

Critical Condition:

Prescriptions for Improving Transfer Pathways in the Health Professions

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INTRODUCTION

Over the past year, the COVID-19 global pandemic has highlighted the critical role that health professionals play in our society. **Without bold action however, the demand for health professionals and healthcare workers in California will not be met.** State and college leaders must support the development of pathways for students to enter these critical professions. This will require investments in the capacity of California’s community colleges and public four-year universities to educate enough students to fill these gaps, and it will require policymakers and practitioners to find ways to strengthen the pathways for students to earn high-value credentials and degrees in health-related fields.

While many health fields—including allied health fields and nursing—have traditionally required associate degrees for entry, the bachelor’s degree has become increasingly important. **Between 2013 and 2018, the percentage of nurses with bachelor’s degrees increased from 36% to 57% in the U.S.**¹ This figure remains below the 80% target set by the National Academy of Science’s Institute of Medicine.²

Our June 2021 report, [*Chutes or Ladders? Strengthening Community College Transfer So More Students Earn the Degrees They Seek*](#), highlighted the positive impact that the Associate Degree for Transfer (ADT) has had on students’ ability to transfer and earn associate and baccalaureate degrees at the California Community Colleges and the California State University (CSU).³ However, that report also noted generally low rates of ADT conferral in health fields. In this report, we look more closely at ADT awards in health fields and discuss practices and challenges relayed by administrators at campuses with high rates of ADT conferral and acceptance in health fields.

In particular:

- The California Community Colleges are awarding an increasing number of ADTs in fields related to health professions each year. However, ADTs in health-related fields are still limited, and there is wide variability in how ADTs are implemented among community college campuses that are offering them.
- ADTs streamline the transfer process, but navigating the pathway from a community college to a four-year degree in a health or related field is still a complex endeavor for students.
- The development of ADT pathways requires close communication between the California Community Colleges and the California State University systems. It also requires having the infrastructure for expansion of the curriculum and support from full-time faculty.

Even before the unprecedented strain presented by COVID-19, however, the College Futures Foundation reported that California’s healthcare system was 240,000 nurses short of its needs.⁴ Researchers at California Competes estimate that California will need an additional 500,000 allied health workers—including medical assistants, dental assistants, and other non-nursing specialists—by 2024 to meet the state’s demand.⁵ In the ten highest-demand professions within the allied health fields, however, the same report projects that between 184,000 to 296,000 allied health jobs created between their 2017 baseline and their 2024 projections will go unfilled.

As California seeks to grow its ranks of highly educated residents working in health fields, the state must intentionally act to improve the racial and ethnic diversity of this workforce. Today, just over 60% of California’s population is Latinx, Black, Asian American, Native Hawaiian, and Pacific Islander, or American Indian and Alaska Native (Figure 1), representing the majority of the state’s workforce. The state’s healthcare workforce, however, does not reflect this diversity, compromising healthcare quality, access, and patient care.⁶

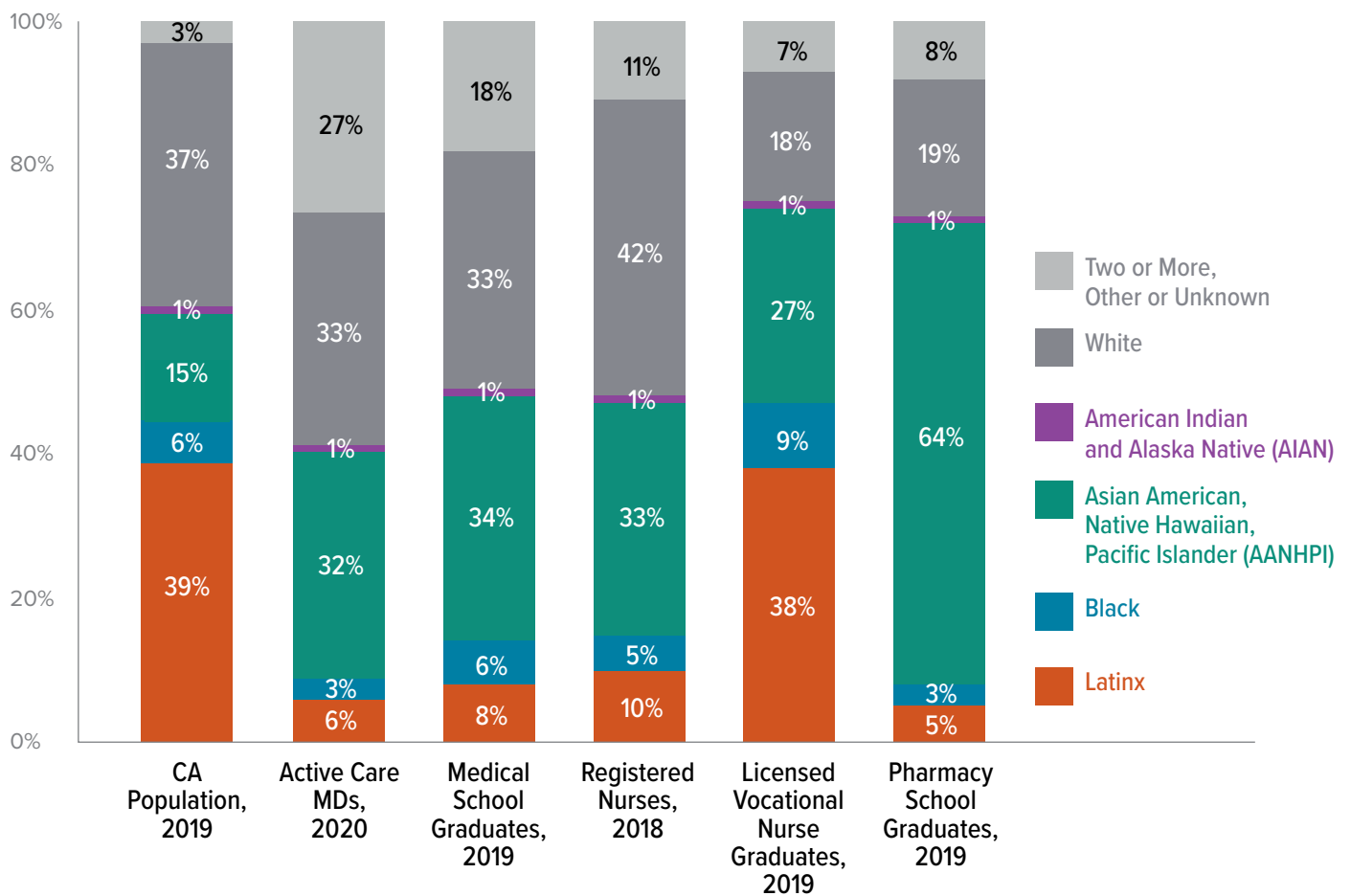
Research shows that patients with doctors of a similar racial/ethnic background report higher levels of communication with their doctors,⁷ and Black and Latinx physicians are more likely to care for populations from minoritized communities.⁸ Research also shows that the mortality rate for Black infants was cut in half when they were cared for by Black doctors during initial hospital stays.⁹ Diversifying the racial and ethnic makeup of our health professionals is, therefore, a health imperative.



Currently, Latinx Californians account for 39% of the state’s population, but **Latinx individuals comprise only six percent of active medical doctors, five percent of pharmacy school graduates, and 10% of registered nurses in California.**¹⁰ Black healthcare workers in the state are also underrepresented. Black individuals comprise six percent of California’s population, but **only three percent of active medical doctors, three percent of pharmacy school graduates, and five percent of registered nurses are Black.**¹¹

Although Latinx Californians account for 39% of the state’s population, only six percent of active care medical doctors and 10% of registered nurses in the state are Latinx.

Figure 1. California General Population and Select Health Care Professionals by Race/Ethnicity.



