

Annual Report: Update on California's Physician Workforce

by Healthforce Center at UCSF

August 2023

Abstract / Overview

The California Revenue and Taxation Code 30130.57 requires the University of California to annually review physician shortages by specialty across the state and by region. This report satisfies that requirement. It provides California policymakers with up-to-date information about the state's physician workforce and the pipeline of trainees in the state's medical schools and graduate medical education (GME) programs, often referred to as residency programs. This report focuses on the five specialties for which the CalMedForce program, established pursuant to Proposition 56, provides grants for residency training: family medicine, internal medicine, pediatrics, obstetrics/gynecology, and emergency medicine. This report also provides information about training physicians in California to provide abortions.

Acknowledgements

The authors thank Dena Bullard, Deena McRae, Ruhee Wadhwanian, Helen Young, and Lydia Yu of the University of California Office of the President (UC Health Division), and Lupe Alonzo-Diaz, Robin Simpson, and Jennifer Turner of Physicians for a Healthy California for comments on a previous version of this report.

Contents

| | |
|---|-----------|
| Acknowledgements | 2 |
| Contents | 3 |
| Key Findings | 4 |
| Introduction | 8 |
| Medical School..... | 9 |
| Graduate Medical Education | 12 |
| Training Physicians to Perform Abortions | 17 |
| Conclusion | 25 |
| Appendix A: Excerpt of ACGME Program Requirements for Graduate Medical Education in Obstetrics and Gynecology Regarding Training in Abortion and Contraception | 27 |
| Appendix B: Excerpt of ACGME Program Requirements for Graduate Medical Education in Complex Family Planning | 29 |
| References | 30 |

Key Findings

California continues to face major physician workforce challenges within a changing health care landscape. Expanding graduate medical education (GME), often referred to as residency, is a critical strategy for addressing these challenges. Physicians must complete GME after medical school graduation to obtain the required clinical experiences for board certification and to gain competency in their chosen specialty so they may safely practice independently.

Proposition 56, which was approved by voters in 2016, increased California's state tobacco tax and allocated a portion of revenue (\$40 million) annually to the University of California (UC) to "sustain, retain, and expand" California's residency training programs. UC contracted with Physicians for a Healthy California to administer a statewide GME grant program, known as CalMedForce, that provides grants to residency programs in five specialties (emergency medicine, family medicine, general internal medicine, general pediatrics, and obstetrics/gynecology) and combined programs in these specialties (e.g., internal medicine/pediatrics). CalMedForce is also authorized to fund residency programs in other specialties in which shortages exist but has not done so due to high demand for funding from specialties that are specifically referenced in Proposition 56.

This annual report provides updated information from a previous report in this series regarding medical schools and GME programs in California and new information about the training of physicians in California to provide abortion and abortion-related care.

Medical School

- California has thirteen medical schools that award Doctor of Medicine (MD) degrees and three that award Doctor of Osteopathic Medicine (DO) degrees.
 - Six MD-granting medical schools are part of the University of California (i.e., public), six are private not-for-profit, and one is for-profit.
 - All of the DO-granting medical schools are private (two not-for-profit, one for-profit).
 - Four MD-granting schools and two DO-granting schools are located in Northern California; nine MD-granting schools and one DO-granting school are located in Southern California.
- A total of 1,725 students graduated from California medical schools in 2022, a 32 percent increase from the number of graduates in 2009 and a 3 percent decrease from the number of graduates in 2021.

Graduate Medical Education

- California had 1,142 residency and fellowship programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) during the 2021-2022 academic year, including the following programs in specialties that are eligible for CalMedForce grants:
 - 26 emergency medicine residency programs
 - 74 family medicine residency programs
 - 53 internal medicine residency programs
 - 4 internal medicine/pediatrics residency programs

- 23 obstetrics/gynecology residency programs
- 17 pediatrics residency programs
- Between 2011-2012 and 2021-2022, the number of first-year residents increased in all of the specialties in which CalMedForce provides grants, but rates of growth varied substantially, ranging from 6 percent in pediatrics to 98 percent in emergency medicine.
- The percentage of filled first-year residency positions varied across CalMedForce specialties in 2023, ranging from 92 percent for emergency medicine residency programs to 100 percent for pediatrics residency programs.
- The percentage of first-year positions filled in emergency medicine decreased from 97 percent to 92 percent between 2022 and 2023, consistent with trends seen in emergency medicine residency programs in other states.

Training Physicians to Perform Abortions

- As of June 30, 2023, the Guttmacher Institute reported that 14 states have enacted abortion bans, six states have gestational limits, four states have abortion bans that are currently blocked by court order, and 26 states (including California) and Washington, D.C. have enacted varying degrees of abortion protections as a result of the 2022 *Dobbs v. Jackson Women's Health Organization* Supreme Court decision.
- New abortion protections in California include:
 - An amendment to the State Constitution that reads "The state shall not deny or interfere with an individual's reproductive freedom in their most intimate decisions, which includes their fundamental right to choose to have an abortion and their fundamental right to choose or refuse contraceptives."
 - AB 1666, a law enacted in 2022 that gives abortion providers, persons receiving abortions, and others aiding in the process protection from prosecution for violation of laws in other states where abortion is illegal.
 - A \$120 million allocation in the California state budget for fiscal year 2022-2023 that established the Reproductive Health Care Access Initiative, which includes \$20 million in funding for the Clinical Infrastructure Fund and \$20 million in funding for the California Reproductive Health Service Corps. Both programs aim to improve access to abortion by increasing the number of clinicians trained in comprehensive, evidence-based reproductive health services, including abortion and abortion-related care.
- In California, physicians are authorized to provide abortions through aspiration and medication, as are nurse midwives, nurse practitioners, and physician assistants who have obtained additional training in abortion care.
- The ACGME requires all obstetrics/gynecology residency programs to provide didactic and clinical education in comprehensive family planning, which includes abortion care and contraception.
 - Residency programs in states where abortion is banned or restricted are expected to coordinate out-of-state training opportunities to ensure that residents still receive adequate abortion training.
 - Obstetricians/gynecologists who wish to specialize in reproductive health services may choose to complete a fellowship program in complex family planning, which encompasses abortion, after finishing residency.

- Abortion training is optional for family medicine residency programs.
- As of June 30, 2023, California has 23 obstetrics/gynecology residency programs educating 493 residents and six complex family planning fellowship programs educating 12 fellows.
- Fourteen obstetrics/gynecology residency programs and 12 family medicine residency programs in California participate in initiatives aimed at strengthening training in abortion and contraception (i.e., the Kenneth J. Ryan Residency Training Program (Ryan Program) and the Reproductive Health Education in Family Medicine (RHEDI) program).
- The *Dobbs* Supreme Court decision (and ensuing abortion law changes across the nation) is expected to influence where medical students apply for residency training, the number of physicians who choose to specialize in obstetrics/gynecology, and where future obstetricians and gynecologists choose to practice. However, the full impact of the *Dobbs* decision is unknown at the time of writing.

Conclusions

The findings of this report illustrate the importance of monitoring trends in medical education in California. This report provides evidence of California's progress towards increasing the numbers of medical students and residents educated in the state and its capacity to train physicians to provide comprehensive reproductive health services, including abortion.

Medical School

Although there was a small decrease in the number of graduates of medical schools in California between 2021 and 2022, the number of graduates has increased by 32 percent since 2009 and will continue to increase during the coming decade as new medical schools graduate their first classes.

Graduate Medical Education

The number of residents completing residency in California is increasing due to growth in the number of residency programs. However, trends in growth vary substantially across the five specialties in which CalMedForce funds residency programs. Between the 2011-2012 and 2021-2022 academic years:

- Internal medicine residency programs experienced the largest increase in the *number* of first-year residents.
- Emergency medicine residency programs experienced the largest *percentage* increase in first-year residents.
- Obstetrics/gynecology and pediatrics residency programs experienced the smallest numeric and percentage increases in first-year residents.

This variation in growth suggests that policymakers and medical educators should continue monitoring trends in graduate medical education in these specialties and may wish to explore strategies to increase the number of residency programs in obstetrics/gynecology and pediatrics.

Policymakers and medical educators should also continue to monitor the rate at which emergency medicine residency programs fill first-year positions to assess whether this decrease was an aberration or a signal that growth in the number of emergency medicine residency positions has outpaced interest in this specialty among medical school graduates.

Training Physicians to Perform Abortions

As of June 30, 2023, the Supreme Court's 2022 decision in *Dobbs v. Jackson Women's Health Center* has resulted in bans and restrictions on abortion in 24 states, four of which have been blocked by lower courts. The full impact of the *Dobbs* decision is unknown. Early evidence suggests that it is leading to an increase in the number of pregnant persons traveling to California and other states that have upheld access to abortion as well as influencing medical students' decisions about whether to apply to residency programs in obstetrics/gynecology and whether to apply to programs in states with abortion bans or restrictions.

These findings suggest the following implications for policymakers and medical educators in California:

- Continue to monitor trends in inter-state travel for abortion and applications to obstetrics/gynecology residency programs to assess whether findings observed in 2023 persist.
- Explore options for increasing the number of fellows trained in complex family planning and the numbers of obstetrics/gynecology and family medicine residency programs that provide comprehensive training in abortion care to improve access to abortion.
- Monitor the distribution of the \$20 million allocated to the Clinical Infrastructure Fund and the \$20 million allocated to the California Reproductive Health Service Corps Training Initiative.

Introduction

California continues to face major physician workforce challenges. The National Center for Health Workforce Analysis projects that the state will have a shortage of 1,550 full-time equivalent primary care physicians¹ in 2025 (U.S. Department of Health and Human Services, 2016). California's physicians are also unevenly distributed relative to the state's population (Coffman, Calimlim, & Fix, 2021; Coffman, Fix, & Ko, 2018).

