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Office of the President

TO MEMBERS OF THE HEALTH SERVICES COMMITTEE:

DISCUSSION ITEM

For Meeting of December 15, 2021

THE MEDICAL EDUCATION LANDSCAPE IN CALIFORNIA AND CONTEXT FOR FUTURE GROWTH

EXECUTIVE SUMMARY

California is home to nearly 40 million residents and its population is increasing in size, age, and diversity. The state also faces a growing shortage and persistent maldistribution of physicians. According to the 2019 report of the California Future Health Workforce Commission, the state had an estimated need of approximately 4,100 more primary care physicians by 2030. The COVID-19 pandemic has further amplified the need to increase the supply and diversity of health professionals throughout the state. California ranks first in the nation in the percentages of both medical students and residents who remain in the state to practice. State and national data suggest that increasing California's supply and distribution of physicians could be most effectively achieved by expanding medical school enrollment, prioritizing admission of California students, and pursuing growth in graduate medical education (GME) or residency training. State funding will be important for expanding medical education opportunities for California students, in turn producing more physicians who are committed to future practice in medically underserved areas and other communities statewide.

In June 2020, UC Health Vice President for Health Sciences, Dr. Cathryn Nation, provided an overview of the medical education landscape in California and the important role of the University of California in helping to meet state workforce needs. At that time, the State budget outlook was uncertain given the significant financial impact that the COVID-19 pandemic was having on the economy. This item will follow up on the discussion in 2020, with a focus on plans for future enrollment growth through the UC Riverside School of Medicine, the expanded branch campus of the UCSF School of Medicine, and the UC Programs in Medical Education (PRIME) initiative. A high-level update on the potential for further growth through the year 2030 will also be provided.

CALIFORNIA'S MEDICAL EDUCATION LANDSCAPE

California has a relatively small medical education system when compared to the size of its population and geography. On a per-capita basis, California has a statewide medical student enrollment that is the fourth lowest in the nation (19.8 students per 100,000 population, by

contrast to a median of 32.7). In 2020, approximately one-quarter of California physicians (24 percent) had graduated from a California medical school. Forty-nine percent had graduated from medical schools in other states and 27 percent had graduated from international medical schools. Approximately 8,040 students are currently enrolled in California's 15 medical schools (see Table 1 below). There are 12 medical schools that grant the Doctor of Medicine (or MD) degree, six of which are public (i.e., UC medical schools) and six that are private, including the first accredited for-profit medical school. The three remaining medical schools are private and grant the Doctor of Osteopathic Medicine (or DO) degree, including California's first for-profit osteopathic medical school. California ranks first in the nation in the percentages of both medical students and residents who remain in the state to practice. Additional background on medical education in the United States is provided in Attachment 1 and additional information for each institution is provided in Attachment 2.

Table 1. California Medical Schools and Estimated Enrollments, November 2021

School Name	MD or DO-granting	First Year Enrollment	Estimated Total Enrollment 2020-2021
UC Davis	MD	127	477
UC Irvine	MD	104	447
UC Los Angeles	MD	175	749
UC Riverside	MD	77	294
UC San Diego	MD	133	539
UC San Francisco	MD	182	733
Estimated Total of UC Medical School Enrollment: 3,239			
California Northstate University^	MD	101	396
California University of Science & Medicine	MD	130	292
Kaiser Permanente Bernard J. Tyson School of Medicine	MD	50	50
Loma Linda University	MD	168	746
Stanford University	MD	90	529
University of Southern California	MD	186	815
Estimated Total of Private MD Student Enrollment: 2,828			
California Health Sciences University, College of Osteopathic Medicine^^	DO	79	79
Touro University	DO	142	542
Western University of Health Sciences	DO	332	1,352
Estimated Total of Private DO Student Enrollment: 1,973			
Total Schools: 15	**Total MD-granting:** 12 **Total DO-granting:** 3		**Estimated Grand Total:** 8,040

^: California's first for-profit allopathic medical school; ^^: California's first for-profit osteopathic medical school

Several new medical schools have been proposed to expand opportunities for students and to address the growing need for physicians and other health professionals in California, particularly in regions such as the San Joaquin Valley (SJV) and Inland Empire, where shortages are longstanding. Much of the recent growth in the development of new schools was initially driven by for-profit medical schools in response to the high demand for a medical education among California students and the relative lack of public investment, for decades, in the expansion of medical education opportunities in the state.