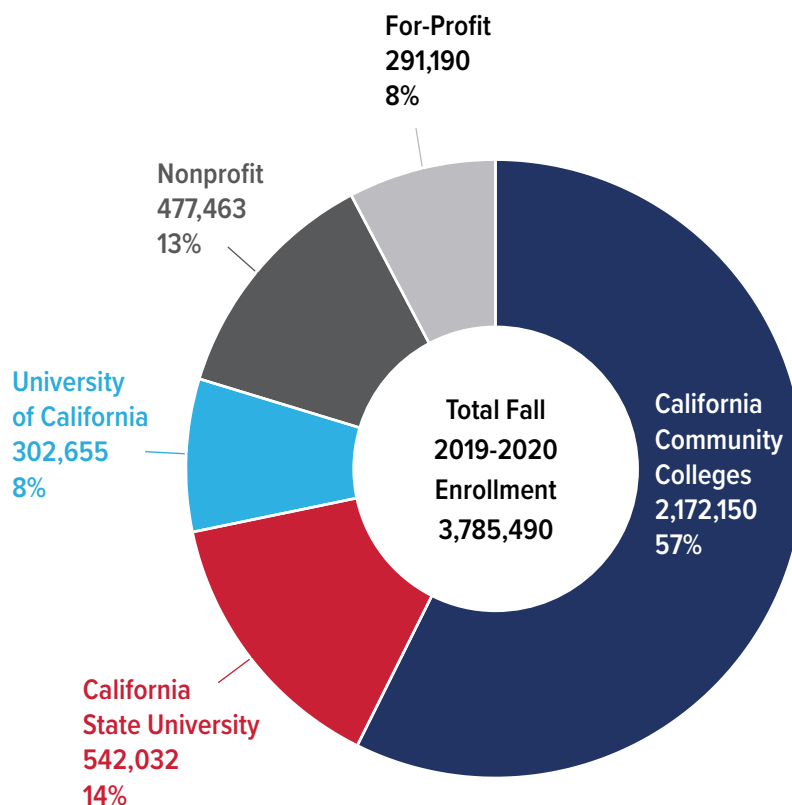
Source: California Health Care Foundation (CHCF). 2021. Healthcare Almanac.

EDUCATIONAL PATHWAYS TO THE HEALTH PROFESSIONS

Supporting educational pathways to health careers and professions is vital to addressing the health workforce shortage and reducing the underrepresentation of Black and Latinx communities in healthcare.¹² Our colleges and universities can and must provide equitable access to training in the health professions by improving and simplifying pathways to health degrees for low-income students and students from minoritized backgrounds. If California’s healthcare system is to deliver better care for its diverse population, four-year institutions are a vital part of building and fortifying this workforce.

Fifty-seven percent of college students in California enroll in a community college in the state.

Figure 2. California Undergraduate Enrollments by Higher Education Sector, 2019-2020.



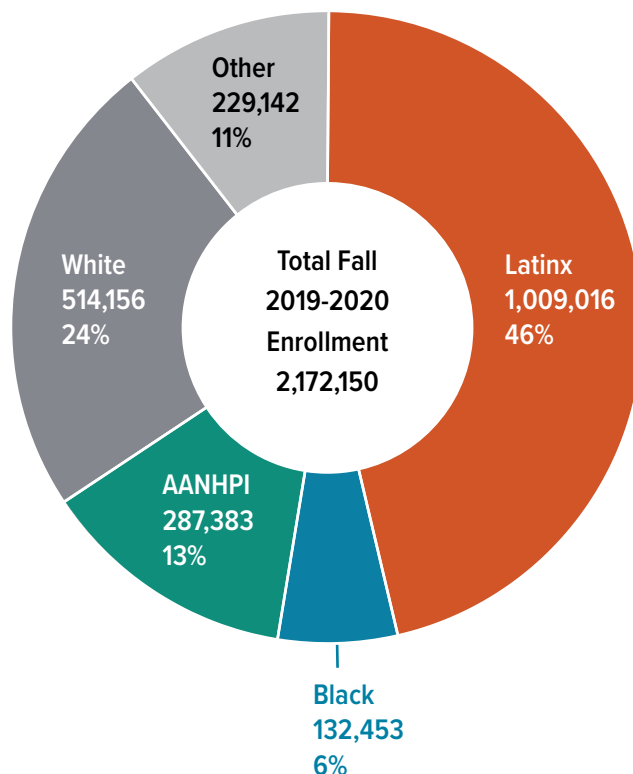
Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Annual Enrollment Component (2019-20), Table EF2019.



The vast majority of California’s undergraduate students enroll in a community college, and the majority of community college students come from minoritized backgrounds. As such, the California Community Colleges play a critical role in both the growth and diversification of California’s workforce of health professionals. Strong transfer pathways from community colleges to four-year institutions are a vital part of building and fortifying this workforce.

Black and Latinx students account for more than half of the California Community Colleges student body.

Figure 3. California Community Colleges Enrollment by Race/Ethnicity, 2019-2020.



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Annual Enrollment Component (2019-20), Table EF2019.

Community colleges are also a critical starting point for students who will eventually seek advanced degrees beyond a bachelor's degree in their field. A study of 43,382 medical school graduates between 2010-2012, for example, found that 25% had attended a community college; and **medical students who started their education at a community college were more likely to choose family medicine as their specialty**, indicating the unique promise of community colleges in diversifying the composition of primary care medicine.¹³



THE ASSOCIATE DEGREE FOR TRANSFER

The Associate Degree for Transfer, or ADT, is a degree from California's community colleges that streamlines the transfer process while also guaranteeing students admission to CSU campuses in a similar major after fulfilling 60 lower-division semester units. All courses taken as part of the ADT program transfer into the four-year university and fulfill general education requirements. Students then have an additional 60-semester units required to earn a bachelor's degree. The ADT simplifies students' educational plans, saving them both time and college costs. Over 40 ADTs are offered at California's community colleges, and each community college offers its students a different range of ADTs.

Limited ADT Development in Health Fields

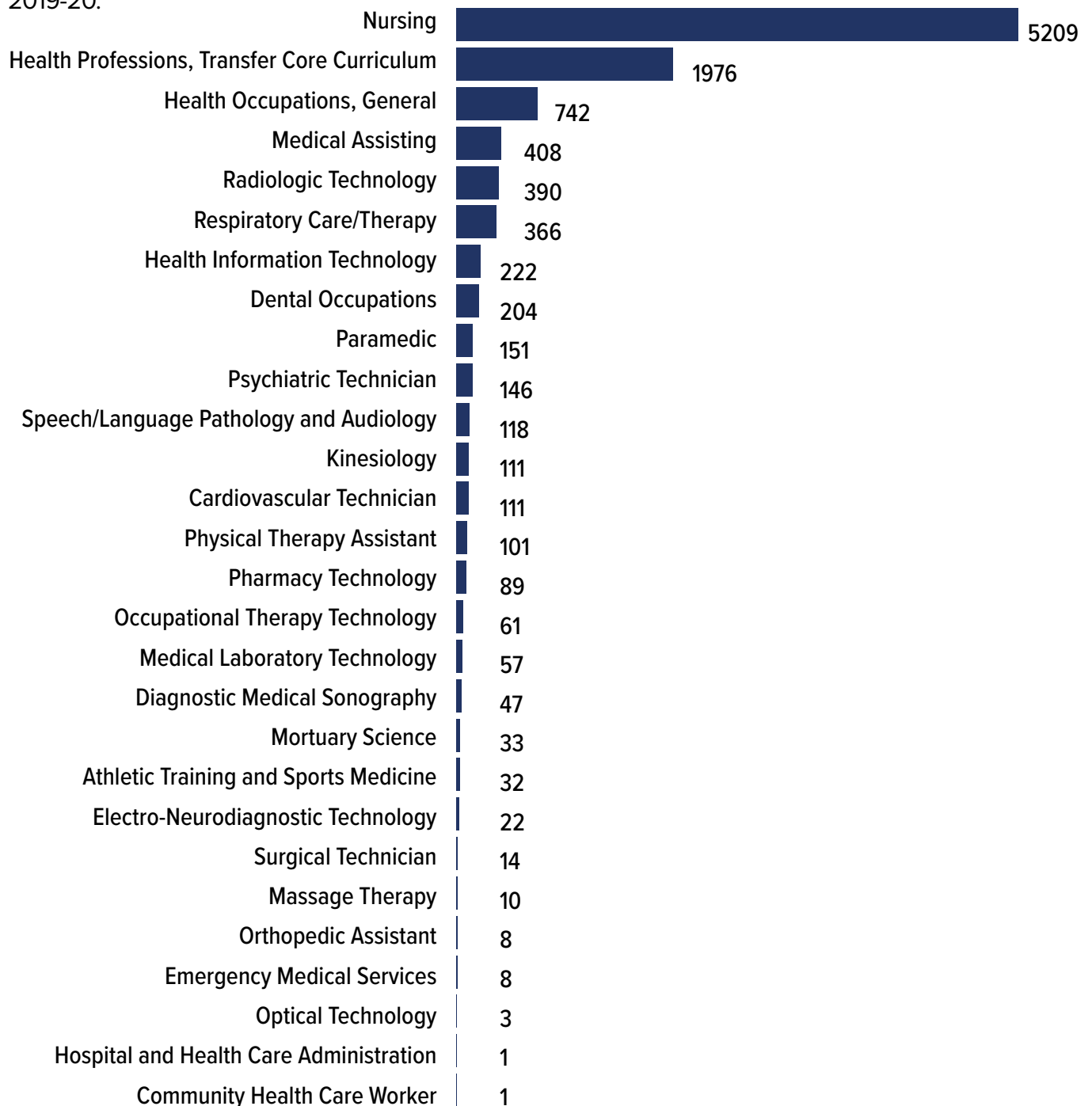
Currently, ADTs in fields labeled with Health program classification codes, or TOP codes,[†] are limited to an ADT in Kinesiology and an ADT in Public Health Science. ADTs that are available in General Nutrition and Dietetics, Human Services, Social Work, Psychology, and science-related ADTs, such as Biology and Chemistry that pre-med students might pursue, could also be considered health-related since these degrees can lead to careers in health professions. However, much more can be done to expand the diversity of majors in the health professions that are available to students as an ADT.