In addition, California continues to have fewer medical students and residents/fellows per capita than the United States. As of 2020, there were 37.9 medical students (MD and DO) per 100,000 population in the United States overall versus 21.1 medical students per 100,000 population in California (Association of American Medical Colleges [AAMC], 2022a). There were 43.8 residents/fellows in programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) per 100,000 population in the United States overall versus 32.5 residents/fellows in ACGME-accredited programs per 100,000 population in California (AAMC, 2022a).

Although the numbers of medical school and residency program graduates is growing in California and other states, the number of new graduates practicing in California will not be adequate to replace all physicians who will reach retirement age during the coming decade. In 2020, 39,568 active physicians in California were 60 years or older – accounting for over 34 percent of active physicians in the state (AAMC, 2022a). In addition, physicians nationwide are working fewer hours than they did in the past (Goldman & Barnett, 2022). Moreover, despite some progress in increasing the racial/ethnic diversity of medical students (Pfeffinger, Fernandez, Tapia, Rios-Fetchko, & Coffman, 2020), the state's physician workforce still does not reflect the racial/ethnic diversity of the state's population.

California's strategies for addressing physician workforce challenges include funding graduate medical education (GME), often referred to as residency, in specialties of high need. Proposition 56, which was approved by voters in 2016, increased California's state tobacco tax and allocated a portion of revenue (\$40 million) annually to the University of California (UC) to "sustain, retain, and expand" California's residency training programs. UC contracted with Physicians for a Healthy California to administer a statewide GME grant program, known as CalMedForce. Under the terms of Proposition 56, CalMedForce must provide grants to residency programs in five specialties: emergency medicine, family medicine, general internal medicine, general pediatrics, and obstetrics/gynecology. Combined residency programs that include these specialties, such as internal medicine/pediatrics and internal medicine/psychiatry, are also eligible to apply for CalMedForce grants. CalMedForce is authorized to fund residency programs in other specialties in which shortages exist, but has not expanded outside of the five specialties due to high demands for funding within the existing specialties. Grantees are selected based on their ability to expand California's physician workforce with an emphasis on their ability to meet the needs of medically underserved populations.

This annual report provides updated information from previous reports in this series regarding medical school and GME programs in California. The report also presents new information regarding the training of physicians in California to provide abortions following the *Dobbs v. Jackson Women's Health Organization* Supreme Court decision in 2022.

¹ The National Center for Health Workforce Analysis defines primary care physicians as encompassing family physicians, general internists, general pediatricians, and geriatricians.

Medical School

Medical Schools in California

California has 13 medical schools that award Doctor of Medicine (MD) degrees, six of which are part of the University of California (i.e., public) and seven of which are private. California also has three medical schools that award Doctor of Osteopathic Medicine (DO) degrees, all of which are private. Eight of the private medical schools are not-for-profit (six MD, two DO) and two are for-profit (one MD, one DO). Of the 16 medical schools, 13 had graduates during the 2021-2022 academic year, the most recent year for which data is available for both MD- and DO-granting schools. These medical schools had a total of 1,725 graduates in 2022, of which 1,271 received an MD degree and 454 received a DO degree. Three medical schools are new schools that did not have any students ready to graduate in 2021-2022.

Table 1. Medical Schools in California by Ownership Type and Number of Graduates

| Medical School | City | Initial Year of Accreditation | Number of Graduates, 2020-2021 | Number of Graduates, 2021-2022 |
|--|---------------|-------------------------------|--------------------------------|--------------------------------|
| MD-granting Medical Schools | | | | |
| Public | | | | |
| University of California, Davis | Sacramento | 1967 | 105 | 128 |
| University of California, Irvine | Irvine | 1961 | 106 | 94 |
| University of California, Los Angeles | Los Angeles | 1951 | 204 | 164 |
| University of California, Riverside | Riverside | 2012 | 57 | 69 |
| University of California, San Diego | La Jolla | 1968 | 140 | 113 |
| University of California, San Francisco | San Francisco | On or prior to 1942* | 173 | 149 |
| Private Not-for-profit | | | | |
| California University of Science and Medicine | Colton | 2018 | ---- | 62 |
| Charles R. Drew University of Medicine and Science | Los Angeles | 2022 | ---- | ---- |
| Kaiser Permanente Bernard J. Tyson | Pasadena | 2019 | ---- | ---- |
| Loma Linda University | Loma Linda | On or prior to 1942* | 167 | 151 |
| Stanford University | Palo Alto | On or prior to 1942* | 104 | 88 |
| University of Southern California | Los Angeles | 1949 | 192 | 174 |
| Private For-profit | | | | |
| California Northstate University | Elk Grove | 2015 | 94 | 79 |
| Total MD-granting Medical Schools | | | 1,342 | 1,271 |
| DO-granting Medical Schools | | | | |
| Private Not-for-profit | | | | |
| Touro University | Vallejo | 1997 | 122 | 130 |
| Western University of Health Sciences | Pomona | 1978 | 318 | 324 |
| Private For-profit | | | | |
| California Health Sciences University | Clovis | ----** | ---- | ---- |
| Total – DO-granting Medical Schools | | | 440 | 454 |
| Total – All Medical Schools | | | 1,782 | 1,725 |

* Program was accredited prior to the founding of the Liaison Committee on Medical Education (LCME) in 1942.

** Program has been granted pre-accreditation status by the American Osteopathic Association Commission on Osteopathic College Accreditation (COCA).

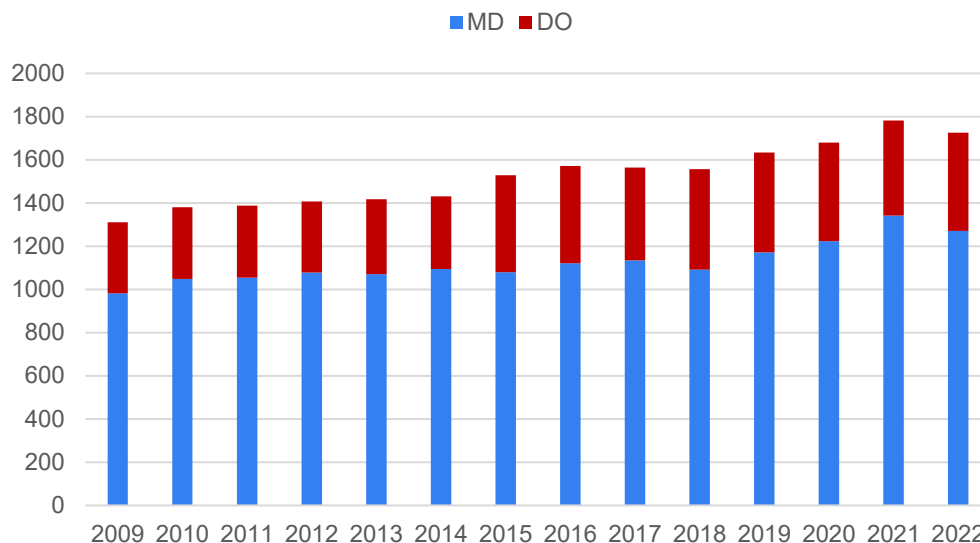
Sources: American Association of Colleges of Osteopathic Medicine (AACOM), Osteopathic Medical College Graduates by Gender 2000-2022. American Osteopathic Association Commission on Osteopathic College Accreditation (AOA COCA), Colleges of Osteopathic Medicine Directory. Association of American Medical Colleges (AAMC), FACTS: Enrollment, Graduates, and MD-PhD Data - Table B-2.2: Total Graduates by U.S. MD-Granting Medical School and Gender, 2017-2018 through 2021-2022. Liaison Committee on Medical Education (LCME), Accredited MD Programs in the United States.

Trends in Numbers of Graduates of California Medical Schools

As Figure 1 illustrates, the number of graduates of California medical schools increased by 32 percent between 2009 and 2022. This was due to the opening of three new MD-granting medical schools (California Northstate University, California University of Science and Medicine, and the University of California, Riverside), larger graduating classes at some MD-granting medical schools, and increases in enrollment at DO-granting medical schools. Overall, the number of graduates of MD-granting schools increased by 29 percent and the number of graduates of DO-granting schools increased by 38 percent between 2009 and 2022. The number of graduates of MD-granting schools *decreased* by five percent between 2021 and 2022 – only the University of California, Davis and the University of California, Riverside had increases in the number of graduates (22 percent and 21 percent, respectively). In contrast, the number of graduates of DO-granting schools increased by three percent between 2021 and 2022, yielding a net decrease in medical school graduates of 3 percent (57 graduates).

The decrease in number of MD graduates between 2021 and 2022 can be attributed to multiple reasons, such as but not limited to, disruptions caused by COVID-19 pandemic.

Figure 1. Graduates of California Medical Schools (MDs and DOs), 2009 to 2022



Sources: AACOM, Osteopathic Medical College Graduates by Gender 2000-2022. AAMC, FACTS: Enrollment, Graduates, and MD-PhD Data - Table B-2.2: Total Graduates by U.S. MD-Granting Medical School and Gender, 2009-2010 through 2013-2014. AAMC, FACTS: Enrollment, Graduates, and MD-PhD Data - Table B-2.2: Total Graduates by U.S. MD-Granting Medical School and Gender, 2012-2013 through 2016-2017. AAMC, FACTS: Enrollment, Graduates, and MD-PhD Data - Table B-2.2: Total Graduates by U.S. MD-Granting Medical School and Gender, 2017-2018 through 2021-2022.

