can bound the potential bias that may result from double counting in this setting. In the presence of perfect double-counting in our main specification, the magnitude of the true effect would be half the size of the current estimate (-21.86) which is still a meaningful 5.9% decrease from the baseline mean.

Table 6: Triple difference-in-differences estimates using alternate definitions of treatment and comparison states

| | (1) No Ban + Limited | (2) No Ban | (3) Limited Excluded |
|---|---|---|---|
| Post x Treated Spec. x Ban State | -43.72* | -31.34* | -45.69* |
| | (10.02) | (9.000) | (11.25) |
| Constant | 335.7*** | 335.7*** | 334.0*** |
| | (10.91) | (10.93) | (10.95) |
| $N$ | 5008 | 5008 | 4280 |
| Control Baseline Mean # Applications | 364.9 | 364.9 | 364.9 |
| Treated Baseline Mean # Applications | 323.0 | 323.0 | 321.6 |

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

# VI Discussion

This paper studies the impact of *Dobbs v. Jackson (2022)* on residency application decisions. Using data on residency applications by state, we find that the ruling was associated with a 12% decrease in applications to OB-GYN programs in states with abortion bans. We find evidence that this decrease is driven entirely by female applicants, and suggestive evidence that it reflects substitution between ban and non-ban states rather than substitution away from OB-GYN as a specialty. These results indicate that the training and practice environment may be an important determinant of residency location, and likely future practice location, decisions. The assessment of heterogeneity also suggests that these preferences may also vary by gender. Finally, these results suggest that for individuals interested in OB-GYN, specialty preferences may be stickier than geographic in response to changes to training and practice environments.

The analysis in this paper provides valuable insight for policymakers attempting to increase the physician workforce in shortage areas. Future research on residency placements and physician movement behavior is critical to assess the downstream implications of Dobbs on access to maternal health care.

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# Appendix A: Tables and Figures

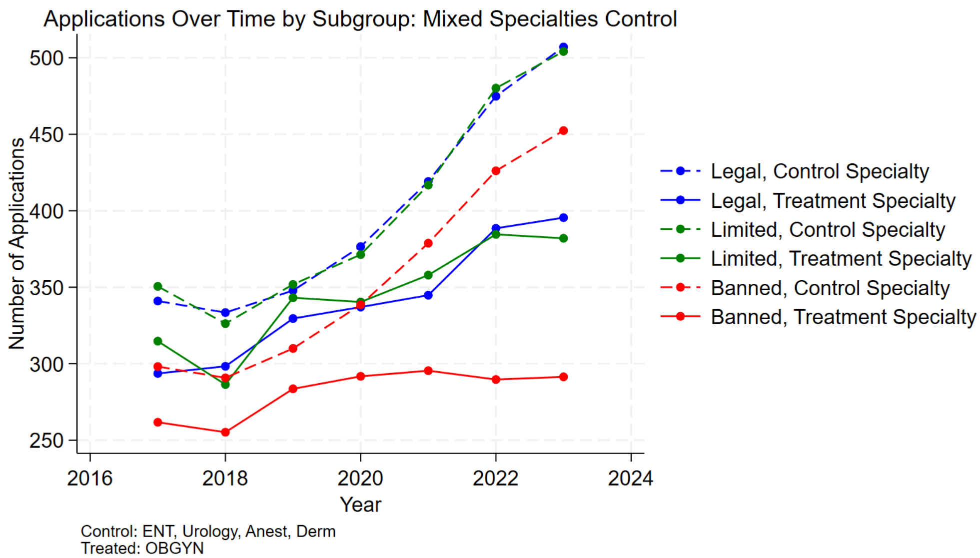


Figure A1: Mean number of applications over time plotted separated by state ban-status and specialty-type (Control vs Treatment). Control specialties are defined by the "Mixed Surgical/Medical" category defined by the Stanford 2015 Roadmap to Choosing a Specialty.