California community colleges are already leading efforts to ensure that their training programs help meet the demand for health professionals. Community colleges offer degrees and certificates in a wide array of health professions. Figure 4 shows the majors within the health field where students can earn a terminal associate degree. These health programs, of which nursing is the most common, yield high returns to students who pursue them.¹⁴ For instance, in earning a Career Technical Education credential in a health field, students see an average wage return over their earnings trajectory prior to enrolling in a training program of roughly 45%; for students earning an associate degree, this premium is 64%.¹⁵ Unfortunately, terminal associate degrees do not provide the same streamlined opportunity for students to pursue a bachelor's degree as designed in an ADT.

[†]Taxonomy of Program (TOP) codes are a classification system of numerical codes used at the state level to collect and report outcome data at different colleges with similar outcomes.

Nursing accounts for the largest number of terminal associate degrees in the health fields, but the second largest category—students pursuing the transfer core curriculum—indicates the need for robust transfer pathways, like the ADT, in health fields.

Figure 4. Terminal Associate-Degree Earners in Health Fields at the California Community Colleges, 2019-20.

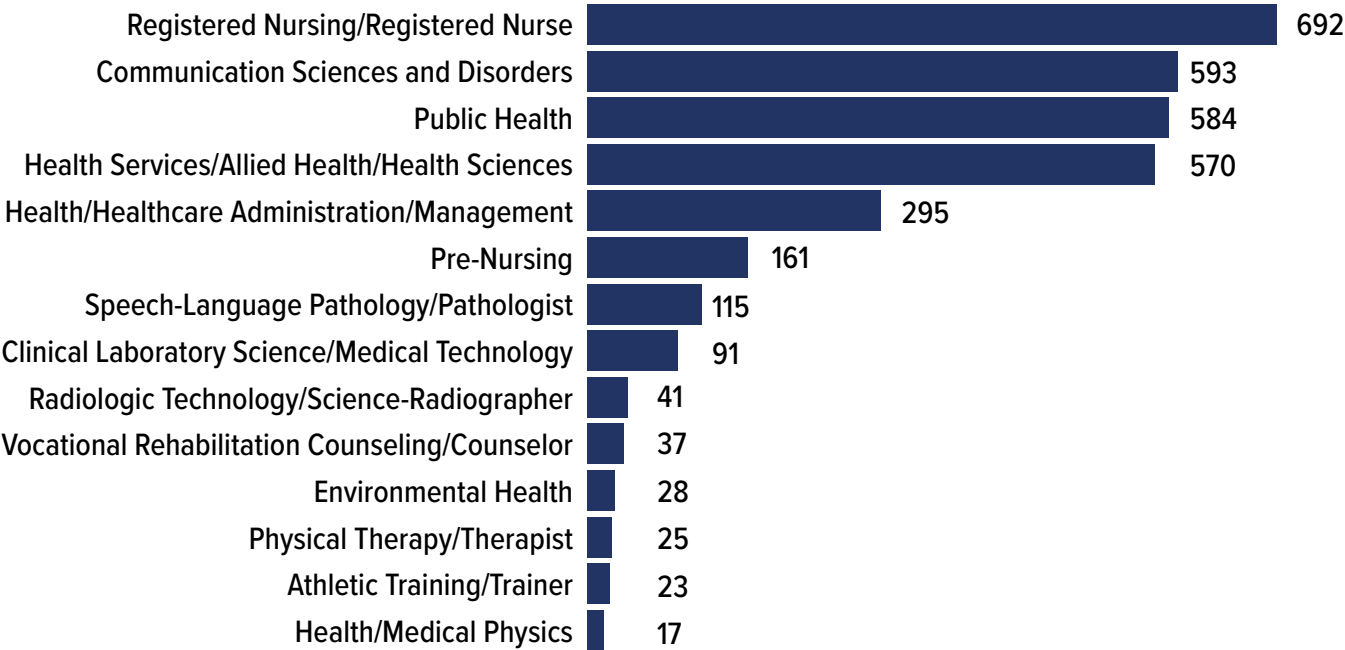


Source: CSU Institutional Research & Analyses. New Undergraduate Transfers from California Community Colleges or other Institutions Dashboard. Retrieved May 20, 2021.

The CSU—the largest four-year university system in the nation—plays a crucial role in ensuring California’s workforce has both a sufficiently large and diverse set of highly educated health professionals. The CSUs provide a range of major options (e.g., nursing, public health, etc.) for transfer students who successfully complete the requisite coursework for admission, as determined by each campus. To address shortages in nursing and applied health professions, colleges have adopted credit for prior learning and found ways to address bottlenecks in training hours by collaborating with local hospitals and other healthcare institutions.¹⁶ Still, only five percent of incoming transfer students are pursuing a health-related major as of fall 2020.

Among 59,029 transfer students in fall 2020, 3,272—only five percent—were students majoring in a health field.

Figure 5. Majors of Health Transfer Students at the CSU, Fall 2020.



Source: CSU Institutional Research & Analyses. New Undergraduate Transfers from California Community Colleges or other Institutions Dashboard. Retrieved May 20, 2021.

The CSU already trains most of the registered nurses in the state. While University of California (UC) campuses have a total of just four nursing programs, 16 of the CSU’s 23 campuses offer Basic Nursing, and 18 offer Registered Nursing (RN) to Bachelor of Science in Nursing (BSN) programs. All 16 Basic Nursing programs, however, are classified as impacted, meaning they receive more applications than they can accommodate, resulting in thousands of potential nurses turned away systemwide every year.

CAMPUS PRESCRIPTIONS

To better understand the challenges and successes faced along the ADT pathway, we spoke with campus leaders at select California Community Colleges and California State Universities about their best practices in supporting health majors on the transfer pathway (see Interview Questions in the Appendix). We identified top-performing campuses based on various measures, including health ADTs per full-time-equivalent (FTE) student; ADTs as a share of health associate degrees conferred; and numbers of transfer students with ADTs in health majors at the CSU (see Tables 1 and 2 in the Appendix). Based on these conversations, we identified key best practices and barriers at campuses that have strengthened training in health fields, especially among students interested in transferring into health majors at the CSU.



Review areas where the 60-unit lower division coursework cap and 60-unit upper-division coursework cap are impeding ADT development and create appropriate exemptions for health professions fields, where appropriate. Where an ADT already exists in a health pathway, the campus should automatically place students into that pathway instead of a “local” degree.

Before the legislation that created the ADT was enacted, hundreds of transfer pathways existed between individual community colleges and CSU campuses. Faculty at one community college would work with faculty at one CSU campus to articulate, or align, the curriculum in a particular major so that it would be accepted for transfer and the start of upper-division coursework at that CSU. The ADT was designed to replace these one-to-one articulation agreements for “local” degrees and instead has created singular pathways for the most popular majors from any community college in the state with guaranteed admission to any CSU. The ADT legislation explicitly stated that the degree should require no more than 60-semester units at the community college and no more than 60 units at the CSU if the student transfers to a similar program. The ADT helps students

avoid or reduce course sequencing problems; California State University, Northridge (CSUN) campus leaders referenced non-ADT students who can take four or even six years after transfer to graduate. These caps afford valuable protections to students, who otherwise tend to transfer with dozens of excess units.