The number of graduates of California medical schools is expected to increase over the next several years as the newest medical schools in the state begin to graduate their first classes. The California University of Science and Medicine (CUSM) graduated its first class of 62 students in 2022 (AAMC, 2022b). In 2024, the California Health Sciences University (CHSU) will graduate its first class of 80 students (AACOM, 2023b) and the Kaiser Permanente Bernard J. Tyson School of Medicine will graduate its first class of 50 students (AAMC 2022d). If all of these students complete medical school within the typical length of time (four years), the total number of graduates from California medical schools will increase by 7 percent between 2022 and 2024. The total number of graduates from CUSM and CHSU will be larger in the future because their enrollment is increasing over time; in 2022, 130 students matriculated at CUSM (AAMC, 2022d) and 155 matriculated at CHSU (AACOM, 2023b).

In 2022, the Charles R. Drew University of Medicine and Science (CDU), a Historically Black College and University and a Hispanic-Serving Institution, received preliminary accreditation from the Liaison Committee on Medical Education (LCME), the organization that accredits MD-granting medical schools. CDU has trained medical students for many years in partnership with the University of California, Los Angeles (UCLA), with UCLA awarding students' degrees. CDU will now provide the full four-year medical school curriculum and award its own degrees as an independent medical school. CDU's inaugural class of approximately 60 students began their curriculum in July 2023 (CDU, n.d.).

The LCME website states that the American University of Health Sciences School of Medicine, a private for-profit university located in Signal Hill (Los Angeles County), has applied for LCME accreditation as an MD-granting medical school but has not advanced to candidate status as of May 19, 2023 (LCME, 2023b).

Graduate Medical Education

Following medical school, physicians are required to complete residency to obtain the required clinical experiences for board certification and gain competency in their chosen specialty so they may safely practice independently. Physicians who wish to become sub-specialists complete additional years of fellowship training after they complete residency (e.g., cardiologists complete a residency in internal medicine followed by a fellowship in cardiology). The Accreditation Council for Graduate Medical Education (ACGME) accredits training programs in approximately 182 specialties and subspecialties (ACGME, n.d.). Specific requirements for obtaining and maintaining accreditation vary across specialties as do requirements for board certification.

Most residency positions in the United States are filled through the National Residency Matching Program (NRMP), often referred to as the “Match”. The purpose of the “Match” is to provide a uniform process by which applicants and residency and fellowship programs can select one another. “Matches” are made by using a computerized algorithm that analyzes the rank order lists compiled by applicants and program directors. Physicians completing MD- or DO-granting medical schools in the U.S. are eligible to participate in the “Match” as are graduates of international medical schools (IMGs) who have been certified by the Educational Commission for Foreign Medical Graduates, an organization that reviews and assesses the credentials of IMGs who seek admission to U.S. residency programs. The percentage of available positions filled in the “Match” is an indicator of interest in the specialty among medical school graduates.

Number of Programs

California had 1,142 ACGME-accredited residency and fellowship programs during the 2021-2022 academic year (latest year for which data is available), an increase of 43 programs from 2020-2021. These programs consisted of 487 residency programs that provide physicians with an initial training experience in a specialty following completion of medical school and 655 subspecialty fellowship programs that provide additional training to physicians who wish to subspecialize within their specialty (ACGME, 2022). Of the 487 residency programs that enroll physicians immediately after medical school, the ACGME considers 464 to be “pipeline programs” because physicians who complete these programs are eligible for board certification in their specialties. Twenty-three are programs that provide physicians with one or more years of preliminary training prior to entering a residency program in a specialty. Some programs in some specialties, such as dermatology, neurology, and radiology, only admit physicians who have completed preliminary training. Between 2020-2021 and 2021-2022, the number of residency programs that lead to initial board eligibility increased by three percent (15 programs) and the number of subspecialty fellowship programs increased by four percent (28 programs). The number of preliminary training programs remained constant at 23 programs.

Among specialties in which CalMedForce funds single specialty or combined residency programs, California had 26 emergency medicine residency programs, 74 family medicine residency programs, 53 internal medicine residency programs, four internal medicine/pediatrics residency programs², 23 obstetrics/gynecology residency programs, and 17 pediatrics residency programs during the 2021-2022 academic year; all of which are accredited (ACGME, 2023). Rates of growth in number of residency programs have varied across these five specialties. Between 2022 and 2023, four additional residency programs in CalMedForce specialties were added to the ACGME directory of accredited programs: one in emergency medicine, two in family medicine, and one in internal medicine. The new emergency medicine residency program is located in the Central Coast region and the new internal medicine residency program is located in the Northern and Sierra region. One of the new family medicine residency programs is located in the Inland Empire and the other is located in the Northern and Sierra region.

² Internal medicine/pediatrics residency programs are four-year residency programs that prepare physicians for board certification as both internists and pediatricians.

Increases in emergency medicine, family medicine, and internal medicine residency programs were also observed between 2020 and 2021 and between 2021 and 2022. No new internal medicine/pediatrics, obstetrics/gynecology, or pediatrics programs opened between 2022 and 2023.^{3,4}

Table 2. Number of California Residency Programs in CalMedForce Specialties, 2020 to 2023

| | Emergency Medicine | Family Medicine | Internal Medicine | Internal Medicine/ Pediatrics | Obstetrics/ Gynecology | Pediatrics |
|------|--------------------|-----------------|-------------------|-------------------------------|------------------------|------------|
| 2020 | 22 | 69 | 44 | 4 | 21 | 16 |
| 2021 | 24 | 70 | 49 | 4 | 21 | 17 |
| 2022 | 25 | 72 | 52 | 4 | 23 | 17 |
| 2023 | 26 | 74 | 53 | 4 | 23 | 17 |

Source: ACGME, Data Resource Book, Academic Years, 2019-2020, 2020-2021; ACGME, Program Search.

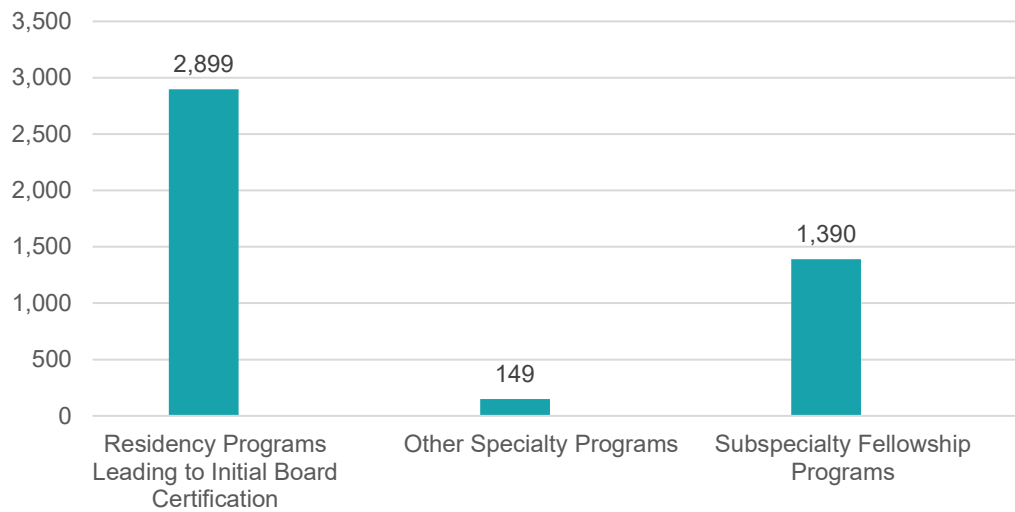
Number of Residents and Fellows

During the 2021-2022 academic year, a total of 14,230 residents and fellows were enrolled in ACGME-accredited programs in California. Of these residents and fellows, 11,370 (80 percent) were enrolled in residency programs leading to eligibility for initial board certification, 196 (1 percent) were enrolled in other specialty residency programs that provide preliminary training, and 2,664 (19 percent) were enrolled in subspecialty fellowship programs (ACGME, 2022). Between 2020-2021 and 2021-2022, the total number of residents and fellows enrolled in ACGME-accredited programs in California grew by 4 percent.

During the 2020-2021 academic year, 4,438 persons graduated from ACGME-accredited residency and fellowship programs in California, of whom 2,899 (65 percent) graduated from residency programs leading to initial board certification, 149 (3 percent) graduated from other specialty programs that provide preliminary training, and 1,390 (31 percent) graduated from subspecialty fellowship programs. Between 2019-2020 and 2020-2021, the total number of graduates from ACGME-accredited programs in California grew by 5 percent.

³ The ACGME also tracks combined residency programs in emergency medicine/family medicine, emergency medicine/pediatrics, and family medicine/internal medicine but there are none of these types of residency programs in California.

⁴ The number of accredited residency programs in CalMedForce specialties exceeds the number of institutions that participate in the National Resident Matching Program (NRMP) because some institutions sponsor multiple programs and because others do not receive accreditation in time to participate in the NRMP. In addition, residency programs sponsored by military medical facilities in California and other states do not participate in the NRMP because they participate in a separate matching program that is open only to residency programs sponsored by military medical facilities and to residents who participate in the military's Health Professions Scholarship Program or are enrolled at the Uniformed Services University of Health Sciences.

Figure 2. California Residency Program Graduates by Type of Program, 2020-2021

Note: Other specialty programs provide physicians with one or more years of preliminary training prior to entering a residency program in a specialty. Some programs in some specialties, such as dermatology, neurology, and radiology, only admit physicians who have completed preliminary training.

Source: ACGME, Data Resource Book, Academic Year, 2021-2022, Tables D.7 to D. 9.

Table 3 lists the number of first-year residents who entered programs leading to initial board certification in CalMedForce specialties in California during the 2021-2022 academic year. The number of first-year residents in these specialties ranged from a low of 18 in internal medicine/pediatrics to a high of 827 in internal medicine. Among other specialties in which CalMedForce funds residency programs, there were 275 first-year emergency medicine residents, 578 first-year family medicine residents, 122 first-year obstetrics/gynecology residents, and 301 first-year pediatrics residents. Between 2020-2021 and 2021-2022, emergency medicine had the largest increase in the number of first-year residents (12 percent), followed by internal medicine (6 percent), family medicine (5 percent), obstetrics/gynecology (3 percent), and pediatrics (0.3 percent). The number of first-year residents in internal medicine/pediatrics decreased by 40 percent, although this change in percentage should be interpreted with caution due to the small numbers of first-year residents in these programs (30 in 2020-2021 and 18 in 2021-2022, respectively).