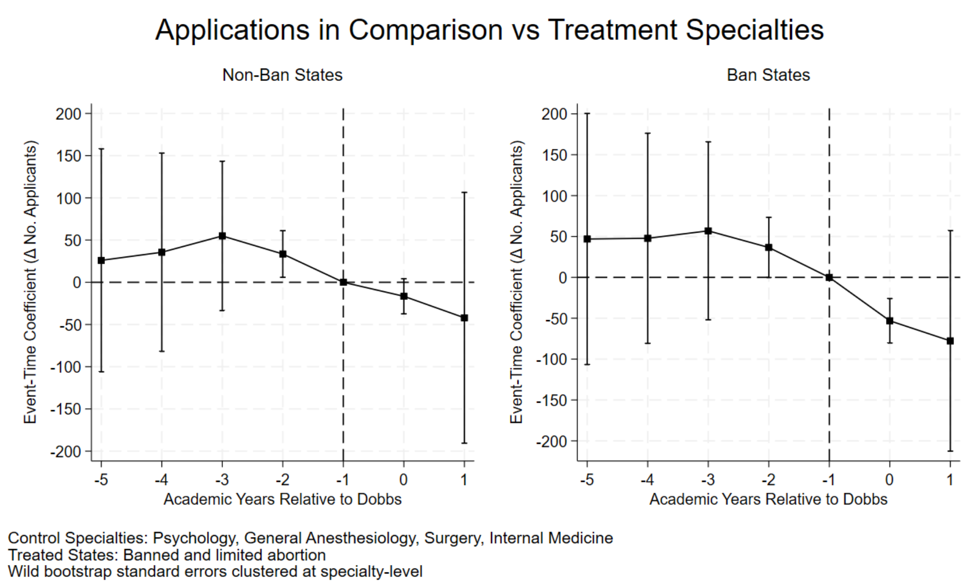


Figure A2: Event study estimates for the difference-in-differences model comparing OB-GYN applications to applications for residencies in other mixed surgical/medical specialties, separately for non-ban **(left)** and ban **(right)** states. Standard errors clustered at the specialty level.

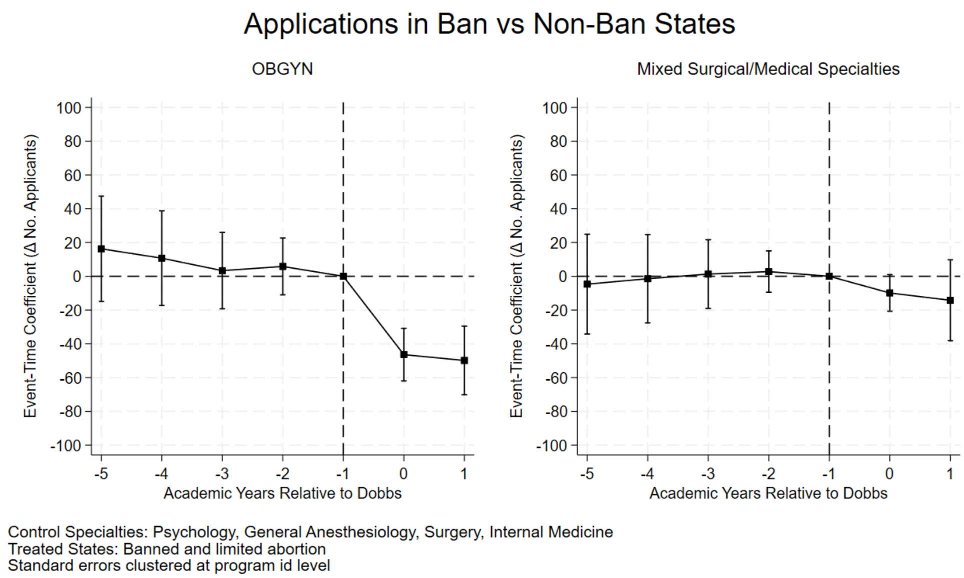


Figure A3: Event study estimates for the difference-in-differences model comparing total residency applications in non-ban and ban states, separately for mixed surgical/medical specialty residencies **(left)** and OB-GYN residencies **(right)** states. Standard errors clustered at the specialty level.

Table A1: Triple difference-in-differences estimate comparing OB-GYN to comparison specialties defined by cross-ranked specialties above the 50th percentile.

| | (1) |
|---|---|
| Post x Treated Spec. x Ban State | -43.11* |
| | (11.76) |
| Constant | 439.9*** |
| | (9.987) |
| $N$ | 9462 |
| Control Baseline Mean | 501.1 |
| Treated Baseline Mean | 323.0 |

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2: Triple difference-in-differences for application rate by gender sub-groups using the mixed surgical/medical comparison group

| | (1)<br>All | (2)<br>Women | (3)<br>Men |
|---|---|---|---|
| Post x Treated Spec. x Ban State | -0.0000234* | -0.0000500*** | 0.0000105 |
| | (0.012) | (0.000) | (0.229) |
| Constant | 0.000180*** | 0.000178*** | 0.000182*** |
| | (0.000) | (0.000) | (0.000) |
| *N* | 5008 | 5008 | 5008 |
| Control Baseline Mean Applications | 0.000196 | 0.000146 | 0.000258 |
| Treated Baseline Mean Applications | 0.000173 | 0.000269 | 0.0000549 |