Despite streamlining the transfer pathway for students, many community colleges resist implementing the ADT because it challenges pre-existing articulation agreements for “local” degrees that can more easily accommodate strict course requirements for health and STEM majors. However, **pre-existing articulation agreements do not guarantee admission to CSUs and may also require additional units above the 60-unit lower-division cap.** Some degree programs at the CSU require students to take lower-division laboratory courses that are not in the existing ADT pathway, and the same is true for the UC. Additionally, required lab sections taken in conjunction with science courses lead to an accumulation of units that exceed the ADT unit cap. In effect, the cap poses a barrier to implementation of the ADT.

Whenever possible, students in health and STEM majors should be guided to existing ADT pathways to ensure their rapid progression to transfer readiness. Additionally, both Health and STEM degrees at community colleges should be reviewed to assess how exceptions to the 60-unit caps can accommodate student progression while meeting the CSU requirements for guaranteed admission, which “local” degrees do not afford.





Ensure the state’s four-year public universities are working with community colleges to align general education curricula, accept ADTs in the health fields, and match those to the largest possible baccalaureate degree offerings.

Even as new ADT health pathways from community colleges to the CSUs are under development at many of the colleges we interviewed, several campus leaders expressed frustration with the difficulties of establishing them. While campus leaders praised the clarity and structure of the ADT pathway, a campus leader from Feather River College also observed that:

“ADTs expose all kinds of weaknesses in our segmented system of higher education. It has been a decade... since ADTs were first coined...and the promise has not been realized in the way that people had hoped.”

A CSUN campus leader asserted that they:

“have not done a good job in the CSU and the UC of making [transfer] pathways clear. That is really the issue. And part of it is that the community college system is complicated.”

A campus leader at the California State University, Los Angeles (Cal State LA) further explained:

“We want to give our students the best education in the CSU. We have excellent degrees, but it is important for us to continue to identify and remove barriers and complexities that make it difficult for students to navigate their way to graduation.”

CSU leaders noted that broader issues, such as the lack of an integrated and common general education pathway to the CSU and UC can negatively affect students. Since the two general education pathways differ, students intending to transfer must decide whether they will apply to either the CSU or to the UC, unless they take significantly more units to be eligible for both systems. Beyond the general education pathway issue, the problems of aligning curricula in health and STEM majors at different colleges with varying infrastructure, size, and resources persist and lead to confusion, extra coursework, and the opportunity costs associated with taking longer to attain a degree.

Misalignment of curricula may also result in missed opportunities to promote streamlined pathways from the community colleges via the ADT. Students are sometimes advised to take time-consuming laboratory courses while at the community college as to not overload them after they transfer to the CSU or UC for their upper-division coursework. However, science-intensive ADT degrees cluster general education coursework at the front-end of the student baccalaureate journey while attending community college, leaving no room for additional coursework. This leaves those ADT students to take most or all of their laboratory courses at the upper-division level at CSU or UC. The result is that a student trying for that pathway cannot take advantage of the ADT because of the course sequencing requirements by CSU and/or UC for lower-division coursework.

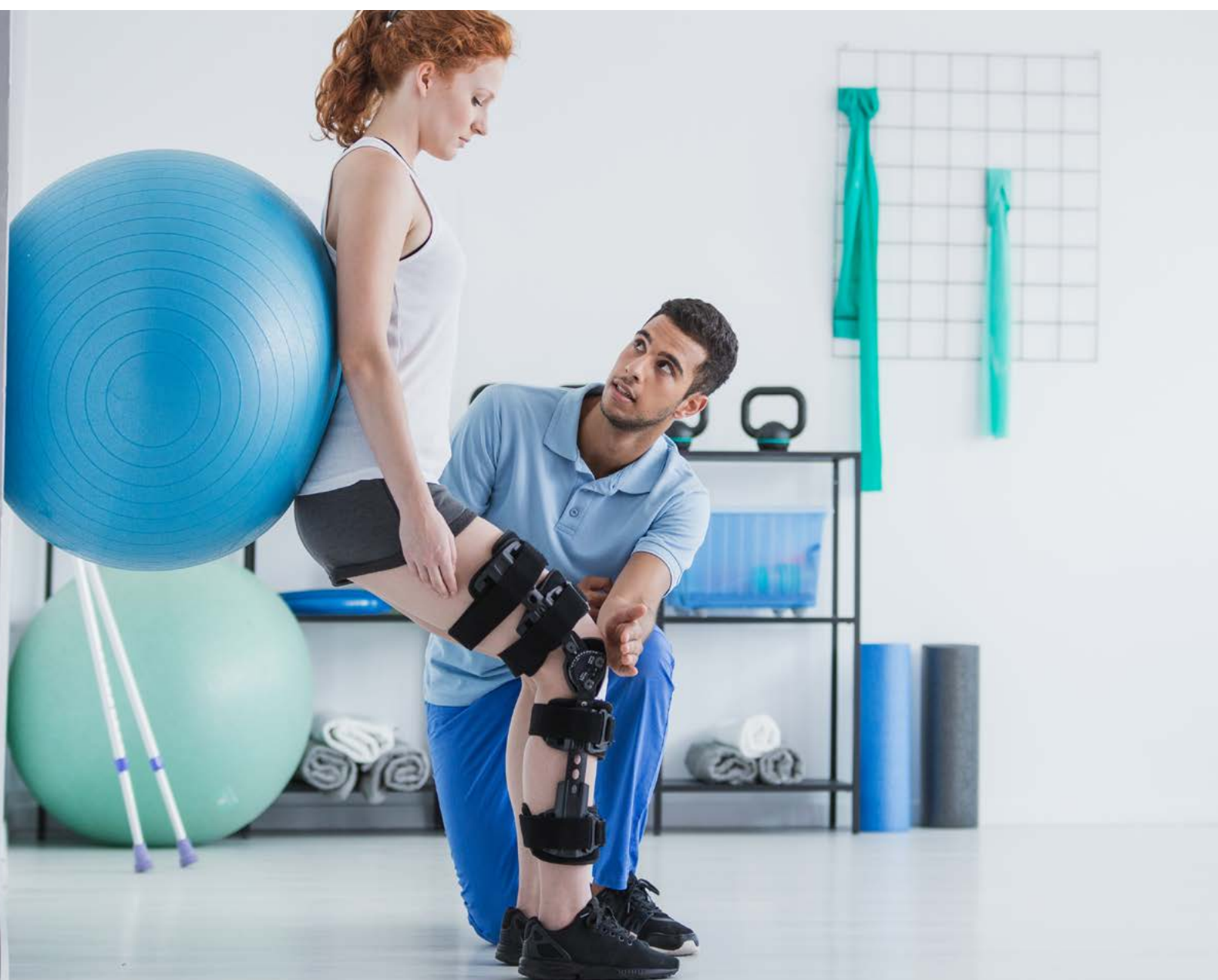
A campus leader at Fresno City College cited their summer programs as an option for students to progress through course sequences and also spread out laboratory course requirements. Although this puts the burden on the student instead of addressing alignment issues at the department, college, or system level, it provides needed flexibility.

Close relationships between community colleges and CSUs can help ensure clarity around requirements for students interested in transferring. Several college leaders we spoke with reported that they actively nurture relationships with local colleges, organizations, and stakeholders. A Cal State LA leader in undergraduate advising emphasized that to overcome unintentional barriers to transfer: *“we have got to get all of our systems aligned.”*

Fresno City College faculty have cultivated strong connections not only with Fresno State University (Fresno State), but with the Fresno County Public Health Department and with community partners. California State University, Monterey Bay (CSU Monterey Bay) and Cabrillo College’s Health Sciences Department faculty are collaborating on articulation agreements related to a new ADT in Public Health at Cabrillo College. Campus leaders agreed that the goal is to make the process “seamless” for their students, but aligning the curriculum is difficult even with highly motivated institutional partners.

A Cal State LA leader shared that their health department is the highest in demand among their transfer students, especially among Latinx students from the local community who plan to work in the same community after graduation. Despite the popularity of the major, development of ADT guaranteed pathways in Public Health and Nutritional Science are only now in progress. This campus leader also mentioned growing concerns about equity among Black students who are more likely to seek interdisciplinary ADTs, which tend not to lead to careers in health or STEM where these students are underrepresented.