Size and Scope of Medical Education at the University of California. The University of California plays a critical role in educating and training physicians. UC trains more than 3,200 medical students at its six Schools of Medicine and more than 5,200 medical residents and fellows – nearly half of the state's total. These six medical schools are located at UC Davis, UC Irvine, UC Los Angeles, UC Riverside, UC San Diego, and UC San Francisco. Medical students and residents together make up roughly two-thirds of all UC health sciences students/trainees.

While California ranks at the top of the nation in terms of the retention of medical students and medical residents who are trained in the state, there has nevertheless been a longstanding reliance on the in-migration of medical students and residents who are educated outside of the state. In 2019, for example, more than 60 percent of California students who attended medical school did so out of state.

Notwithstanding California's ranking as the top state in the nation in the retention of medical students trained in public medical schools (i.e., UC medical schools), California ranks at the bottom of the nation for students enrolled in public medical schools per capita at 8.8 per 100,000 population compared to the median of 21.3.

Across UC, modest enrollment growth over the last 17 years has occurred through the UC PRIME initiative and with the launch of the new UC Riverside School of Medicine. Apart from these exceptions, UC has had little growth in medical school enrollment in more than 40 years. It is noteworthy, however, that the number of applicants to UC medical schools continues to grow each year and far exceeds the number of slots available in UC's entering classes. For example, for the 2021 application cycle, UCLA received 14,357 applications for only 175 slots; UCSF received roughly 9,800 for 182 slots; and UCR received nearly 6,700 for 77 slots in its first-year class.

Medical Student Diversity. According to the 2019 California Future Health Workforce Commission Report, communities of color will make up over 65 percent of California's population by 2030, yet they are severely underrepresented in the health workforce and educational pipeline. Language capabilities are also not aligned, with a large and growing public unable to effectively communicate with their health providers. For the physician workforce to better reflect California's diverse population, it will be critical that California medical schools continue to prioritize efforts to increase diversity among students, residents, and faculty. It is also important to note that physicians from groups underrepresented in medicine (UIM) are more likely to practice in shortage areas and to care for underserved and uninsured populations as compared to others.

Although more progress is needed, UC Schools of Medicine have shown steady gains in the enrollment of UIM students over the last 20 years. This fall, nearly 40 percent of first-year UC medical students are UIM compared to only 16 percent in 2000. The UC PRIME programs have contributed to these gains, reflecting extraordinary success for racial, ethnic, and socioeconomic diversity across the UC medical education system. With a total of 366 PRIME students enrolled (see Table 2), 68 percent of PRIME students are from groups that are underrepresented in medicine. UC medical schools received national recognition in the latest *U.S. News and World Report* rankings of Best Graduate Schools for 2022. This year's ranking of medical schools includes a new diversity index, created to measure progress in enrolling students from underrepresented groups and creating a future physician workforce that better reflects the general population. Four UC schools of medicine were recognized in the top ten nationally for diversity, with UC Davis ranked fourth, UC Riverside sixth, and UCLA and UCSF tied for ninth.

Table 2. PRIME Program Enrollments, 2021-22

PRIME Program	Total Enrollment (2021-22 Actual)	Total Planned Enrollment^
EXISTING PROGRAMS		
Rural PRIME (UCD)	32	60
PRIME Latino Community (UCI)	66	60
PRIME Leadership & Advocacy (UCLA/CDU)	99	90
San Joaquin Valley PRIME (UCSF/Fresno)	37	48
PRIME Health Equity (UCSD)	57	60
PRIME Urban Underserved (UCSF/UCB)	75	75
NEW PROGRAMS		
American Indian/Native American (UCD/UCSD)	0	48
Black/African American (UCI/UCR)	0	48
TOTAL	**366**	**489**

^: Planned enrollment varies by campus. Programs prior to the establishment of the SJV program were originally established as five-year programs that included a Master's/research year (e.g. 12 students over five years is 60 total students for RURAL PRIME compared to 12 students per year over four years totaling 48 SJV PRIME students). This funding is based upon a funding amount of $35,600 per student, with one-third of this per-student amount allocated for need-based financial aid for PRIME students.