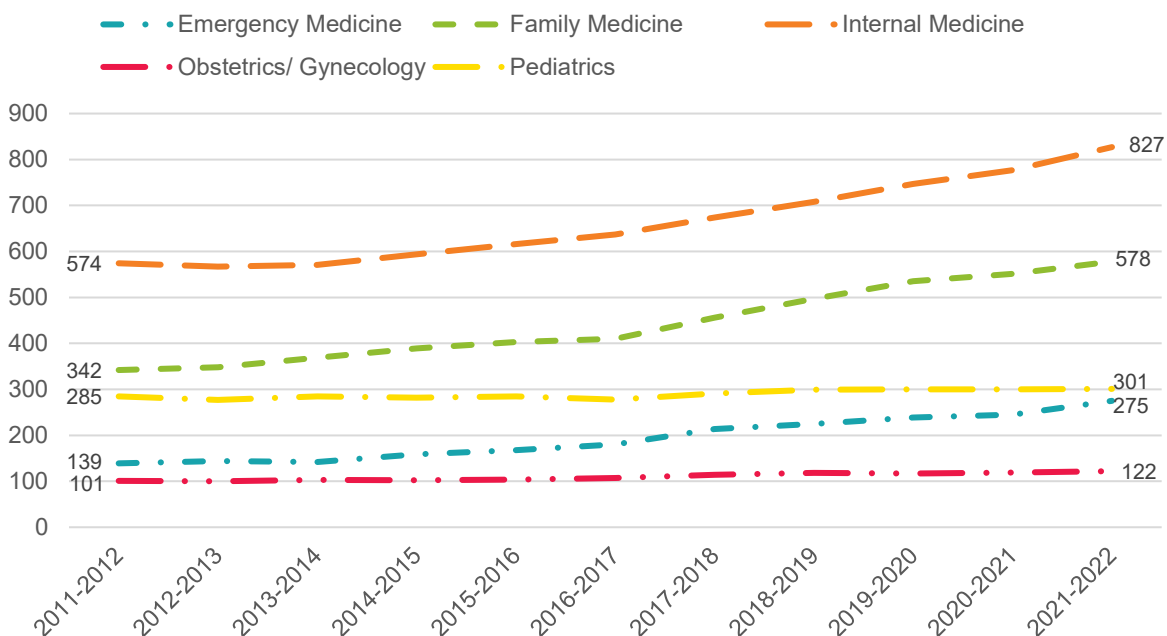
Table 3. Number of California First-Year Residents in CalMedForce Specialties by Specialty, 2020-2021 and 2021-2022

| Specialty | Number of First-Year Residents, 2020-2021 | Number of First-Year Residents, 2021-2022 |
|------------------------------------|---|---|
| Emergency Medicine | 245 | 275 |
| Family Medicine | 551 | 578 |
| Internal Medicine | 777 | 827 |
| Internal Medicine/Pediatrics | 30 | 18 |
| Obstetrics/Gynecology | 119 | 122 |
| Pediatrics | 300 | 301 |
| All CalMedForce Specialties | 2,022 | 2,121 |

Source: ACGME, Data Resource Book, Academic Year, 2020-2021, Tables C.29 to C.31. ACGME, Data Resource Book, Academic Year, 2021-2022, Tables C.30 to C.32.

Figure 3 places these short-term changes in the context of long-term trends in the number of first-year residents entering residency programs in the five specialties eligible for CalMedForce grants from the 2011-2012 academic year to the 2021-2022 academic year. The number of first-year residents has increased in all five specialties, but the rate of increase varied substantially across them. This is consistent with the growth in the number of residency programs in these specialties. Internal medicine had the largest increase in the *number* of first-year residents (253) followed by family medicine (236). Emergency medicine had the largest *percentage* increase in the number of first-year residents (98 percent), followed by family medicine (69 percent) and internal medicine (44 percent). In the case of emergency medicine, the high rate of growth in residents was due to a large increase in the number of emergency medicine residency programs in California; between 2011 and 2023, the number of accredited emergency medicine residency programs doubled from 13 to 26 programs. The numbers of first-year residents in obstetrics/gynecology and pediatrics residency programs grew more slowly, rising by 21 percent and 6 percent, respectively.

Figure 3. Number of California First-Year Residents in CalMedForce Specialties, 2011-2012 to 2021-2022



Source: ACGME, Data Resource Book, Academic Years, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022.

Percentages of First-Year California Residency Positions in CalMedForce Specialties Filled in the National Residency Matching Program

Table 4 displays the percentages of filled first-year residency positions in specialties that CalMedForce funds for 2021, 2022, and 2023. In 2023, match rates for CalMedForce specialties ranged from 92 percent (emergency medicine) to 100 percent (internal medicine/pediatrics and pediatrics).

The match rate for emergency medicine decreased in California and nationwide in 2023 (NRMP, 2023b). Anecdotal reports suggest this decrease is due to the challenges emergency medicine physicians faced during the COVID-19 pandemic and projections of a surplus of emergency medicine physicians relative to jobs (Meghjani, 2023). Despite the decreasing match rate for emergency medicine residency programs in California, the number of residency positions and the number of residents have increased over the past few years due to the

establishment of new residency programs. In addition, the new residency programs have begun reaching full capacity by filling all positions in each residency class. (Emergency medicine residency programs are either three or four years long and have three or four classes of residents respectively.)

Table 4. Percentages of California First-Year Residency Positions Filled in the National Residency Matching Program by Specialty, 2021, 2022, and 2023

| Specialty | Percentage of First-Year Positions Filled | | |
|------------------------------|---|------|------|
| | 2021 | 2022 | 2023 |
| Emergency Medicine | 99% | 97% | 92% |
| Family Medicine | 99% | 95% | 97% |
| Internal Medicine | 98% | 96% | 99% |
| Internal Medicine/Pediatrics | 100% | 100% | 100% |
| Obstetrics/Gynecology | 98% | 98% | 98% |
| Pediatrics | 100% | 98% | 100% |

Source: NRMP, 2021 NRMP Main Residency Match: Match Rates by Specialty and State. NRMP, 2022 NRMP Main Residency Match: Match Rates by Specialty and State. NRMP, 2023 NRMP Main Residency Match: Match Rates by Specialty and State.

Training Physicians to Perform Abortions

Abortion Law in the United States and California

In the 2022 *Dobbs v. Jackson Women's Health Organization* decision, the Supreme Court ruled that there is no Constitutional right to abortion, overturned *Roe v. Wade* and *Planned Parenthood of Southeastern Pennsylvania v. Casey*, and declared that states can prohibit elective abortions (*Dobbs v. Jackson Women's Health Organization*, 2022). As of June 30, 2023, 14 states have enacted abortion bans, 6 states have gestational limits, 4 states have abortion bans that are currently blocked by courts, and 26 states (including California) and Washington, D.C. have enacted varying degrees of abortion protections (Guttmacher Institute, 2023).

Following the *Dobbs* decision, California took three major steps to protect access to abortion. First, Californians voted in November 2022 to amend the State Constitution, which now reads "The state shall not deny or interfere with an individual's reproductive freedom in their most intimate decisions, which includes their fundamental right to choose to have an abortion and their fundamental right to choose or refuse contraceptives" (Cal. Const. art. I, § 1.1). Second, Governor Gavin Newsom signed a bill (AB 1666) into law in June 2022 that protects abortion providers, persons receiving abortions, and others aiding in the process from prosecution under laws in other states where abortion is illegal. Third, California allocated \$120 million to the California Department of Health Care Access and Information (HCAI) to create and implement five programs that will expand access to reproductive health services, which includes abortion and abortion-related care, throughout the state.

The full impact of the *Dobbs* decision is unknown but some pregnant persons residing in states with abortion bans or restrictions are traveling to states in which abortion remains legal to obtain care (Grossman et al., 2023). These pregnant persons include both persons seeking elective abortions and persons who have miscarried or have pregnancy complications that threaten their health or the health of their fetus (e.g., ectopic pregnancy, anencephaly). Persons in the latter group are traveling across state lines because some clinicians in states with abortion bans or restrictions will not provide care to them. As a result, demand for abortion is likely to increase gradually in states in which abortion remains legal.

According to the Guttmacher Institute, approximately 2,300 residents of other states travelled to California for abortion care in 2020 (Maddow-Zimet & Kost, 2022). The UCLA School of Law Center on Reproductive Health, Law, and Policy estimates that following the *Dobbs* decision, 8,000 to 16,100 people will travel to California each year for abortion care services after losing access in their home state (Sears, Cohen, & Stemple, 2022). However, this change is expected to be gradual as states enact and begin to fully enforce abortion bans or restrictions.

Clinicians Authorized to Provide Abortions in California

In California, physicians and advanced practice clinicians with additional training are authorized to perform abortions. In 2013, California enacted a law (AB 154) that authorizes advanced practice clinicians (i.e., nurse midwives, nurse practitioners, and physician assistants) with additional training to provide aspiration or medication abortions – also known as surgical or medical abortions, respectively – during the first trimester under the supervision of a physician. In 2022, Governor Gavin Newsom signed a new bill (SB 1375) that allows nurse practitioners and nurse midwives who have completed requisite training to perform first trimester aspiration abortions in California without physician supervision. In May 2023, the California State Senate approved a bill (SB 385) that would allow physician assistants who have completed requisite training to perform first trimester aspiration abortions without physician supervision. SB 385 is pending in the California State Assembly at the time of writing.