*p*-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

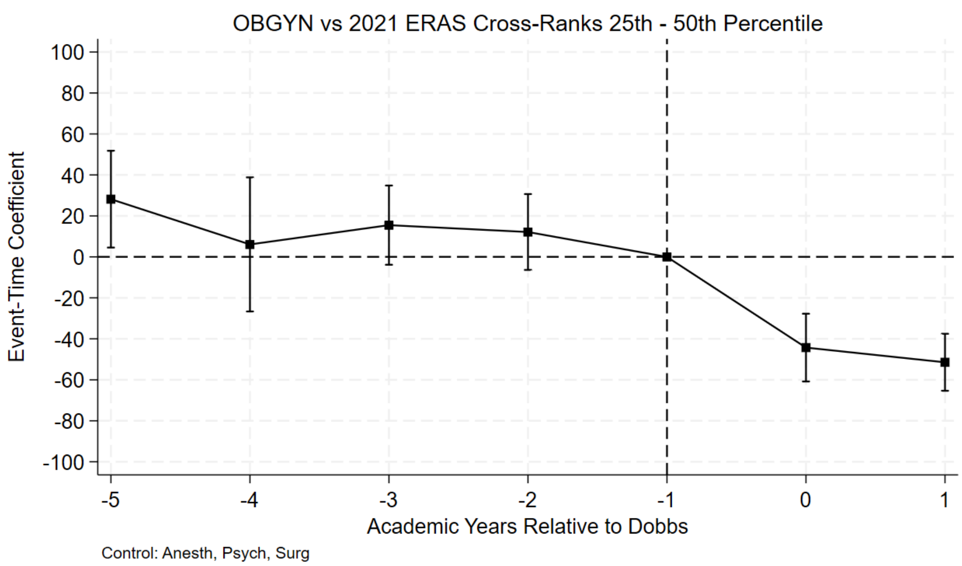


Figure A4: Event study estimates for the triple difference-in-differences model, where OB-GYN is the treated specialty and comparison specialties are the cross-ranked specialties between the 25th - 50th percentile according to the 2021 ERAS rankings. Standard errors are adjusted using the Wild Bootstrap method.

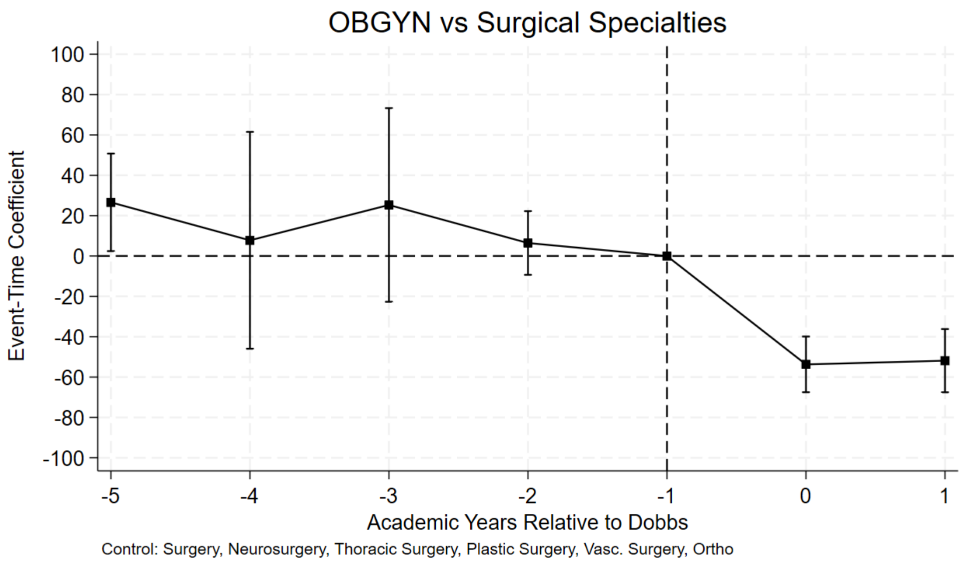


Figure A5: Event study estimates for the triple difference-in-differences model, where OB-GYN is the treated specialty and comparison specialties are the specialties in the "Surgical" category as defined by the Stanford Roadmap. Standard errors are adjusted using the Wild Bootstrap method.