CALIFORNIA'S PHYSICIAN WORKFORCE

Demographic Profile. More than one-third of California's physicians are over age 60. Physicians over 50 report working fewer hours per week on patient care than their younger counterparts. While the proportion of males and females among California medical school graduates was roughly equal in 2018, males nevertheless represented the majority of physicians in California and nationwide given historic admissions patterns. The racial/ethnic breakdown of California physicians is not representative of the state's diverse population. Latinx people represented 39 percent of the state's population, yet just six percent of active patient care physicians. Latinx physicians are particularly underrepresented in regions of the state with the highest proportion of Latinx Californians, including the Inland Empire, greater Los Angeles area, and the SJV.

State Workforce Projections. In 2019, California reported having approximately 110,600 total active physicians. On a per-capita basis, this is equivalent to 243.8 total active patient care physicians per 100,000 population, ranking the state 20th in the country for this measure (by contrast to median of 227.2). According to the 2019 report of the California Future Health Workforce Commission, the state had an estimated need of approximately 4,100 more primary care physicians by 2030. It is important to note, however, that although three new medical schools have opened since 2018, for a variety of other reasons, physician supply is not expected to keep pace with demand in primary care and other specialties such as psychiatry, geriatric medicine, and anesthesiology. Over a third of California physicians with MD degrees are over 60 years old, and the number of new licensees who join the workforce each year is currently too small to replace these physicians as they retire.

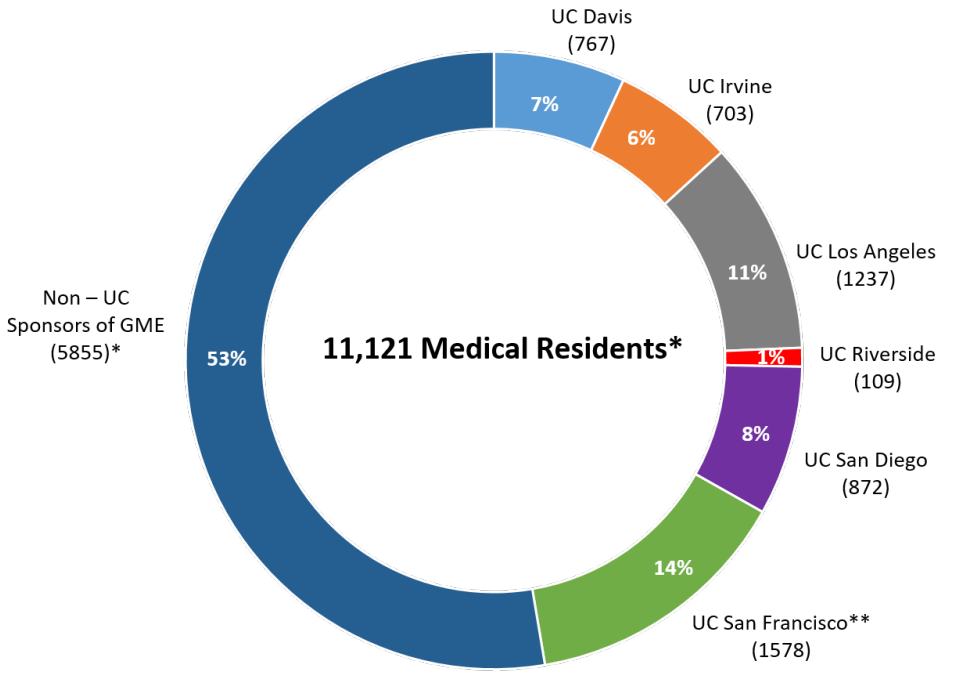
Factors Affecting Demand for Physician Services. Seven million Californians live in federally designated Health Professional Shortage Areas. As life expectancy continues to increase, demand for physician services is likely to grow for primary care, but also to shift to specialties such as geriatric medicine and other medical and surgical subspecialties (e.g., cardiology, oncology, and others). The ramifications of the COVID-19 pandemic have further exacerbated shortages across the state as many individuals have deferred care and as demands for mental health services are rising.