Accreditation Council for Graduate Medical Education (ACGME) Requirements for Training in Abortion Care

The ACGME requires obstetrics/gynecology residency programs, which are typically four years long, to provide didactic and clinical training in comprehensive family planning, which encompasses abortion care and contraception (ACGME, 2023a). Residents are expected to be involved in educating patients on the different methods of abortions (aspiration and medication), managing complications associated with abortions, and performing abortions. Obstetrics/gynecology residency programs are also expected to educate residents about the comprehensive management of spontaneous abortion and pregnancy loss, which are often referred to as miscarriage. The ACGME permits obstetrics/gynecology residents to opt out of abortion care training for religious reasons but requires all obstetrics/gynecology residency programs to provide access to abortion training regardless of where they are located. Residency programs that are not able to meet the ACGME's requirements for abortion training due to abortion bans or restrictions in their state must support residents in accessing training in another state. Providing access to abortion training in other states requires significant financial and logistical resources to arrange, and programs in states that allow abortion training must have the capacity to accommodate the additional residents. See Appendix A for an excerpt of the ACGME's abortion training requirements for obstetrics/gynecology residency programs.

As of June 30, 2023, there are 23 obstetrics/gynecology residency programs in California. Eight are located in Northern California and 15 are located in Southern California. None of the programs are located in a rural area. There are 493 filled Year 1 to Year 4 obstetrics/gynecology residency positions in total; 185 (38 percent) are located in Northern California and 308 (62 percent) are located in Southern California. The number of filled resident positions in obstetrics/gynecology residency programs ranges from three to 41. The numbers of residents enrolled in two programs - UHS Southern California Medical Education Consortium Program (three filled positions) and HCA Healthcare Riverside Program (four filled positions) are expected to grow over the next several years. The ACGME accredited these programs in 2022 and 2021, respectively, and they have not yet completely filled all four years of residency positions.

Three obstetrics/gynecology residency programs (Adventist Health White Memorial Program, Loma Linda University Health Education Consortium Program, and Marian Regional Medical Center Program) are sponsored by hospitals affiliated with religions that oppose elective abortions and thus may not offer abortion training that is as comprehensive as training offered at secular hospitals. In addition, prospective obstetrics/gynecology residents who wish to opt out of abortion training for religious reasons may rank these residency programs higher than programs sponsored by secular hospitals when they participate in the "Match".

Table 5. Obstetrics and Gynecology Residency Programs in California, 2023

| Region | City | Residency Program | Number of Filled Residency Positions |
|--------------------|---------------|--|--------------------------------------|
| Central Coast | Santa Maria | Marian Regional Medical Center Program | 10 |
| Greater Bay Area | Oakland | Kaiser Permanente Northern California (Oakland) Program | 24 |
| Greater Bay Area | Palo Alto | Stanford Health Care-Sponsored Stanford University Program | 24 |
| Greater Bay Area | San Francisco | Kaiser Permanente Northern California (San Francisco) Program | 16 |
| Greater Bay Area | San Francisco | University of California (San Francisco) Program | 41 |
| Greater Bay Area | San Jose | Santa Clara Valley Medical Center Program | 16 |
| Greater Bay Area | Santa Clara | Kaiser Permanente Northern California (Santa Clara) Program | 20 |
| Inland Empire | Colton | Arrowhead Regional Medical Center Program | 13 |
| Inland Empire | Loma Linda | Loma Linda University Health Education Consortium Program | 36 |
| Inland Empire | Murrieta | UHS Southern California Medical Education Consortium Program | 3 |
| Inland Empire | Riverside | HCA Healthcare Riverside Program | 4 |
| Los Angeles County | Los Angeles | Adventist Health White Memorial Program | 19 |
| Los Angeles County | Los Angeles | Cedars-Sinai Medical Center Program | 28 |
| Los Angeles County | Los Angeles | Kaiser Permanente Southern California (Los Angeles) Program | 20 |
| Los Angeles County | Los Angeles | UCLA David Geffen School of Medicine/UCLA Medical Center Program | 36 |
| Los Angeles County | Los Angeles | University of Southern California/LAC+USC Medical Center Program | 36 |
| Los Angeles County | Torrance | Los Angeles County-Harbor-UCLA Medical Center Program | 20 |
| Orange County | Orange | University of California (Irvine) Program | 28 |
| Sacramento Area | Sacramento | University of California Davis Health Program | 28 |
| San Diego Area | La Jolla | University of California (San Diego) Medical Center Program | 24 |
| San Diego Area | San Diego | Naval Medical Center (San Diego) Program | 16 |
| San Joaquin Valley | Bakersfield | Kern Medical Center Program | 15 |
| San Joaquin Valley | Fresno | University of California (San Francisco)/Fresno Program | 16 |
| | | Total Number of Filled Resident Positions | 493 |

Source: ACGME, Program Search.

Physicians who complete obstetrics/gynecology residency programs may elect to continue their training in abortion and contraception by enrolling in a complex family planning fellowship. The ACGME requires complex family planning fellowship programs to train clinicians in the management of uterine evacuations, which encompasses abortions and management of miscarriages (ACGME, 2023b). During the two-year fellowship, fellows spend a minimum of 12 months training in clinical complex family planning, a minimum of six months

performing research or other scholarly activities, and a maximum of six months engaging in elective experiences relevant to complex family planning. See Appendix B for an excerpt of the ACGME's abortion training requirements for complex family planning fellowship programs.

As of June 30, 2023, there are six complex family planning fellowship programs in California. Three are located in Northern California and three are located in Southern California. None of the programs are located in a rural area. There are 12 filled Year 1 to Year 2 complex family planning fellowship positions in total; each complex family planning fellowship program has only two fellowship positions.

Table 6. Complex Family Planning Fellowship Programs in California, 2023

| Region | City | Fellowship Program | Number of Filled Fellowship Positions |
|--------------------|---------------|--|---------------------------------------|
| Greater Bay Area | Palo Alto | Stanford Health Care-Sponsored Stanford University Program | 2 |
| Greater Bay Area | San Francisco | University of California (San Francisco) Program | 2 |
| Los Angeles County | Los Angeles | UCLA David Geffen School of Medicine/UCLA Medical Center Program | 2 |
| Los Angeles County | Los Angeles | University of Southern California/LAC+USC Medical Center Program | 2 |
| Sacramento Area | Sacramento | University of California Davis Health Program | 2 |
| San Diego Area | La Jolla | University of California (San Diego) Medical Center Program | 2 |
| | | Total Number of Filled Fellowship Positions | 12 |

Source: ACGME, Program Search.

The ACGME requires family medicine residency programs to train residents to provide perinatal care to pregnant persons but does not require the programs to train residents on how to perform aspiration or medication abortions. Family medicine residency graduates cannot participate in complex family planning fellowships because they are only open to graduates of obstetrics/gynecology residency programs. However, there are other (albeit more limited) opportunities for family medicine residency graduates to gain additional exposure to abortion training. The Training in Early Abortion for Comprehensive Healthcare (TEACH) Leadership Fellowship is a part-time one-year program based in the San Francisco Bay Area that trains fellows in early abortion and contraception and helps them develop skills in leadership, advocacy, teaching, and research (TEACH Leadership Fellowship, n.d.). The TEACH Leadership Fellowship recruited one family doctor (MD or DO) and one advanced practice clinician (nurse practitioner, certified nurse midwife, or physician assistant) for the 2023-2024 fellowship year.

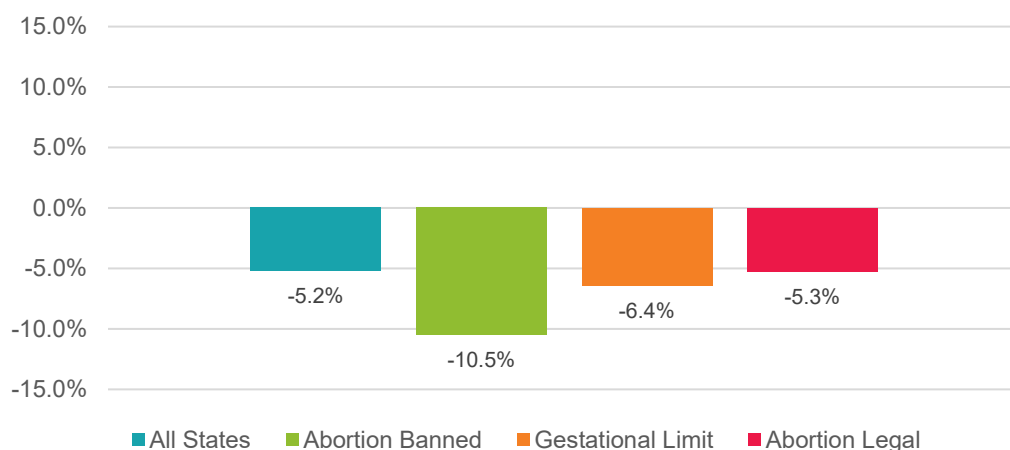
Potential Impact of the *Dobbs v. Jackson Women's Health Organization* Decision on Graduate Medical Education in California

As a result of the *Dobbs* decision and ensuing abortion bans or restrictions, medical students and residents attending programs in states with bans or restrictions will not have access to abortion education and training in their state (Peachman, 2022). Traub et al. (2022) estimates that approximately 71% of medical students will have their training restricted and Vinekar et al. (2022) estimates that approximately 44% of obstetrics/gynecology residents are "certain or likely to lack access to in-state abortion training." This may be an underestimation because other residency programs, such as family medicine, also offer some degree of abortion training (Lambert, Horvath, & Casas, 2023; Vinekar et al., 2022). Lack of access to abortion training could lead to reduced

competencies among residents in managing abortions, pregnancy complications, and pregnancy losses as well as reduced competency in providing counseling on options for managing a pregnancy. There may also be fewer obstetricians/gynecologists practicing in restricted states in the future since a majority of physicians practice in the state where they completed their residency (AAMC, 2021).