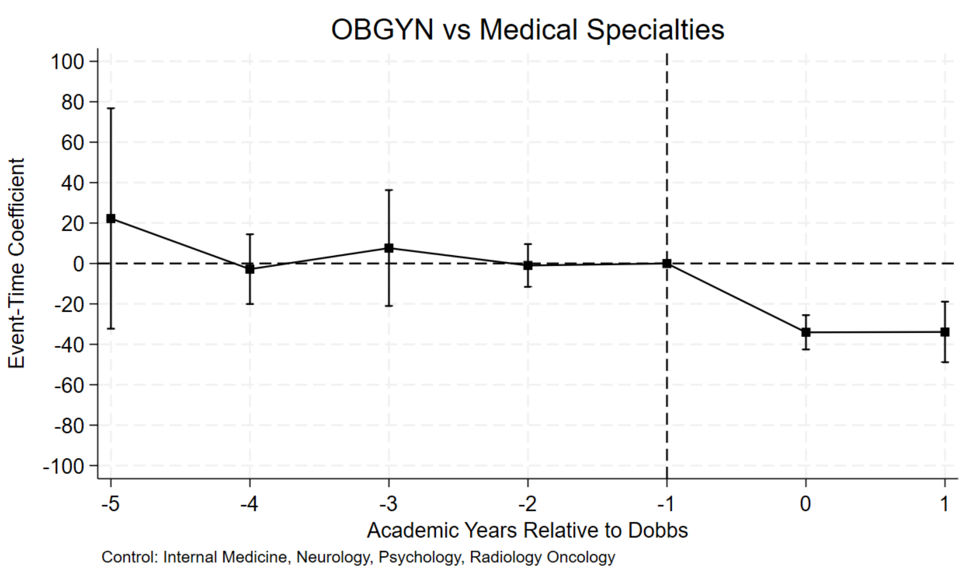


Figure A6: Event study estimates for the triple difference-in-differences model, where OB-GYN is the treated specialty and comparison specialties are the specialties in the "Medical" category as defined by the Stanford Roadmap. Standard errors are adjusted using the Wild Bootstrap method.

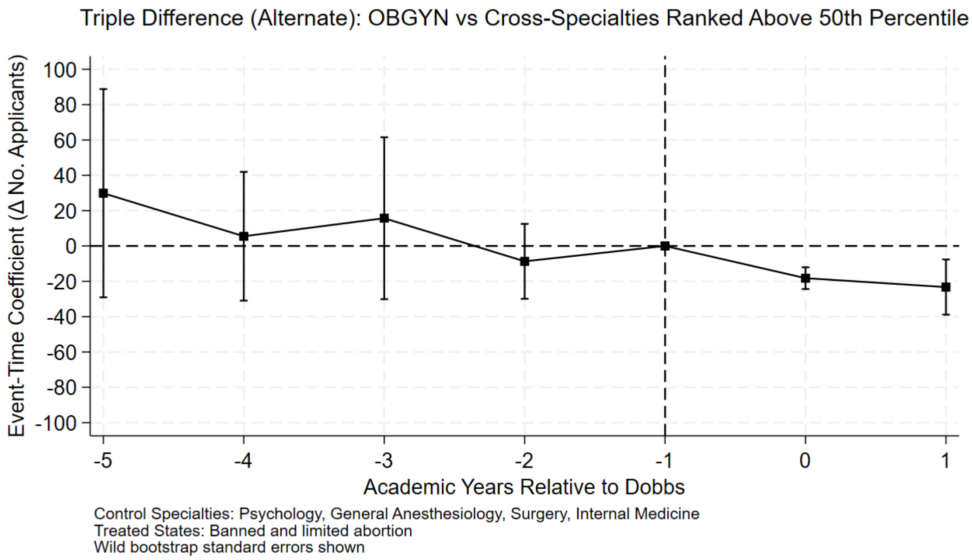


Figure A7: Event study estimates for the triple difference-in-differences model comparing OB-GYN residency application to comparison specialties, where limited-access states are defined as "treated". The comparison group of specialties is defined by cross-ranked specialties above the 50th percentile according to the 2021 ERAS rankings.