Factors Affecting Supply of Physicians. The supply of licensed physicians does not adequately reflect their availability to provide care. Fewer than half of California's physicians provided patient care 40 or more hours per week. Current estimates of licensed physicians overestimate the supply of physicians who are available to provide patient care. For example, of physicians who had active California licenses in 2015, 26,000 were not located in California at the time. The number of physicians who do not provide any patient care has been increasing since 2013. Physician supply also varies considerably by region. Out of nine geographic regions in the state, only four (the Greater Bay Area, Orange County, Sacramento Area, and San Diego Area) have the recommended supply of primary care physicians (PCPs). The Inland Empire and the SJV have the lowest supply of PCPs and specialists. Stress and burnout from the trauma of working through the pandemic are expected to cause some physicians to retire or leave practice earlier than they might otherwise have planned.

GRADUATE MEDICAL EDUCATION

There are more than 11,000 medical residents enrolled in California's residency training programs, with nearly half enrolled in UC-sponsored residency and affiliated family medicine programs (Figure 1). Two of the most effective strategies for meeting the need for more physicians are to expand the size of existing residency training programs and to establish new residency training programs in underserved communities and health professions shortage areas. Expansion of residency programs will also be needed to support increased training of medical students in California. On a national level, 55.5 percent of the individuals who completed residency training from 2010 through 2019 are practicing in the state where they completed their residency training. It is thus particularly noteworthy that 77 percent of California medical residents are expected to remain in the state after completing training or education, reflecting the high return on investment for graduate medical education (GME) in California.

Figure 1. Medical Residents in California, 2020-21



* From Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System – Public
** Includes UCSF Fresno

Funding Barriers to Increasing Residency Positions. The primary barrier to increasing residency slots, however, continues to be a lack of funding. Medicare has historically been the largest single funder of GME in California, with the state's historical investment being relatively small given the size and success of the state's residency programs in both training and retaining graduates for practice in California. In 1997, Congress capped the number of residency slots for which hospitals could receive Medicare GME funding and has not increased this cap until recently. In 2015, California constituted approximately 12.2 percent of the U.S. population and trained 8.5 percent of GME graduates, yet only received 6.8 percent of the total Centers for Medicare and Medicaid Services (CMS) funding for GME.

Recognizing the need and value of this training, UC Health has added medical residency slots and absorbed the cost. Of the 5,266 physician residents in training at UC Health, 839 slots receive no federal GME support. This results in an estimated $102 million in unreimbursed GME expenses borne by UC Health each year (as of 2019-20).

Medi-Cal. For Medi-Cal, California's Medicaid program, teaching hospitals received GME payments based on the Medi-Cal patients served prior to 2005. In 2005, hospital financing dramatically changed in California due to pressures from CMS on the forms of non-federal share, including the use of intergovernmental transfers. As a result, from 2005 to 2017, California was one of eight states that did not make explicit payments for GME under Medicaid fee-for-service or managed care. However, effective January 1, 2017, California amended its Medicaid state plan to pay designated public hospitals (including UC academic health centers)

new Medi-Cal supplemental payments for GME predicated on the direct and indirect costs of operating GME programs and the volume of Medi-Cal managed care patients served.

California's Proposition 56 (2016). In November 2016, California voters passed Proposition 56, establishing the California Healthcare, Research and Prevention Tobacco Tax Act of 2016. The measure provides $40 million annually to the University of California to "sustain, retain, and expand" graduate medical education programs in California to increase the number of primary care and emergency physicians in the state based on demonstrated workforce needs and priorities. Since 2018, this program, known as CalMedForce, operates in collaboration with the University. To date, the program has provided funding for approximately 545 residency positions throughout California.

The Song-Brown Health Care Workforce Training Program. Established in 1973, this program funds institutions that train primary care health professionals to provide health care in California's medically underserved areas. Starting in 2017, the Song-Brown Program has annually received $31 million from State General Funds to provide funding for primary care residency programs. The funding has supported Family Medicine, Internal Medicine, Obstetrics and Gynecology, and Pediatrics residency programs. The California Budget Act of 2021 will provide an additional $50 million in one-time funding to the Song-Brown program for new primary care residency programs for use until June 30, 2027.