The results of the 2022-2023 residency application cycle suggest that the *Dobbs* decision is affecting the decisions of seniors at MD-granting medical schools in the United States, hereafter referred to as “U.S. MD seniors”. According to an analysis from the Association of American Medical Colleges (AAMC), there was a 5.2 percent decrease in the number of U.S. MD seniors who applied to obstetrics/gynecology residency programs during the 2022-2023 residency application cycle (Orgera, Mahmood, & Grover, 2023). This decrease was greater than the decrease in applications from U.S. MD seniors across all specialties (1.8 percent). As displayed in Figure 4, the decrease in applications was highest in states with complete abortion bans and lowest in states without abortion bans or restrictions.

Figure 4. Percent Change in U.S. MD Senior Obstetrics and Gynecology Residency Applicants, from the 2021-2022 to the 2022-2023 Application Cycle



Note: The classification of states by abortion ban or restriction was obtained from Kaiser Family Foundation's abortion policy tracker and reflects state laws in place on January 20, 2023.

Source: AAMC, Training Location Preferences of U.S. Medical School Graduates Post *Dobbs v. Jackson Women's Health Organization* Decision.

Despite the decrease in applications from U.S. MD seniors, 1,499 of the 1,503 first-year residency positions in obstetrics/gynecology that were offered in the 2023 “Match” across all states were filled (NRMP, 2023b). This finding suggests that the vast majority of obstetrics/gynecology residency programs in states with abortion bans or restrictions compensated for the reduction in U.S. MD senior applicants by admitting other types of applicants (i.e., MD graduates who were not seniors, graduates of DO-granting medical schools, and international medical graduates).

Initiatives to Strengthen Abortion Training

There are several initiatives aimed at strengthening abortion training (and subsequently abortion access) across the nation and within California. This subsection highlights some of these initiatives and is not intended to be an exhaustive list of all active initiatives.

The Kenneth J. Ryan Residency Training Program (Ryan Program) collaborates with obstetrics/gynecology residency programs in the United States and Canada to establish or expand family planning rotations. The Ryan Program is based at the Bixby Center for Global Reproductive Health at the University of California, San Francisco and has trained over 7,000 residents since 1999. The Ryan Program offers participating obstetrics/gynecology residency programs technical assistance, a didactic curriculum focused on family planning (which includes abortion and contraception care), professional development opportunities for program directors and staff, and access to a national network of experts (Ryan Program, n.d.). There are over 100 Ryan Programs as of June 30, 2023 – 14 are located in California (half in Northern California and half in Southern California).

Table 7. Ryan Program Locations in California, 2023

| Region | City | Ryan Program |
|--------------------|---------------|--|
| Greater Bay Area | Oakland | Kaiser Permanente Northern California (Oakland) Program |
| Greater Bay Area | San Francisco | Kaiser Permanente Northern California (San Francisco) Program |
| Greater Bay Area | San Francisco | University of California (San Francisco) Program |
| Greater Bay Area | San Jose | Santa Clara Valley Medical Center Program |
| Greater Bay Area | Santa Clara | Kaiser Permanente Northern California (Santa Clara) Program |
| Greater Bay Area | Stanford | Stanford Health Care-Sponsored Stanford University Program |
| Los Angeles County | Los Angeles | Cedars-Sinai Medical Center Program |
| Los Angeles County | Los Angeles | Kaiser Permanente Southern California (Los Angeles) Program |
| Los Angeles County | Los Angeles | UCLA David Geffen School of Medicine/UCLA Medical Center Program |
| Los Angeles County | Los Angeles | University of Southern California/LAC+USC Medical Center Program |
| Los Angeles County | Torrance | Los Angeles County-Harbor-UCLA Medical Center Program |
| Orange County | Orange | University of California (Irvine) Program |
| Sacramento Area | Sacramento | University of California Davis Health Program |
| San Diego Area | La Jolla | University of California (San Diego) Medical Center Program |

Source: The Kenneth J. Ryan Residency Training Program in Abortion & Family Planning, Ryan Program Locations.

The Reproductive Health Education in Family Medicine (RHEDI) program collaborates with family medicine residency programs to advance abortion and sexual and reproductive health (SRH) training. RHEDI offers partnering organizations technical assistance, training resources, as well as networking and professional development opportunities (RHEDI, n.d.). In addition, RHEDI offers a scholarship program for second year family medicine residents with an interest in abortion care. The RHEDI program is based out of the Department of Family and Social Medicine at Montefiore Medical Center in New York. RHEDI programs have trained over 2,000 residents between 2006 and 2020. Across the nation, there are 32 certified RHEDI programs that provide abortion and SRH training and 7 RHEDI-affiliated programs that offer varying degrees of SRH training. In California, there are ten certified RHEDI programs (eight in Northern California and two in Southern California) and two RHEDI-affiliated programs (both in Northern California).

Table 8. Certified RHEDI Programs and RHEDI-Affiliated Programs in California, 2023

| Region | City | Certified RHEDI and RHEDI-Affiliated Residency Program |
|--------------------|---------------|---|
| Central Coast | Salinas | Natividad Medical Center Family Medicine Residency Program (affiliated with UCSF) |
| Greater Bay Area | Martinez | Contra Costa Family Medicine Residency Program |
| Greater Bay Area | San Francisco | UCSF Family and Community Medicine Residency Program at SFGH |
| Greater Bay Area | San Jose | Kaiser Permanente San Jose Family Medicine Residency Program |
| Greater Bay Area | Santa Rosa | Kaiser Permanente Santa Rosa Family Medicine Residency* |
| Greater Bay Area | Santa Rosa | Santa Rosa Family Medicine Residency |
| Greater Bay Area | Vallejo | Kaiser Permanente Napa-Solano Family Medicine Residency Program |
| Los Angeles County | Long Beach | Long Beach Memorial Family Medicine Residency Program |
| Orange County | Irvine | UC Irvine Family Medicine Residency Program |
| Sacramento Area | Sacramento | Kaiser Permanente Sacramento Family Medicine Residency* |
| Sacramento Area | Sacramento | Sutter Health Family Medicine Residency |
| Sacramento Area | Sacramento | UC Davis Family Medicine Residency Program |

Note: Programs with an asterisk (*) are RHEDI-affiliated programs.

Source: Reproductive Health Education in Family Medicine, RHEDI Programs.

In the 2022-2023 state budget, California allocated \$120 million to the California Department of Health Care Access and Information (HCAI) to create and implement five programs⁵ that will expand access to reproductive health services, which includes abortion and abortion-related care, throughout the state (HCAI, n.d.a.). Of the \$120 million, \$20 million was appropriated to increase the number of reproductive health care providers in the state through the Clinical Infrastructure Fund. Providers who receive funds through this program are required to work in reproductive health and provide abortion and/or abortion-related care (e.g., aspiration or medication abortions, pregnancy loss management, counseling and/or mental health services related to abortions, contraceptive services, post-abortion care, etc.) in an underserved community for a specified time commitment (HCAI, 2023). There are eight loan repayment, scholarship, and grant programs eligible for the Clinical Infrastructure Fund, each targeted at different types of providers. One program, the Steven M. Thompson Physician Corps Loan Repayment Program, is specific to physicians. Eligible applicants can receive loan repayments of up to \$105,000 if they practice and provide outpatient care in an eligible facility (e.g., federally qualified health center, rural health clinic) for a minimum of 36 months (HCAI, n.d.b.). Physicians are also among the types of providers eligible for another program, the California State Loan Repayment Program, which provides loan repayments of up to \$50,000 to providers who practice in an eligible facility for a minimum of 24 months and up to \$50,000 in additional loan repayments if they extend their commitment for three additional years (HCAI, n.d.b.).

Another \$20 million from the \$120 million budget was appropriated to the California Reproductive Health Service Corps Training Initiative (Corps) (HCAI, n.d.a.). The Corps is a collaboration between HCAI and the non-profit organization Social and Environmental Entrepreneurs (SEE) to design and administer trainings in abortion and abortion-related care for physicians and other health care professionals as well as provide financial support for

⁵ The five programs funded through the \$120 million Reproductive Health Care Access Initiative are: 1) Clinical Infrastructure Fund (\$20 million), 2) Capital Infrastructure Grant Program (\$20 million), 3) Uncompensated Care Fund (\$40 million), 4) Abortion Practical Support Fund (\$20 million), and 5) California Reproductive Health Service Corps (\$20 million) (HCAI, n.d.a.).

California-based organizations that provide clinical abortion training. The Corps will also financially support the integration of abortion care at service sites or into health care professionals' practices (HCAI, n.d.b.).

Conclusion

The findings of this report illustrate the importance of monitoring trends in medical education in California. These trends provide evidence of California's progress toward increasing the numbers of medical students and residents educated in the state and its capacity to train physicians to provide comprehensive reproductive health services, including abortion.

Medical School

Although the number of graduates of medical schools in California decreased by three percent between 2021 and 2022, long-term trends indicate a substantial increase in graduates that will persist as new medical schools graduate their first classes. The number of graduates of California medical schools has increased by 32 percent since 2009 due to the opening of new medical schools and increases in class size. Two new medical schools will graduate their first classes in 2024 and a third new medical school will graduate its first class in 2027.

Graduate Medical Education

The number of residents completing residency in California is increasing in all specialties due to growth in the number of residency programs. Trends in growth vary substantially across the five specialties in which CalMedForce funds residency programs. Between the 2011-2012 and 2021-2022 academic years, internal medicine residency programs experienced the largest increase in the *number* of first-year residents and emergency medicine experienced the largest *percentage* increase in first-year residents. The large percentage increase in first-year emergency medicine residents reflects the doubling of the number of emergency medicine residency programs in California from 2011-2012 to 2021-2022. Pediatrics experienced the smallest numeric and percentage increases in first-year residents because only one new residency program opened during this time period. This variation in growth suggests that California's policymakers and medical educators should continue monitoring trends in graduate medical education in these specialties and may wish to explore strategies to increase the numbers of residency programs in obstetrics/gynecology and pediatrics.