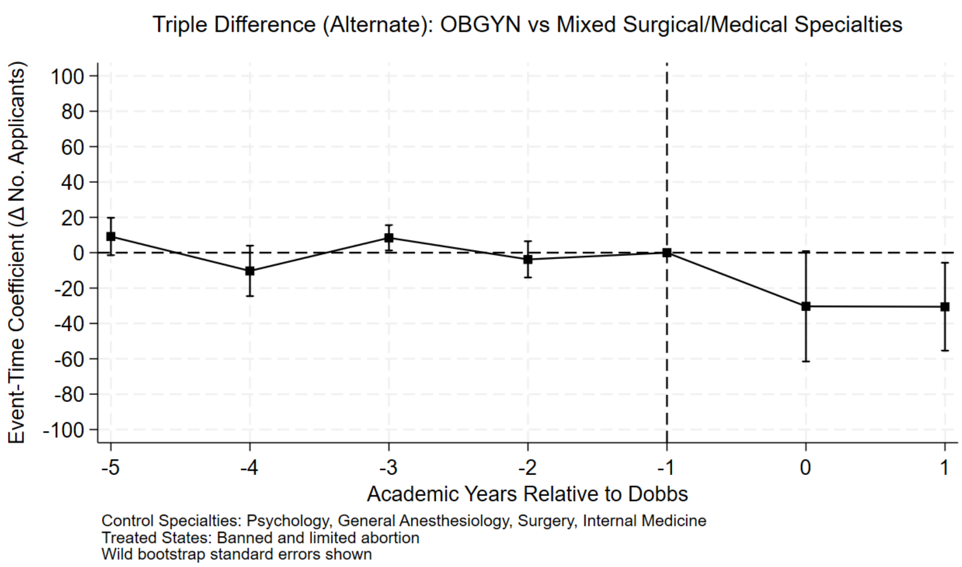


Figure A8: Event study estimates for the triple difference-in-differences model comparing OB-GYN residency application to comparison specialties, where limited-access states are defined as "treated". The comparison group of specialties is defined by the "Mixed Surgical/Medical" category defined by the Stanford 2015 Roadmap to Choosing a Specialty.

# Appendix B: Data Details

## American Association of Medical Colleges Data

The data from the American Association of Medical Colleges (AAMC) include 28 unique specialty codes and a catch-all code for "all other specialties", which consists of specialties, often combined programs, with a small sample size that would violate minimum cell size requirements. The "other specialties" category includes:

- Aerospace Medicine
- Diagnostic Radiology/Nuclear Medicine
- Emergency Medicine/Aerospace Medicine
- Emergency Medicine/Anesthesiology
- Emergency Medicine/Family Medicine
- Family Medicine/Osteopathic Neuromusculoskeletal Medicine
- Family Medicine/Preventive Medicine
- Internal Medicine/Anesthesiology
- Internal Medicine/Dermatology
- Internal Medicine/Emergency Medicine
- Internal Medicine/Family Practice
- Internal Medicine/Medical Genetics
- Internal Medicine/Neurology
- Internal Medicine/Physical Medicine and Rehabilitation
- Internal Medicine/Preventive Medicine
- Internal Medicine/Psychiatry
- Internal Medicine/Physical Medicine and Rehabilitation
- Internal Medicine/Preventive Medicine
- Internal Medicine/Psychiatry
- Neurodevelopmental Disabilities
- Neurodevelopmental Disabilities (Neurology)
- Occupational and Environmental Medicine
- Osteopathic Neuromusculoskeletal Medicine
- Pediatrics/Anesthesiology
- Pediatrics/Dermatology
- Pediatrics/Emergency Medicine
- Pediatrics/Medical Genetics
- Pediatrics/Physical Medicine and Rehabilitation
- Pediatrics/Psychiatry/Child and Adolescent Psychiatry
- Psychiatry/Family medicine
- Psychiatry/Family Practice
- Psychiatry/Neurology

Due to confidentiality constraints, the AAMC data does not include the specific state in which the each residency program is located. Instead, the data providers include a three-level categorical variable indicating the abortion-access status of each program's state following the Dobbs decision. Table B1 shows the list of states falling in each category.

Table B1: States defined as having "legal" access to abortion, "limited" access to abortion, and "banned" access to abortion after the passing of Dobbs v. Jackson in 2021.

| **Legal** | **Limited** | **Banned** |
|---|---|---|
| Alaska | Florida | Alabama |
| California | Georgia | Arkansas |
| Colorado | Iowa | Idaho |
| Connecticut | Kansas | Kentucky |
| Delaware | Nebraska | Louisiana |
| District of Columbia | North Carolina | Mississippi |
| Hawaii | South Carolina | Missouri |
| Illinois | | North Dakota |
| Maine | | Oklahoma |
| Maryland | | South Dakota |
| Massachusetts | | Tennessee |
| Michigan | | Texas |
| Minnesota | | West Virginia |
| Montana | | |
| Nevada | | |
| New Hampshire | | |
| New Jersey | | |
| New Mexico | | |
| New York | | |
| Oregon | | |
| Pennsylvania | | |
| Rhode Island | | |
| Vermont | | |
| Virginia | | |
| Washington | | |