Legislation to Fund Residency Positions. Under the Consolidated Appropriations Act of 2021, 1,000 new Medicare-funded GME slots will be created, distributing only 200 GME slots nationwide each year for five years, starting in 2023. Priority will be given to teaching hospitals in rural areas, hospitals training residents over their Medicare cap, hospitals in states with a new medical school or branch campus, and hospitals located in health professional shortage areas. The Act also provides that a hospital that receives one of these additional slots must agree to increase the total number of full-time equivalency residency positions in the training program by the same number of slots.

The House Committee on Rules also passed an amendment to the Build Back Better Act (H.R. 5376) that included a new provision to provide 4,000 new, Medicare-supported GME slots spread across the United States in 2025 and 2026. This legislation has not yet passed the Senate, thus future changes to the language are possible. The House-passed version would require that 25 percent of the new slots go to primary care specialties and 15 percent of the slots to psychiatry and other behavioral health training programs. The slots would be distributed to eligible hospitals with 30 percent to teaching hospitals over their Medicare caps, 20 percent to teaching hospitals in rural areas, 20 percent to teaching hospitals in states with new medical schools or branch campuses, 20 percent to teaching hospitals located in or serving a health professional shortage area (HPSA), and 10 percent to teaching hospitals in states in the lowest quartile of resident-to-population ratio.

RECENT STATE INVESTMENTS IN MEDICAL STUDENT EDUCATION

The State of California has recently made significant investments to support and expand medical education. The past two State Budget Acts signed by Governor Gavin Newsom provide new

funding to the University of California for this purpose. Specifically, the 2020 Budget Act included $25 million in new, ongoing funding for the UC Riverside School of Medicine as well as $15 million in additional funding to the UC San Francisco School of Medicine.

- UC Riverside School of Medicine (UCR SOM). The 2020 State Budget recognized the need for increased operating support for the UCR SOM. This support came at a critical time, with COVID-19 and its disproportionate impact on communities of color and those with limited access to health care, which further revealed the impacts of the decades-long physician shortage that the UCR SOM was established to address.

  The additional ongoing State appropriation of $25 million, together with the funding to build a new Education and Administration building that was also included in the State Budget Act of 2019, will enable the UCR SOM to make progress toward an ultimate enrollment of approximately 125 medical students per class (or roughly 500 total) and to increase the number of residents in training, thereby contributing (on an ongoing basis) to addressing regional and community needs.

- UC San Francisco School of Medicine – San Joaquin Valley Branch (SJV) Campus: The 2020 State Budget also provided UC with an increase of $15 million in ongoing funding to expand medical education in the SJV through a unique partnership involving the UCSF regional campus for clinical studies at UCSF Fresno and a newly designed UCSF regional campus that will ultimately include pre-clerkship studies at UC Merced. The proposed plan for these resources is to develop and implement a combined BS-MD program in partnership with UC Merced, known as SJV PRIME+.

  As envisioned, graduating high school senior students will matriculate into an enhanced baccalaureate program at UC Merced with conditional acceptance into the UCSF School of Medicine SJV Regional Campus program, provided that they maintain satisfactory academic progress. The baccalaureate program will provide community service opportunities and support for student success in medical school. Upon completion of their baccalaureate studies, these students will stay at UC Merced to complete their first phase of medical school. Currently, a collaborative partnership is underway between UCSF and UC Merced to build the faculty and infrastructure needed for UC Merced to qualify for designation as a regional, pre-clerkship campus of the UCSF School of Medicine. Following completion of their first phase of medical school, this cohort of students will transition to UCSF Fresno, where they will engage in their clinical and senior year medical school studies, ultimately earning a Doctor of Medicine (MD) degree from UCSF.

  This program leverages UC Merced's educational, research, and student support expertise with UCSF Fresno's clinical expertise to educate medical students from the SJV who are prepared to address the many healthcare challenges that exist in the region. Eventually, this path – contingent upon sufficient stable operating revenues and infrastructure – could lead to an independent medical school at UC Merced.