Structures that ensure clarity and eliminate confusion are important in helping smooth student progression towards their degrees. The CSU must do better to match ADTs to health degrees. At colleges where ADTs are difficult to implement—and even where ADTs are well established—college leaders across systems should support the development of ADTs in Health and work to improve how they are implemented.





Enhance institutional capacity to develop and implement additional ADT pathways in health fields.

Notwithstanding the clear advantages of a simplified transfer pathway and guaranteed CSU admission for students that all college leaders acknowledged, some community colleges have been slow to implement the ADT. For example, **small community colleges with less capacity to develop and support new courses may find it easier to adhere to old articulation agreements** rather than allocating very limited resources to develop new ADT pathways. A campus leader at Feather River College, which is a very small, rural community college near the Nevada border, shared that new curricular development is challenging for them as most of their programs *“are run by a single full-time faculty member in each discipline... [who must] take the lead on developing the curriculum, thinking about scheduling, and work to find instructors.”*

This campus leader added, *“We do add ADTs periodically, but we do it carefully and deliberately to make sure we can support the programs that we’re adding.”*

This campus leader also remarked on the difficulties that emerge when small colleges must work around rules that can seem *“narrow and rigid”* for Health ADTs that exceed the unit caps due to science labs; for students who intend to transfer to a non-CSU, as many of their students do; and for students who are still uncertain of their major options and who may not benefit from the structured ADT pathway.

Developing new majors, courses, and programs, such as ADTs, requires support from leadership and adequate infrastructure (i.e., full-time faculty, grant funding, etc.). A faculty leader at Cabrillo College shared that further major and program development may be limited in departments that are overly dependent on adjunct staff:

“Without compensated time, it is hard to ask adjuncts to do the extra work it takes to develop another class, a whole curriculum, and programs like this. [I]t’s the grant support we have that is really helping us. We have the compensated support to do this work.”

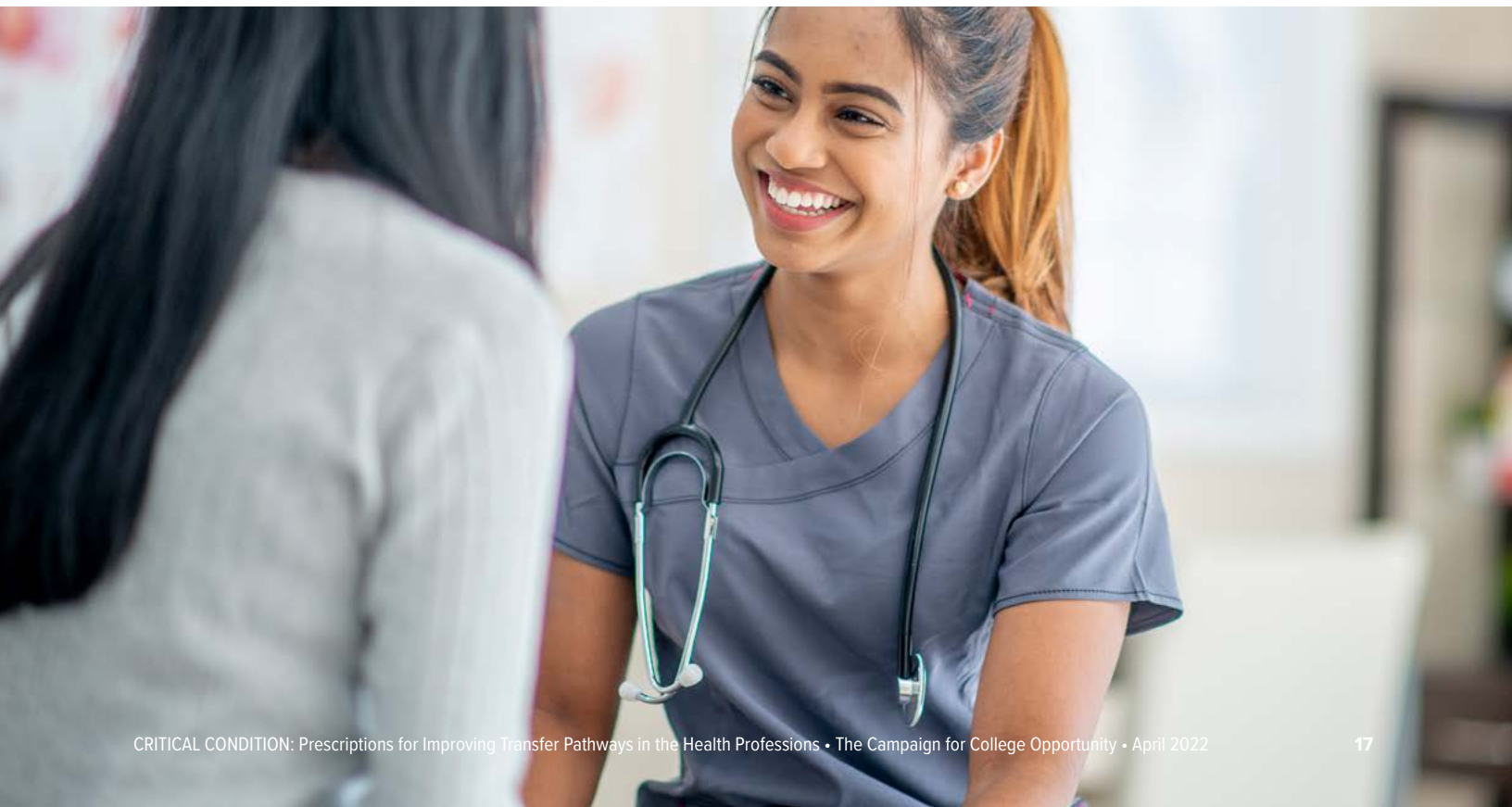
Feather River College has a Licensed Vocational Nurse (LVN) certificate program but not an RN program due to a lack of institutional capacity and its small number of students. This campus leader noted that, *“...a transfer program that would help students move from the LVN to the BS in nursing would be wonderful”* since many students in their LVN program want to eventually obtain a BSN. Developing health pathways at Feather River College is also urgent because of the shortage of

health professionals in rural areas, and they expressed the *“...hop[e] that this program will help build a sustainable pipeline to some of our local public health and social work offices.”* They have recently discussed the possibility of partnering with other colleges to create an RN program, but as others also expressed:

“A challenge inherent ... with any curricular development, whether it’s an ADT or a certificate or a regular associate degree, is having ... people or a champion to take the lead on developing the curriculum, thinking about the scheduling, working to find instructors.”

Colleges successfully adopting Health ADTs have leveraged faculty expertise and grant funding to surmount some difficulties. Leaders at Feather River College have been developing the Associate Degree for Transfer in Social Work and Human Development. A campus leader cited three factors driving this work: faculty with a keen interest in the field, curriculum overlap with existing coursework such that only two new courses needed to be developed, and an opportunity to build another pathway to the local CSU. The Associate in Science for Transfer (AS-T) in Health Science at Cabrillo College is currently under development through the expertise of department faculty and with support from a Title IV grant.

A Cabrillo College Health Sciences faculty leader stated that campus leaders are, *“finding more urgency to get more students trained in public health.”* Yet development of health-related ADTs continues at a slower pace than the need for health professionals would dictate. Overcoming the many persistent barriers to developing ADTs in Health at community colleges with capacity issues will require a concerted effort with strong support from state and college leaders.





Build and maintain robust programs that reach transfer students early in their college trajectory to keep them on a clear pathway toward a Health career.

Student-centered efforts are not a substitute for the institutional work and investment needed to develop and strengthen ADT pathways for students to earn degrees in health-related fields, but campus leaders emphasized that they are important mechanisms to support transfer pathways. The CSU campus leaders we spoke with reported numerous strategies and programs that promote success for ADT students. A Cal State LA campus leader is collaborating with local organizations (e.g., Unite LA) to address equity in Health and STEM ADT pathways for Black students. This campus leader also emphasized the importance of their student-centered campus resources designed to support all students:

“We have really invested in proactive advising. Every college has its own director of student success who manages the advising center. We adopted a system ... to identify students who are off track and pull them in [for counseling]. Our advisors are increasingly well trained—...that has helped us ... [to better serve students].”

Leaders at Sacramento State University (Sacramento State) are creating roadmaps, or course guides, to help students bridge shortcomings in curricular alignment. Sacramento State also has a peer mentorship program that pairs students who have already successfully navigated the complex transfer process with local community college ADT students.