In 2023, the percentage of filled first-year residency positions varied substantially across specialties eligible for CalMedForce funding. Between 2022 and 2023, the percentage of first-year emergency medicine residency positions in California that were filled through the National Resident Matching Program decreased from 97 percent to 92 percent, which was consistent with the experience of emergency medicine residency programs nationwide. In contrast, the percentage of first-year positions filled in other CalMedForce specialties in 2023 was the same or greater than in 2022. California's policymakers and medical educators should continue monitoring the rate at which first-year positions in emergency medicine residency programs are filled to determine whether the decrease between 2022 and 2023 is an aberration or a signal that growth in the number of emergency medicine residency positions has outpaced interest in this specialty among medical school graduates.

Training Physicians to Perform Abortions

As of June 30, 2023, the Supreme Court's 2022 decision in *Dobbs v. Jackson Women's Health Center* has resulted in bans and restrictions on abortion in 24 states, four of which have been blocked by lower courts. The full impact of the *Dobbs* decision is unknown but early evidence suggests that it is leading to an increase in the number of pregnant persons traveling to California and other states that have upheld access to abortion. The decision is also associated with a decrease in the number of medical students applying to residency programs in obstetrics/gynecology, although nationwide 99.7 percent first-year positions offered in the National Resident Matching Program in 2023 were filled.

Analysis of information regarding abortion training in California indicates that the state currently trains approximately 493 obstetrics/gynecology residents and 12 fellows in complex family planning per year. In

addition, 14 obstetrics/gynecology residency programs and 12 family medicine residency programs participate in initiatives aimed at increasing the number of physicians trained to provide abortions.

Policymakers and medical educators in California should continue to monitor trends in inter-state travel for abortion and applications to obstetrics/gynecology residency programs to assess whether findings observed in 2023 persist. Consideration should also be given to increasing the number of fellows trained in complex family planning and the numbers of obstetrics/gynecology and family medicine residency programs that provide comprehensive training in abortion care. In addition, the distribution of the \$20 million allocated to the Clinical Infrastructure Fund and the \$20 million allocated to the California Reproductive Health Service Corps Training Initiative should be monitored.

Appendix A: Excerpt of ACGME Program Requirements for Graduate Medical Education in Obstetrics and Gynecology Regarding Training in Abortion and Contraception

IV.C.7: Family Planning

IV.C.7.a: Programs must provide didactic activities and clinical experience in comprehensive family planning. (Core)

IV.C.7.a.1: Residents must have didactic activities and clinical experience in all forms of contraception. (Core)

IV.C.7.a.2: Residents must be involved in educating patients on the surgical and medical therapeutic methods related to the provision of abortions. (Core)

IV.C.7.a.3: Residents must participate in the management of complications of abortions. (Core)

IV.C.7.a.4: Programs must provide clinical experience or access to clinical experience in the provision of abortions as part of the planned curriculum. If a program is in a jurisdiction where resident access to this clinical experience is unlawful, the program must provide access to this clinical experience in a different jurisdiction where it is lawful. (Core)

IV.C.7.a.4.a: Residents who have a religious or moral objection may opt out and must not be required to participate in training in or performing induced abortions. (Core)

IV.C.7.a.4.b: For programs that must provide residents with this clinical experience in a different jurisdiction due to induced abortion being unlawful in the jurisdiction of the program, support must be provided for this experience by the program, in partnership with the Sponsoring Institution. (Core)

Specialty-Specific Background and Intent: Comprehensive family planning is an essential part of obstetrics and gynecology. For decades, the obstetrics and gynecology residency Program Requirements have included the requirement that programs provide access to induced abortion training as part of the planned curriculum. This requirement is accompanied by a related requirement that programs must allow residents with moral or religious objections to opt out of the experience.

This requirement is based on the knowledge, skills, and abilities necessary for an obstetrician-gynecologist to practice comprehensive reproductive health care in the United States. Such training is directly relevant to preserving the life and health of pregnant patients in some instances and equips residents with the skills and knowledge necessary for providing care in other reproductive health care contexts, including but not limited to, the ability to safely evacuate the uterus in the first and second trimesters in various clinical scenarios, such as spontaneous abortion (miscarriage) and its complications. Training in abortion also addresses many generally applicable skills, including managing pain for obstetrics and gynecology procedures; providing pregnant patients evidence-based, time-sensitive care and education related to preventing severe maternal morbidity and mortality; and providing care for complications arising from unlicensed procedures involving pregnancies.

Programs must have a curriculum that includes experience in induced abortions. Programs must be structured such that residents may “opt out” rather than needing to “opt in” to this experience. Programs must allow those residents who do not desire to participate in the provision of induced abortions to “opt out” of the induced abortion clinical experience. Even if no residents have participated in the induced abortion experience, the Review Committee would consider a program with an “opt-out” curriculum to be in substantial compliance with the requirements. If a program does not have a specific family planning curriculum that includes experience in

induced abortions unless it is requested by a resident, a program would be considered to have an “opt-in” curriculum, and the Review Committee would find this program to be non-compliant with these requirements.

Obstetrics and gynecology residency programs may be located in jurisdictions where induced abortions are unlawful. Residents who do not opt out of clinical training in induced abortion must receive support to obtain clinical experience in induced abortion in another jurisdiction. Depending on the circumstances, support may require financial, logistical, educational, and/or other resources. If a program, in partnership with its Sponsoring Institution, fails to provide support for this clinical experience or penalizes residents who receive such support, the program will be considered non-compliant with the requirement.

IV.C.8: Residents must have didactic activities and clinical experience in the comprehensive management of spontaneous abortion and pregnancy loss, including patient education, expectant management, medication management, uterine evacuation, complication management, and post-pregnancy loss care. (Core)

IV.C.8.a: Residents' clinical experience in uterine evacuation should take place in the operating room and in outpatient settings. (Core)

Appendix B: Excerpt of ACGME Program Requirements for Graduate Medical Education in Complex Family Planning

IV.B.1.b: Patient Care and Procedural Skills

IV.B.1.b.1: Fellows must be able to provide patient care that is patient- and family-centered, compassionate, equitable, appropriate, and effective for the treatment of health problems and the promotion of health. (Core)

IV.B.1.b.1.a: Fellows must demonstrate competence in providing care for patients with complex reproductive health needs, including: (Core)

IV.B.1.b.1.a.i: counseling in and provision of contraception; (Core)

IV.B.1.b.1.a.ii: prevention, recognition, and treatment of contraceptive complications; (Core)

IV.B.1.b.1.a.iii: medical management of uterine evacuation; and, (Core)

IV.B.1.b.1.a.iv: evaluation and medical management of extrauterine pregnancy and pregnancy of unknown location. (Core)

IV.B.1.b.2: Fellows must be able to perform all medical, diagnostic, and surgical procedures considered essential for the area of practice. (Core)

IV.B.1.b.2.a: Fellows must demonstrate competence in the performance of procedures for patients with complex reproductive health needs, including: (Core)

IV.B.1.b.2.a.i: surgical management of uterine evacuation; (Core)

IV.B.1.b.2.a.ii: prevention, recognition, and treatment of complications of uterine evacuation; (Core)

IV.B.1.b.2.a.iii: evaluation and surgical management of extrauterine pregnancy and pregnancy of unknown location; (Core)

IV.B.1.b.2.a.iv: female permanent contraception; (Core)

IV.B.1.b.2.a.v: pain control for procedures performed in the ambulatory setting; and, (Core)

IV.B.1.b.2.a.v: ultrasonography. (Core)

References

- Accreditation Council for Graduate Medical Education. (n.d.). Overview. Retrieved June 30, 2023, from <https://www.acgme.org/about/overview/>
- Accreditation Council for Graduate Medical Education. (2020). Data Resource Book Academic Year 2019-2020 [PDF file]. Retrieved from <https://www.acgme.org/about-us/publications-and-resources/graduate-medical-education-data-resource-book/>
- Accreditation Council for Graduate Medical Education. (2021). Data Resource Book Academic Year 2020-2021 [PDF file]. Retrieved from <https://www.acgme.org/about-us/publications-and-resources/graduate-medical-education-data-resource-book/>
- Accreditation Council for Graduate Medical Education. (2022). Data Resource Book Academic Year 2021-2022 [PDF file]. Retrieved from <https://www.acgme.org/about-us/publications-and-resources/graduate-medical-education-data-resource-book/>
- Accreditation Council for Graduate Medical Education. (2023a). ACGME Program Requirements for Graduate Medical Education in Obstetrics and Gynecology [PDF file]. Retrieved from <https://www.acgme.org/specialties/obstetrics-and-gynecology/program-requirements-and-faqs-and-applications/>
- Accreditation Council for Graduate Medical Education. (2023b). ACGME Program Requirements for Graduate Medical Education in Complex Family Planning [PDF file]. Retrieved from <https://www.acgme.org/specialties/obstetrics-and-gynecology/program-requirements-and-faqs-and-applications/>
- Accreditation Council for Graduate Medical Education. (2023c). Program Search. Retrieved June 30, 2023, from <https://apps.acgme.org/ads/Public/Programs/Search>
- American Association of Colleges of Osteopathic Medicine. (2023a). Osteopathic Medical College Graduates by Gender 2000-2022 [Data file]. Retrieved from https://www.aacom.org/searches/reports/report/2000-22_GradGender_COM
- American Association of Colleges of Osteopathic Medicine. (2023b). Osteopathic Medical College Applicants and Matriculants by Gender and College of Osteopathic Medicine, 2009-2022 [Data file]. Retrieved from <https://www.aacom.org/searches/reports/report/applicants-matriculants-by-com-and-gender-2009-2021>
- American Osteopathic Association Commission on Osteopathic College Accreditation. (2023). Colleges of Osteopathic Medicine Directory [PDF file]. Retrieved June 30, 2023, from <https://osteopathic.org/wp-content/uploads/2018/03/colleges-of-osteopathic-medicine.pdf>
- Association of American Medical Colleges. (2022a). 2021 State Physician Workforce Data Report [PDF file]. Retrieved from https://store.aamc.org/downloadable/download/sample/sample_id/506/
- Association of American Medical Colleges. (2022b). 2022 FACTS: Enrollment, Graduates, and MD-PhD Data - Table B-2.2: Total Graduates by U.S. MD-Granting Medical School and Gender, 2017-2018 through 2021-2022 [PDF file]. Retrieved from <https://www.aamc.org/data-reports/students-residents/data/2022-facts-enrollment-graduates-and-md-phd-data>
- Association of American Medical Colleges. (2022c). 2022 FACTS: Enrollment, Graduates, and MD-PhD Data - Table B-1.2: Total Enrollment by U.S. MD-Granting Medical School and Gender, 2018-2019 through 2022-2023 [PDF file]. Retrieved from <https://www.aamc.org/data-reports/students-residents/data/2022-facts-enrollment-graduates-and-md-phd-data>