During this past year, the University was extremely pleased that the 2021 State budget also included $12.9 million in ongoing funding to support both previously unfunded and new

enrollment growth in PRIME programs; an increase of $25 million for one-time funding for UC Riverside's School of Medicine; and $30 million in one-time funding for the UCSD Hillcrest Medical Center.

- PRIME: Notwithstanding resources for SJV-PRIME ($1,855,000) specifically in the Budget Act of 2015, funding for other PRIME enrollment growth had not been provided by the State since 2007-08. The Governor approved an augmentation of $12.9 million in ongoing funding for previously unfunded enrollments (at originally planned levels) in all existing programs, and to fund the development of new programs focused on the needs of American Indian/Native American (AI/NA) communities and Black/African American (Black/AA) communities in California. This funding will benefit all six UC medical schools, stabilize resources for teaching, and ultimately grow total enrollment to nearly 500 PRIME students systemwide. Funding will also require one-third of the amount to be set aside for need-based student financial aid, and approximately an additional third to increase PRIME enrollment by 112 students over the next six years. Ninety-six of these new students will be enrolled in the new PRIME programs.

- UCR SOM: The $25 million in one-time funding will be used to expand the UCR SOM. Initially, the Budget Act listed these funds as facility upgrades funding, meaning they could only be spent on capital outlay. However, subsequent Trailer Bill language amended the budget bill language to provide additional flexibility and to allow the use of funds for operations. Allocated amounts are available for encumbrance or expenditure until June 30, 2026.

- UC San Diego Hillcrest Medical Center: $30 million will be available on a one-time basis to support the long-term redevelopment of the new UCSD Hillcrest hospital. Funds will go towards the planning, design, site development, and construction of the project, and will also help expand and enhance the academic health system, where teaching, research, and patient care merge. The 390-bed Hillcrest hospital serves all San Diego and Imperial County residents, along with parts of Riverside County. Construction for the project is anticipated to start in the fall of 2021 and continue over approximately 15 years in five major phases. Ultimately, this new hospital could accommodate some future growth in class size at UCSD.

Finally, during the 2020-21 legislative session, the California Legislature passed and Governor Newsom signed Senate Bill (SB) 395. This bill was authored by Senator Anna Caballero and is effective July 1, 2022. SB 395, the Healthy Outcomes and Prevention Education Act (HOPE Act), will impose a new tax on electronic cigarette products. Revenue from the tobacco tax will fund education programs to combat tobacco use. This bill also provides another permanent source of funding for UC by allocating seven percent of money received in the California Electronic Cigarette Excise Tax Fund to support the joint program in medical education between UCSF SOM, UCSF Fresno, and UC Merced. The amount of funding to UC will fluctuate by year, depending on e-cigarette sales, with the anticipated amount still to be determined.

CURRENT AND FUTURE UC MEDICAL STUDENT ENROLLMENTS

Primary strategies for addressing physician workforce shortages include expanding medical school enrollment at UC, given the high enrollment of California residents at UC medical schools and the very high rates of retention of UC graduates who ultimately practice within the state. Although UC leaders have successfully made the case for increased State funding to support longstanding priorities for enrollment growth through the expansion of the UCR School of Medicine and the UC PRIME programs, the growth needed to address California's physician workforce shortage exceeds the capacity of existing UC schools. Workforce needs will continue to be substantial in the SJV region and additional State support for expansion of the UCSF branch campus will still be needed. Beyond these current efforts, there is some capacity for growth at UC Davis and UC Irvine (and potentially UCSD, pending completion of the new teaching hospital) to expand beyond the growth planned through PRIME. Additional information on enrollment growth planning by school and year is included in Attachment 3.

Campus estimates suggest that by 2030, enrollment increases could accommodate more students within existing infrastructure, and potentially some additional increases with increased operating support and new infrastructure (see Table 3). These changes would increase UC's total medical student enrollment by approximately 520 new students systemwide (130 new graduates annually). It is important to note that there will be some expected variability and fluctuations in headcount from year to year for a variety of reasons (e.g., students who may be on a leave of absence from their Doctor of Medicine (MD) program due to time spent in a research year, or enrollment in a joint degree program). Anticipated fall 2030 enrollments shown below are thus best estimates/projections given planned increases in first-year class sizes in 2030.