Community college campus leaders also described various strategies to ensure that students have the information they need on their transfer journeys. These strategies ranged from increased visibility of program support and both dual- and concurrent-enrollment efforts in fidelity to the Guided Pathways framework, an approach relying on highly structured community college course-taking patterns. Fresno City College is hoping to model the great level of success they have had with the ADT in Kinesiology among student athletes by assuming that the ADT pathway is a common goal for all students and setting the expectation that students will transfer.



Student-centered strategies, such as early counseling and helping students create timely educational plans consistent with their goals, are a priority for leaders at Cabrillo College, who underscored the value of early support to students through outreach to high schools and onboarding meetings with counselors to develop educational plans right away.

Cabrillo College leaders developed the Community Health Worker certificate program that trains individuals in public health to become *promotoras/promotores*. The program was adopted to help minoritized students and nontraditional students enter health careers. A Cabrillo campus leader shared that the vision is to:

“...get people who may not see themselves as college students onto campus, get them the certificate...and hopefully get them on a pathway into a healthcare field. [T]he hope is that the program will lead the student to more opportunities.”

Innovative efforts such as these may be successful in attracting greater numbers and more diverse students to the allied health professions. A recent report showed that students who re-enter community college after earning one certificate have improved economic outcomes.¹⁷

CONCLUSION

Today, California is urgently in need of an expanded and diverse healthcare workforce. The unmet need for health professionals that are Black, Latinx, and Asian American, Native Hawaiian, and Pacific Islander will only rise as the population of the state becomes increasingly diverse. As this report reveals, California public colleges are critical for educating and training the next generation of health professionals. Meeting the demand requires strong educational pathways that promote timely degree completion and strengthening support among individual institutions within and across the California community colleges and CSUs.

The California Community Colleges and CSU are working towards meeting this demand. In this report, we captured the voices of campus leaders from colleges that are top performers in graduating and receiving students with a Health Associate Degree for Transfer (ADT). Best practices in community colleges and CSUs include close collaboration between the community college system and CSUs, and ongoing progress towards institutional and systemic change to expand and improve ADT health paths.

Yet, areas for growth remain. Campus leaders identified that the transfer process, especially for health majors, remains unnecessarily complex. We learned about unique challenges present at smaller campuses, which often have different infrastructure and reduced capacity to develop new courses and pathways for transfer. Despite a growing number of Health ADTs and a wide range of programs to support them, many barriers are delaying their development at the pace needed to help meet the demand for health professionals in California. **Strong state and college leadership and systemic change across the community college and CSU systems are necessary to address the intractable problems that hinder Health ADT development.** Nevertheless, campus leaders remain committed to developing Associate Degree for Transfer pathways and strengthening existing educational programs that promote the success of transfer students in Health-related fields.



RECOMMENDATIONS



- **Review areas where the 60-unit lower-division coursework cap and 60-unit upper-division coursework cap are impeding ADT development and create appropriate exemptions for health professions fields. The intersegmental coordinating committee created through 2021 legislation, AB 928 (Berman), is charged with such an effort so that the effects are statewide and not just localized.**
- **Ensure the implementation of 2021 legislation, AB 928, that requires the state’s four-year public universities to work with community colleges to align general education curricula. That work should include accepting ADTs in the health fields and matching those to the largest possible baccalaureate degree offerings.**
- **Enhance institutional capacity to develop and implement additional ADT pathways in health fields.**
- **Build and maintain robust programs that reach students early in their college trajectory to keep them on a pathway toward a health career.**

Improving and strengthening best practices and overcoming barriers ensures that more students like Marissa—who began at a California community college, transferred to the California State University, Channel Islands, and is now a Public Health graduate student — can excel and become part of the generation of health professionals California so urgently needs (see Marissa’s story, page 23).



ACKNOWLEDGEMENTS

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Elsa Macias, Ph.D., and Audrey Dow contributed to the writing of this report.



Marissa Gutierrez, a California trained health professional

Marissa, like many high school students, chose to attend community college directly after high school because she was unsure of her educational goals, and she didn't want to waste her parents' money as she explored her options. Also like many other students, Marissa attended community college part-time and worked full-time to help pay for college.

She struggled to find good and reliable guidance despite meeting with several counselors. Although she was eligible for college support programs for veteran dependents as the daughter of a veteran, she was unsure of what resources were available, and as a first-generation student she did not have anyone to help her navigate the process. Marissa changed majors three times: "It took me two, three plus years to [figure out what I wanted to do]. I never had someone to sit down with me and say ok, let me guide you. I didn't have older siblings or cousins or parents that could help me figure that out."

It was not until Marissa met Blanca, an academic counselor at Gavilan College, that she learned about the field of health sciences. This counselor was instrumental in helping Marissa figure out a plan to transfer. Previous counselors had assumed she wanted a technical degree and had not informed her of the Associate Degree for Transfer. By comparison, her academic counselor provided a clear

plan for transferring to a four-year university. In Marissa’s words: “Blanca would print everything out for me. I would walk out [of a meeting with her] with a folder of all the information that I needed, and ... next steps for everything.” Three years after Marissa graduated high school, she applied to transfer in 2016 and enrolled at CSU Channel Islands in 2017.

The lack of coordination on pathways for transfer between the community college and CSU she attended also cost Marissa time and money. “[It wasn’t clear how to cross reference courses] from my past transcript with new requirements for my bachelor’s.” She had to repeat a sociology course at CSU Channel Islands that she’d already passed with an A grade at Gavilan Community College. She also took a human physiology course again because the combined human physiology and anatomy community college course only counted towards the human anatomy course requirement at CSU Channel Islands.

She reflected: “I wish I had met Blanca earlier. I wasted two extra years figuring out [my education plan].” Her story illustrates how community colleges and CSUs are still failing many students, and the need for further institutional work to develop well-defined pathways to transfer for ADTs to ensure that students like Marissa can efficiently complete their degrees in health fields.

Despite many challenges at the community college and CSU, Marissa is proud of her transfer journey. She completed her coursework for her bachelor’s degree in Health Sciences from CSU Channel Islands a year and a half after transferring—class of 2019. Marissa is now pursuing a Master of Public Health degree at San Jose State University.



APPENDIX: METHODOLOGY

We contacted campus leaders at 12 colleges that were top performers in either awarding or accepting ADTs in health students. We interviewed school leaders from six of those campuses (three CSUs and three community colleges) using a semi-structured guide for the conversations.

Questions in our semi-structured guide follow:

1. Tell me about your current role. How does your role and/or responsibilities relate to students interested in health (at CC or CSU)?
2. Your campus is leading the way in terms of supporting health students; can you share what is going in your campus that is supporting these outcomes?
3. What are some of the things you think are working well in terms of the student health transfer pipeline?
4. How do you think the health ADTs are working for students at [college]?
5. What is working well and what growth is needed in the health ADT program?
6. Are there conversations on your campus about Major availability for transfer health students?
7. For CC leaders: What is the Major alignment like with the CSU? Why/How are campuses recommending it to students?
8. Are ADTs streamlining completion in health fields at the CCC and CSU? How so?
9. For CSU leaders: Are you noticing a difference between ADT students versus non-ADT students in health fields?
10. For CCs: In some schools, health majors may have to spend extra semesters to complete requirements such as added math /science class necessary for transfer- how are students guided through these complex requirements at your campus?
11. Is there anything else that we should take note of? Any final comments/thoughts about campus best practices in supporting students on the health ADT path?

APPENDIX

Table 1 shows the number of ADTs awarded in health fields by the California Community Colleges in 2018-19, as well as the number of students enrolled at each campus with headcounts for major demographic subgroups. As can be seen in the table, there is wide variation in the percentage of health-fields associate degrees that are ADTs awarded at each campus. While eight campuses awarded more ADTs than associate degrees in 2018-19, there are more than 20 colleges that award no ADTs in these programs.

Table 1. Health ADT Associate Awards, California Community College 2018-19.