Association of American Medical Colleges (2022d). 2022 FACTS: Applicants and Matriculants Data. Table A-1. MD-Granting Medical School Applications and Matriculants by School, State of Legal Residence, and Sex, 2022-2023. PDF file]. Retrieved from <https://www.aamc.org/data-reports/students-residents/data/2022-facts-applicants-and-matriculants-data>

Kaiser Permanente Bernard J. Tyson School of Medicine. (n.d.). Student Demographics. Retrieved June 30, 2023, from <https://medschool.kp.org/admissions/student-demographics>

Boyle, P. (2021, December 1). America's Medical Residents, by the Numbers. *AAMCNews*. Retrieved from <https://www.aamc.org/news/>

Cal. Const. art. I, § 1.1

California Department of Health Care Access and Information. (n.d.a.). Reproductive Health Care Access Initiative. Retrieved June 30, 2023, from <https://hcai.ca.gov/workforce-capacity/initiatives/reproductive-health-care-access-initiative/>

California Department of Health Care Access and Information. (n.d.b.). Steven M. Thompson Physician Corps Loan Repayment Program (STLRP). Retrieved June 30, 2023, from <https://hcai.ca.gov/loans-scholarships-grants/loan-repayment/stlrp/>

California Department of Health Care Access and Information. (2023, January 5). California Announces Funding Opportunities to Expand Access to Reproductive Health Care. *HCAI News*. Retrieved from <https://hcai.ca.gov/california-announces-funding-opportunities-to-expand-access-to-reproductive-health-care/>

California Health Sciences University. (2020). Meet the COM Inaugural Class. Retrieved from <https://osteopathic.chsu.edu/meet-the-com-inaugural-class/>

California University of Science and Medicine. (2022, May 25). California University of Science and Medicine Proudly Celebrates Inaugural Graduating Class of MD Students. *CUSM News*. Retrieved from <https://www.cusm.org/news>

Charles R. Drew University of Medicine and Science. (n.d.). MD Program. Retrieved June 30, 2023, from <https://www.cdrewu.edu/cdu-md>

Coffman, J. M., Calimlim, E., & Fix, M. (2021). California Physicians: A Portrait of Practice [PDF file]. Retrieved from <https://www.chcf.org/wp-content/uploads/2021/03/PhysiciansAlmanac2021.pdf>

Coffman, J. M., Fix, M., & Ko, M. California Physician Supply and Distribution: Headed for a Drought? [PDF file]. Retrieved from <https://www.chcf.org/wp-content/uploads/2018/06/CAPhysicianSupply2018.pdf>

Dobbs, State Health Officer of the Mississippi Department of Health, et al. v. Jackson Women's Health Organization et al. 597 U.S. _____. 2022. https://www.supremecourt.gov/opinions/21pdf/19-1392_6j37.pdf

Goldman, A.L. & Barnett, M.L. Changes in Physician Work Hours and Implications for Workforce Capacity and Work-Life Balance, 2001-2021. *JAMA Internal Medicine*. 2023;183(2):106-114. <https://doi:10.1001/jamainternmed.2022.5792>

Grossman, D., Joffe, C., Kaller, S., Kimport, K., Kinsey, E., Lerma, K., ... White, K. (2023). Care Post-Roe: Documenting Cases of Poor-Quality Care Since the Dobbs Decision [PDF file]. Retrieved from <https://www.ansirh.org/sites/default/files/2023-05/Care%20Post-Roe%20Preliminary%20Findings.pdf>

Guttmacher Institute. (2023). Interactive Map: US Abortion Policies and Access After Roe. Retrieved June 30, 2023, from <https://states.guttmacher.org/policies/>

- Lambert, S. J., Horvath, S. K., & Casas, R. S. (2023). Impact of the Dobbs Decision on Medical Education and Training in Abortion Care. *Women's Health Issues*, 33(4), 337–340
<https://doi.org/10.1016/j.whi.2023.03.011>
- Liaison Committee on Medical Education. (2023a). Accredited MD Programs in the United States. Retrieved June 30, 2023, from <https://lcme.org/directory/accredited-u-s-programs/>
- Liaison Committee on Medical Education. (2023b). Applicant and Candidate Programs. Retrieved June 30, 2023, from <https://lcme.org/directory/candidate-applicant-programs/>
- Maddow-Zimet, I. & Kost, K. (2022, July 21). Even Before Roe Was Overturned, Nearly One in 10 People Obtaining an Abortion Traveled Across State Lines for Care. *Guttmacher Institute*. Retrieved from <https://www.guttmacher.org/>
- Meghjani, T. (2023, April 4). Interest in Emergency Medicine Residencies Drops. *Bloomberg*. Retrieved from <https://www.bloomberg.com/>
- National Residency Matching Program. (2021). 2021 NRMP Main Residency Match: Match Rates by Specialty and State [PDF file]. Retrieved from https://www.nrmp.org/wp-content/uploads/2021/08/Specialty-by-State-and-Applicant-Type_2021.pdf
- National Residency Matching Program. (2022). 2022 NRMP Main Residency Match: Match Rates by Specialty and State [PDF file]. Retrieved from <https://www.nrmp.org/wp-content/uploads/2022/06/2022-Match-Results-by-State-Specialty-and-Applicant-Type-1.pdf>
- National Residency Matching Program. (2023a). 2023 NRMP Main Residency Match: Match Rates by Specialty and State [PDF file]. Retrieved from <https://www.nrmp.org/wp-content/uploads/2023/03/Match-Rates-by-State-Specialty-and-Applicant-Type-2023.pdf>
- National Residency Matching Program. (2023b). Results and Data: 2023 Main Residency Match [PDF file]. Retrieved from <https://www.nrmp.org/wp-content/uploads/2023/05/2023-Main-Match-Results-and-Data-Book-FINAL.pdf>
- Orgera, K., Mahmood, H., & Grover, A. (2023). Training Location Preferences of U.S. Medical School Graduates Post Dobbs v. Jackson Women's Health Organization Decision. Retrieved from <https://www.aamc.org/advocacy-policy/aamc-research-and-action-institute/training-location-preferences>
- Peachman, R.R. (2022). Dobbs Decision Threatens Full Breadth of Ob-Gyn Training. *JAMA*, 328(17), 1668–1670.
<https://doi.org/10.1001/jama.2022.13662>
- Pfeffinger, A., Fernandez, A., Tapia, M., Rios-Fetchko, F., & Coffman, J. M. (2020). Recovery with Limited Progress: Impact of California's Proposition 209 on Racial/Ethnic Diversity of California Medical School Matriculants, 1990 to 2019 [PDF file]. Retrieved from <https://healthforce.ucsf.edu/publications/recovery-limited-progress-impact-california-proposition-209-raciaethnic-diversity>
- Reproductive Health Education in Family Medicine. (n.d.). Retrieved June 30, 2023, from <https://rhedi.org>
- Sears, B., Cohen, C., & Stemple, L. (2022). People Traveling to California and Los Angeles for Abortion Care if Roe v. Wade is Overturned [PDF file]. Retrieved from https://law.ucla.edu/sites/default/files/PDFs/Center_on_Reproductive_Health/California_Abortion_Estimates.pdf
- The Kenneth J. Ryan Residency Training Program in Abortion & Family Planning. (n.d.). Retrieved June 30, 2023, from <https://ryanprogram.org/>

-
- Training in Early Abortion for Comprehensive Healthcare. (n.d.). TEACH Leadership Fellowship. Retrieved June 30, 2023, from <https://www.teachtraining.org/leadership/teach-leadership-fellowship/>
- Traub, A. M., Mermin-Bunnell, K., Pareek, P., Williams, S., Connell, N. B., Kawwass, J. F., & Cwiak, C. (2022). The Implications of Overturning Roe v. Wade on Medical Education and Future Physicians. *Lancet Regional Health Americas*, 14, 100334. <https://doi.org/10.1016/j.lana.2022.100334>
- U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Workforce, National Center for Health Workforce Analysis. (2016). State-Level Projections of Supply and Demand for Primary Care Practitioners: 2013-2025 [PDF file]. Retrieved from <https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/primary-care-state-projections2013-2025.pdf>
- Vinekar, K., Karlapudi, A., Nathan, L., Turk, J. K., Rible, R., & Steinauer, J. (2022). Projected Implications of Overturning Roe v. Wade on Abortion Training in U.S. Obstetrics and Gynecology Residency Programs. *Obstetrics and Gynecology*, 140(2), 146–149. <https://doi.org/10.1097/AOG.0000000000004832>