Table 3. Enrollment Growth Planning by UC Medical School

UC SOM	First-Year Class Size 2020	Actual Total Fall 2020 (MD)^	First-Year Class Size 2030	Anticipated Total Fall 2030 (MD)	Anticipated Difference in Enrollment	Current Plans for Growth
Davis	127	477	144	576	99	AI/NA PRIME growth; plus additional plans
Irvine	104	447	150	600	153	Black/AA PRIME growth; plus additional plans
UCLA	147	642	147	642	0	No growth planned
UCLA –CDU Program^^	28	107	28	112	5	CDU plans to launch a new, independent 4-year MD program in 2023
Riverside	77	294	131	524	230	Black/AA PRIME growth; plus planned growth
San Diego	133	539	140	560	21	AI/NA PRIME growth
UCSF	153	617	153	617	0	No growth planned
UCSF- SJV	12	36	12	48	12	
UCSF – UCB JMP^^^	17	80	17	80	0	Some possible future growth is under discussion
UC TOTAL	**798**	**3239**	**922**	**3759**	**520**	

^: As reported by UC medical schools; AI/NA = American Indian/Native American; AA = African American;
^^: Charles Drew University; ^^^: Joint Medical Program

The enrollment estimates in Table 3 reflect an estimated 16 percent increase in medical student enrollments by 2030. This would be equivalent to an increase from 3,239 students to approximately 3,759 by 2030 and is approaching the California Future Health Workforce Commission's recommendation that UC expand medical student enrollment by 20 percent by 2030.

CONCLUDING COMMENTS

The impact of health workforce shortages has magnified the importance of having an adequate statewide supply of health providers, particularly when facing a global public health crisis and pandemic. Although the state's recent investments in medical education will benefit the people of California, greater investment will be needed to support additional growth to help ensure that more California students will be trained and retained in California to practice. Securing adequate resources to develop and expand the UCSF branch campus in the San Joaquin Valley in partnership with UCSF-Fresno and UC Merced will continue to be a priority for the University and will make a significant impact on addressing the longstanding shortages in the region. Expanding the number of residency positions will also be important for training increasing numbers of medical school graduates, particularly in underserved areas of the state. State and national data on retention of California students attending UC medical schools in the state and completing residency here strongly suggest that these investments will be effective strategies for addressing statewide needs for physician services.

A diverse workforce is essential to improving health outcomes for all Californians and for an equitable pandemic recovery. As the Schools of Medicine at Davis, Irvine, Riverside, and San Diego move forward to launch new PRIME programs focused on Black/African American and American Indian/Native American communities, UC health professional schools in collaboration with UC Health will be working on implementation of the recommendations from the report, "Disrupting the Status Quo: Special Report of the UC Health Sciences Diversity, Equity, and Inclusion Task Force." This report, presented to the Health Services Committee in October 2020 and to the Academic and Student Affairs Committee in January 2021, included specific recommendations to advance diversity, equity, and inclusion (DEI) among students, residents, and faculty and to improve climate and accountability. Enrollment growth through expanded UC medical education programs and targeted workforce tracks, together with an intentional and renewed commitment to prioritizing DEI, will make a significant and lasting impact on improving health equity and access to physician services statewide.

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<u>Attachment 1</u>: The Medical School Landscape in the United States

Becoming a licensed physician in the U.S. is a long process that generally takes more than a decade, and involves formal training and multiple standardized examinations. Students typically enter a four-year medical school after earning an undergraduate baccalaureate degree. Following graduation from medical school, individuals planning to practice medicine in the U.S. must complete postgraduate clinical training, referred to as residency training, which ranges from three to eight or more years in length, depending on the medical or surgical specialty, and any subspecialty training that may follow.