College Name	Health ADTs awarded	Growth in ADT awards from 2017 - 18	Health ADTs per 50 FTE students	Health ADTs as a share of Health Associate Degrees	Student Enrollment	Black Student Enrollment	Latinx Student Enrollment	AANHPI Student Enrollment
Clovis Community	33	6	0.30	100%	12,458	355	5,493	1,678
Laney	1	1	0.01	100%	17,769	3,547	4,542	5,251
Santiago Canyon	29	-8	0.12	100%	29,681	675	15,383	3,146
West Valley	21	7	0.16	95%	14,916	330	3,465	3,197
Las Positas	15	8	0.11	88%	12,821	555	3,765	3,075
Feather River	6	-2	0.14	86%	3,481	311	1,209	145
Lake Tahoe Community	5	-1	0.07	71%	7,917	373	2,101	595
Reedley College	29	0	0.17	52%	18,684	422	13,218	1,173
De Anza	51	14	0.16	44%	29,449	889	7,452	13,667
San Diego Miramar	8	-4	0.04	40%	26,790	1,339	7,835	5,397
Oxnard	17	1	0.16	39%	11,024	251	7,825	665
Canyons	75	36	0.23	38%	36,163	2,127	16,460	4,004
Fullerton	23	1	0.06	37%	31,965	1,050	17,086	5,063
Pasadena City	76	11	0.15	35%	41,611	1,649	19,544	11,378
Cuyamaca	15	11	0.15	34%	13,634	802	4,626	903
Los Medanos	20	-5	0.13	34%	13,721	1,981	5,702	1,563
Moorpark	40	-4	0.17	31%	20,468	443	7,264	1,926
Santa Monica	32	4	0.07	30%	45,376	3,752	16,034	5,699
Los Angeles Pierce	25	17	0.09	30%	30,237	1,485	13,342	2,933

Table 1. (continued)

College Name	Health ADTs awarded	Growth in ADT awards from 2017 - 18	Health ADTs per 50 FTE students	Health ADTs as a share of Health Associate Degrees	Student Enrollment	Black Student Enrollment	Latinx Student Enrollment	AANHPI Student Enrollment
Foothill	55	24	0.23	29%	32,441	1,008	8,233	9,971
Hartnell	28	7	0.18	29%	18,902	478	11,850	979
Cabrillo	46	25	0.25	28%	17,059	245	7,295	690
Orange Coast	44	9	0.12	28%	28,061	509	9,689	6,913
College of the Desert	30	9	0.15	28%	16,823	442	12,409	621
Ventura	35	8	0.18	27%	19,600	419	11,794	977
Long Beach City	58	32	0.15	26%	35,387	3,907	20,823	4,078
East Los Angeles	43	6	0.09	26%	62,542	3,051	40,716	7,305
Crafton Hills	12	4	0.13	24%	9,485	407	4,701	604
San Diego Mesa	33	8	0.11	24%	35,165	2,344	13,040	5,662
Chaffey	36	5	0.11	24%	31,294	2,544	20,409	2,241
Bakersfield	40	12	0.11	23%	36,990	1,706	25,089	1,826
San José City	13	-2	0.11	22%	15,568	811	6,142	4,255
Los Angeles Harbor	19	9	0.17	22%	13,052	1,372	7,512	1,649
Mission	18	8	0.14	21%	14,835	449	3,500	6,175
Cerro Coso Community	5	1	0.07	21%	10,011	680	4,078	461
Columbia	10	5	0.29	21%	4,187	143	736	96
Golden West	20	2	0.10	20%	18,391	408	6,079	5,372
Los Angeles Valley	22	15	0.09	19%	28,782	1,432	14,188	2,153
Monterey Peninsula	12	1	0.10	18%	13,197	421	5,470	1,198
Irvine Valley	10	-5	0.05	18%	22,824	372	4,750	7,943
Citrus	38	2	0.15	17%	20,706	803	13,053	2,527
Imperial Valley	18	8	0.11	17%	11,080	163	10,133	86
Napa Valley	10	10	0.10	17%	8,478	402	3,408	1,029
Rio Hondo	18	3	0.07	17%	33,503	712	23,895	2,226
Sierra	16	7	0.05	16%	27,045	837	7,070	2,031

Table 1. (continued)

College Name	Health ADTs awarded	Growth in ADT awards from 2017 - 18	Health ADTs per 50 FTE students	Health ADTs as a share of Health Associate Degrees	Student Enrollment	Black Student Enrollment	Latinx Student Enrollment	AANHPI Student Enrollment
Glendale Community	31	10	0.11	16%	25,965	596	7,169	2,542
Merced	30	12	0.15	16%	18,080	530	10,165	1,636
El Camino	39	10	0.11	16%	34,445	4,818	17,869	5,149
Modesto Junior	33	1	0.12	16%	26,531	919	13,859	2,040
Southwestern	34	1	0.12	15%	28,405	1,566	18,043	3,487
Skyline	24	-1	0.14	15%	15,153	414	4,673	5,949
Mt. San Jacinto	9	7	0.04	15%	24,510	1,576	11,360	1,421
Cypress	45	-1	0.17	14%	22,034	991	10,138	5,564
Cerritos	30	-4	0.09	14%	32,570	2,018	22,035	3,102
Antelope Valley	23	5	0.10	14%	19,156	2,993	10,634	810
College of the Sequoias	18	12	0.09	13%	16,766	373	11,383	678
Los Angeles Mission	14	6	0.11	13%	17,937	635	13,445	930
San Mateo	10	-13	0.06	13%	14,088	387	4,038	4,744
Allan Hancock	12	-1	0.06	13%	20,612	349	12,736	799
Fresno City	43	35	0.11	12%	38,952	2,068	22,590	4,704
Palomar	11	9	0.03	11%	37,863	1,207	17,436	2,976
Santa Barbara City	22	-8	0.08	11%	23,848	625	7,876	1,384
Folsom Lake	9	-5	0.07	10%	12,961	594	2,637	1,651
Los Angeles City	12	12	0.06	10%	30,845	1,954	18,276	4,022
College of the Redwoods	9	7	0.11	9%	7,625	242	1,736	285
Gavilan	12	-1	0.11	9%	10,440	207	6,099	826
American River	14	-7	0.03	9%	46,700	3,613	12,268	6,286
Los Angeles Trade-Technical	7	1	0.03	9%	24,171	3,777	16,443	1,005
Solano Community	4	0	0.03	9%	14,157	1,970	4,386	2,278
Chabot Hayward	5	-4	0.03	9%	20,430	2,084	8,045	5,376
Cuesta	17	-13	0.10	9%	18,186	414	6,239	664

Table 1. (continued)

College Name	Health ADTs awarded	Growth in ADT awards from 2017 - 18	Health ADTs per 50 FTE students	Health ADTs as a share of Health Associate Degrees	Student Enrollment	Black Student Enrollment	Latinx Student Enrollment	AANHPI Student Enrollment
Shasta	6	-8	0.04	8%	14,253	243	2,559	584
Cañada	6	2	0.07	8%	10,353	308	4,160	2,325
Diablo Valley	19	5	0.06	7%	29,636	1,775	7,567	5,835
San Diego City	4	1	0.02	7%	24,256	2,257	11,738	2,826
Lassen Community	1	0	0.03	7%	5,004	890	16,89	244
Evergreen Valley	5	4	0.04	6%	14,955	346	5,856	6,127
Ohlone	5	5	0.03	6%	16,041	448	3,562	6,701
Sacramento City	10	-1	0.03	6%	32,063	3,176	9,925	7,678
Santa Ana	15	2	0.03	5%	63,944	919	37,905	6,190
Contra Costa	3	2	0.03	5%	11,591	1,915	5,110	2,271
Mendocino	3	0	0.05	4%	7,086	143	2,636	243
Butte	7	-8	0.03	4%	15,826	362	4,312	998
Taft	3	0	0.05	4%	9,446	628	5,582	276
Saddleback	14	-4	0.04	4%	42,194	701	9,991	5,663
Santa Rosa Junior	11	-1	0.03	3%	40,005	795	14,087	1,912
Yuba	2	1	0.02	3%	9,247	304	3,253	17,22
San Joaquin Delta	6	2	0.02	2%	25,417	2,181	11,862	4,737
San Bernardino Valley	3	3	0.01	2%	20,388	2,427	13,563	997
Los Angeles Southwest	1	1	0.01	2%	12,275	4,275	6,592	282
Victor Valley	2	1	0.01	2%	17,516	1,861	9,872	510
Marin	1	1	0.01	2%	9,935	306	3,403	770
College of Alameda	0	0	0.00	0%	10,982	1,828	3,009	3,519
Barstow Community	0	0	0.00	0%	4,894	808	2,013	256
Berkeley City	0	0	0.00	0%	10,911	1,717	2,729	2,646
Coastline Community	0	0	0.00	0%	21,644	1,926	6,215	4,990

Table 1. (continued)

College Name	Health ADTs awarded	Growth in ADT awards from 2017 - 18	Health ADTs per 50 FTE students	Health ADTs as a share of Health Associate Degrees	Student Enrollment	Black Student Enrollment	Latinx Student Enrollment	AANHPI Student Enrollment
Compton	0	0	0.00	0%	11,506	2,676	6,981	872
Copper Mountain	0	0	0.00	0%	2,838	199	1,054	109
Consumnes River	0	0	0.00	0%	21,367	2,353	5,716	6,412
Grossmont	0	0	0.00	0%	25,367	1,669	9,085	2,510
Merritt	0	0	0.00	0%	12,684	2,871	3,988	2,571
MiraCosta	0	0	0.00	0%	23,984	788	9,699	2,156
Moreno Valley	0	0	0.00	0%	16,092	1,818	10,219	954
Mt San Antonio	0	0	0.00	0%	70,423	2,013	38,139	13,992
Norco College	0	0	0.00	0%	16,060	1,106	9,311	1,649
Palo Verde	0	0	0.00	0%	6,682	746	2,554	375
Porterville	0	0	0.00	0%	5,793	77	4,441	217
Riverside City	0	0	0.00	0%	31,561	2,585	19,496	2,246
City College of San Francisco	0	0	0.00	0%	40,871	2,924	10,269	14,449
College of the Siskiyous	0	0	0.00	0%	5,818	129	2,779	142
West Hills-Coalinga	0	0	0.00	0%	7,114	272	4,843	526
West Hills-Lemoore	0	0	0.00	0%	7,080	374	4,415	414
West Los Angeles	0	0	0.00	0%	24,151	5,322	10,989	1,811
Woodland Community	0	0	0.00	0%	6,531	118	3,347	788

Notes: FTE represents Full time equivalent students. Health ADT awards refer to majors within the Health TOP program code (include Kinesiology ADTs and ADTs in Health Occupations, General). 100% in the fourth column represents schools that did not have AA/AS in Health in 2018. California Community College's Chancellor's Office, retrieved: Oct. 15, 2020.

Table 2 shows the undergraduate enrollment and breakdown of incoming transfer students according to their transfer pathway within the health fields. Cells that are empty have fewer than 10 students, but the exact number is suppressed by the CSU for student privacy reasons. The table shows that few, if any, transfer students in health fields are entering CSU programs on a guaranteed path.

Table 2. Associate Degrees for Transfer among CSU Incoming Transfer Students that are Health Majors.

CSU Campus	Undergraduate Enrollment	Total Transfer Students	Health ADT Transfer Students on Guaranteed pathway	Health Majors ADT Transfer Students not on Guaranteed pathway	Health Transfer Students with AA/AS	Health Transfer Students with no degree
BAKERSFIELD	9,796	93			40	49
CHANNEL ISLANDS	6,860	119		10	54	53
CHICO	16,099	68			23	40
DOMINGUEZ HILLS	15,224	222			131	85
EAST BAY	12,607	268		19	59	190
FRESNO	21,417	180		26		153
FULLERTON	34,812	333		23	212	98
HUMBOLDT	6,443	18				
LONG BEACH	32,784	265		15		250
LOS ANGELES	22,626	275		43	171	61
MARITIME	898					
MONTEREY BAY	6,538					
NORTHRIDGE	39,633	426		42	195	187
POMONA	26,451					
SACRAMENTO	28,251	263		31		232
SAN BENARDINO	18,114	115			42	69
SAN DIEGO	30,612	276				275
SAN FRANCISCO	25,839	54		10	21	22
SAN JOSE	27,834	250			86	156
SAN LUIS OBISPO	20,453					
SAN MARCOS	13,879	15			12	
SONOMA	8,032	41			36	
STANISLAUS	9,511	37				33

Note: Due to missing data in the public live enrollment dashboard from the CSU's Institutional Research & Analyses site, detailed information for Associate Degree for Transfer earners on guaranteed and non-guaranteed pathways is missing for some schools because values <10 are masked. Data source: CSU Live Enrollment Dashboard, Institutional Research & Analyses, retrieved Oct 30, 2020.

ENDNOTES

- 1 Campaign for Action. (2020). Welcome to the Future of Nursing: Campaign for Action Dashboard. https://campaignforaction.org/wp-content/uploads/2019/07/r2_CCNA-0029_2019-Dashboard-Indicator-Updates_1-29-20.pdf
- 2 Institute of Medicine 2011. *The Future of Nursing: Leading Change, Advancing Health*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12956>.
- 3 Reddy, V. & Ryan, J. (2021). *Chutes or Ladders? Strengthening Community College Transfer So More Students Earn the Degrees They Seek*. Los Angeles, CA: Campaign for College Opportunity
- 4 College Futures Foundation. (2019). *Making Room for Success: Addressing Capacity Shortfalls at California's Universities*. Retrieved from: <https://collegefutures.org/publication/making-room-for-success-addressing-capacity-shortfalls-at-californias-universities/#:~:text=Contact-,Making%20Room%20for%20Success%3A%20Addressing%20Capacity%20Shortfalls%20at%20California's%20Universities,the%202018%2D2019%20academic%20year.>
- 5 California Competes. 2021. *Meeting California's Demand for Allied Health Workers*. Available at: https://californiacompetes.org/assets/general-files/CA-Competes_Allied-Health-Report-Final.pdf
- 6 Abir, Mahshid. (2020). "When it comes to U.S. Health Systems- Diversity Matters." Retrieved from: <https://www.rand.org/blog/2020/09/when-it-comes-to-us-health-systems-diversity-matters.html>; Wilbur, K., Snyder, C., Essary, A. C., Reddy, S., Will, K., & Saxon, M. (2020). *Developing workforce diversity in the health professions: a social justice perspective*. *Health Professions Education*, 6(2), 222-229.
- 7 Shen, M. J., Peterson, E. B., Costas-Muñiz, R., Hernandez, M. H., Jewell, S. T., Matsoukas, K., & Bylund, C. L. (2018). *The effects of race and racial concordance on patient-physician communication: a systematic review of the literature*. *Journal of racial and ethnic health disparities*, 5(1), 117-140.
- 8 Mensah, M. O., & Sommers, B. D. (2016). *The policy argument for healthcare workforce diversity*. *Journal of general internal medicine*, 31(11), 1369-1372.
- 9 Greenwood, B.N., Harderman, R.R., Huang, L., & Sojourner, A. (2020). *Physician-patient racial concordance and disparities in birthing mortality for newborns*. *Proceedings of the National Academy of Sciences* 117(35), 21194-21200
- 10 CHCF. *California Healthcare Almanac*. 2021. Retrieved from: <https://www.chcf.org/publication/2021-edition-california-physicians/>
- 11 CHCF. *California Healthcare Almanac*. 2021. Retrieved from: <https://www.chcf.org/publication/2021-edition-california-physicians/>
- 12 Goode, C. A., & Landefeld, T. (2018). *The Lack of Diversity in Healthcare*. *Journal of Best Practices in Health Professions Diversity*, 11(2), 73-95.
- 13 Talamantes, E., Jerant, A., Henderson, M. C., Griffin, E., Fancher, T., Grbic, D., ... & Franks, P. (2018). *Community college pathways to medical school and family medicine residency training*. *The Annals of Family Medicine*, 16(4), 302-307.
- 14 PPIC. 2016. *Health Training Pathways at California's Community Colleges*. Retrieved from: https://www.ppic.org/content/pubs/report/R_1216SMR.pdf?utm_campaign=The%20Job&utm_medium=email&utm_source=Revue%20newsletter
- 15 PPIC. 2016. *Health Training Pathways at California's Community Colleges*. Retrieved from: https://www.ppic.org/content/pubs/report/R_1216SMR.pdf?utm_campaign=The%20Job&utm_medium=email&utm_source=Revue%20newsletter
- 16 CA Competes. *Meeting California's Demand for Allied Health Workers*. 2021. https://californiacompetes.org/assets/general-files/CA-Competes-Allied-Health_Final.pdf
- 17 PPIC. 2016. *Health Training Pathways at California's Community Colleges*. Retrieved from: https://www.ppic.org/content/pubs/report/R_1216SMR.pdf?utm_campaign=The%20Job&utm_medium=email&utm_source=Revue%20newsletter



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