Allopathic medical schools grant the Doctor of Medicine (MD) degree, while osteopathic medical schools grant the Doctor of Osteopathic Medicine (DO) degree. Currently, there are 155 allopathic medical schools in the U.S. (including Puerto Rico) accredited by the Liaison Committee for Medical Education (LCME), and admission to these schools is highly competitive. According to the Association of American Medical Colleges (AAMC), there were over 94,000 students enrolled in allopathic medical schools in the U.S in 2020-21. An increasing number of medical schools offer accelerated three-year tracks or accelerated combined BS/MD programs that can be completed in six to seven years.

Currently, there are 37 accredited colleges of osteopathic medicine in the U.S. In the 2020-21 academic year, these osteopathic colleges are educating more than 34,000 future physicians—25 percent of all U.S. medical students. Individuals earning a Doctor of Osteopathic Medicine (or DO) degree typically complete four years of medical school and three or more years of a residency program accredited by the Accreditation Council for Graduate Medical Education (ACGME) or the American Osteopathic Association (AOA). Beginning in 2020, all residency programs are now accredited by the ACGME. Some osteopathic schools offer accelerated three-year tracks or accelerated BS/DO programs that can be completed in seven years. Osteopathic medical schools offer a curriculum that is generally similar to allopathic schools, with an additional emphasis on the musculoskeletal system and providing osteopathic manipulative treatment. Osteopathic education also places greater emphasis on the impact of lifestyle and the environment on health. Although DOs, who are younger on average, are likely to fill some of the future gaps between supply and demand, the number of DOs in California is much smaller than the number of MDs.

Attachment 2: All Medical Schools in California (2021)

School Name	For-Profit or Nonprofit	Private or Public	MD or DO-granting	First Year Enrollment[i]	Estimated Total Enrollment 2020-2021[ii]
UC Davis	Nonprofit	Public	MD	127	477
UC Irvine	Nonprofit	Public	MD	104	447
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UC Riverside	Nonprofit	Public	MD	77	294
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Total Schools: 15	**Total Nonprofit:** 13 **Total For-Profit:** 2	**Total Public Schools:** 6 **Total Private Schools:** 9	**Total MD-granting:** 12 **Total DO-granting:** 3		**Estimated Total Enrolled:** 8,040

Attachment 3: UC Medical School Plans, by Campus - Desired Increases in First-Year Class Size with Existing Infrastructure, 2020 to 2030

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
UCD	127	132	136	144	144	144	144	144	144	144	144
UCI	104	114	114	114	114	130	130	140	140	150	150
UCLA	147	147	147	147	147	147	147	147	147	147	147
UCLA -Drew	28	28	28	28	28	28	28	28	28	28	28
UCR	77	80	80	100	115	131	131	131	131	131	131
UCSD	133	138	140	140	140	140	140	140	140	140	140
UCSF	153	153	153	153	153	153	153	153	153	153	153
UCSF - SJV Branch	12	12	12	12	12	12	12	12	12	12	12
UCSF - JMP	17	17	17	17	17	17	17	17	17	17	17
Total - (incl. branch campuses)	798	821	827	855	870	902	902	912	912	922	922

[i] Source of first year enrollment information for DO-granting schools: American Association of Colleges of Osteopathic Medicine. 2019-20 Osteopathic Medical College First-Year Enrollment by Gender and Race/Ethnicity, https://www.aacom.org/docs/default-source/data-and-trends/2019-20_fyenroll_gender_re_com.pdf?sfvrsn=8f0f0997_6. Source of first year enrollment information for UC medical schools: Institutional Research and Academic Planning Dashboard. First-year enrollment information for private MD-granting schools was taken from their respective websites.

[ii] Source of enrollment information for all MD-granting schools: Association of American Medical Colleges. Total Enrollment by U.S. Medical School and Sex, 2016-2017 through 2020-2021, https://www.aamc.org/media/6101/download

[iii] UCSF's First-Year Enrollments for 2020-2021 includes the UCSF San Joaquin Valley PRIME Program and UCSF-UC Berkeley Joint Medical Program First-Year Enrollments.

[iv] UCSF's Total Enrollment for 2020-2021 includes the UCSF San Joaquin Valley PRIME Program and UCSF-UC Berkeley Joint Medical Program Enrollments.