

Meeting California's Demand for Allied Health Workers





Mission

California Competes: Higher Education for a Strong Economy aims to solve the state's thorny social and economic problems by conducting rigorous higher education and workforce policy research. Through our research, we guide decision makers in developing and implementing policies that bolster equity so every Californian can engage, contribute, and succeed.

Vision

We envision a California where our state and regional economies and communities thrive, fueled by equitable and racially just postsecondary and workforce outcomes.

Leadership Council

California Competes benefits from a Leadership Council that provides statewide reach and a breadth and depth of expertise and leadership. Our Council is made up of local elected officials and former legislators as well as business and community leaders who are committed to policy reform that will deliver a critical mass of well-educated, diverse Californians whose talents match the demands of the 21st century.

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Summary

California depends on a ubiquitous well-trained workforce of health professionals to provide quality care to the state's diverse population. Allied health professionals, which include medical assistants, dental assistants, imaging specialists, and other non-nursing professions, make up 60 percent of the health care workforce—and are in high demand and short supply. **Conservative estimates suggest California will need 65,000 allied health care professionals annually, resulting in a demand of 500,000 new workers by 2024.**¹ To meet this need, California must first assess the current supply of allied health professionals and then remove key barriers to increasing any supply shortage. Experts frequently mention the 160–1,040 clinical hours requirement that students must complete as a major barrier, creating a bottleneck in the pipeline because of limited clinical hours.

To advance California's ability to address the shortage of allied health professionals, we examined the extent of the shortage, the increased demand of clinical placements, and strategies to meet the growing need for clinical placements. We analyzed multiple sets of data using both quantitative and qualitative research methods. We find that **there will be nearly 184,000 to 296,000 unfilled jobs over the eight-year period in the ten highest demand allied health professions, translating to a need for 4.6–6.5 million more hours of clinical placements.** We also identify three broad categories of potential solutions specific to addressing the bottleneck:

- » **Changes in collective stakeholder efforts**
Strengthening regional consortia composed of educational institutions, employers, and community-based organizations committed to addressing the bottleneck problem.
- » **Changes in education programs**
Increasing the use of simulation modalities, credit for prior learning, and competency-based education, and incorporating telehealth to help students achieve minimum competencies.
- » **Changes in employers**
Incentivizing clinical training sites to increase training opportunities, identifying untapped physical facilities, and expanding the use of Federally Qualified Health Centers to alleviate limited clinical placements.

Based on the key criteria of political and technical feasibility; equity related to regional access and access for career advancement; workforce recruitment, training, and retention; and effectiveness, **we recommend any solution set begin with the development of a regional consortium that leverages local assets, advances shared interests, and drives reform and innovation.** This solution advances systematic, long-term, and innovative policy changes to help allied health students move quickly to and through the pipeline.

California Faces a Large Demand for Allied Health Workers

California depends on a ubiquitous well-trained workforce of health professionals to provide quality care to the state's diverse population. A large proportion of the health care workforce is made up of allied health professionals—workers who are involved with the delivery of health or related services and, with minor exceptions, are largely trained through career technical education involving more than a high school diploma but less than a bachelor's degree. The allied health professions include many of the well-known health occupations, such as medical assistants, emergency medical personnel, dental assistants, physical therapist assistants, and imaging specialists. Registered nurses and physicians are not allied health professions.² Despite making up 60 percent of the health care workforce, allied health workers still have largely hidden roles.³ The COVID-19 pandemic has increased visibility of these roles as fully integrated members of every health care team and critical to positive patient outcomes.

With a large demand for new allied health professionals, especially to meet the needs of the aging population, the question remains whether California can meet that demand. The 65,000 annual openings for the highest demand allied health professionals will result in a need of about 500,000 new workers by 2024.⁴ This figure, while substantial, is a conservative estimate. Other critical allied health professions, such as medical imaging technicians, are forecasted to be in high demand but at smaller numbers.

To understand how to meet this critical demand, California must first examine the supply. A large demand is only a policy problem if the supply is insufficient. The state must also understand removing key barriers to increasing any supply shortage. Limited clinical placements are one barrier that has been raised repeatedly by experts.

As such, California Competes, in partnership with Futuro Health, conducted a study to measure the extent of the allied health care worker shortage, forecast the increased demand of clinical placements, and identify policy solutions to address the bottleneck caused by the lack of availability of and access to clinical training hours. More specifically, this study seeks to answer the following questions:

1. Is there a shortage of allied health workers for the high-demand positions? If so, what is the extent of the shortage?
2. What is the magnitude of the additional clinical hours required to train enough workers to meet the demand? Can simulation be considered?
3. What solutions are recommended to alleviate the bottlenecks created by clinical placement shortages that impede the production of credentialed workers?

To address these questions, this report first analyzes whether there will be an allied health workforce shortage and, if so, the extent of the shortage and in which fields. Then the paper continues to estimate how many additional clinical placements are needed to meet the workforce demand. The report concludes with the analyses of strategies to meet the growing need for clinical placements with recommendations on how California should move forward.



Methodology and Data

To conduct this study, we analyzed multiple sets of data using both quantitative and qualitative research methods. Our research started with a critical analysis of existing research related to the health care worker shortage (see appendix A for a list of research reviewed). Through this analysis, we identified challenges that contribute to the shortage and solutions previously proposed.

To quantify the extent of the allied health professional shortage, we forecasted the demand for workers and the expected supply. Our starting point was the analysis conducted by consulting group McKinsey & Company in 2020.⁵ As part of their research, McKinsey staff collected employment data from California's Employment Development Department, the US Bureau of Labor Statistics, and the economic data analysis firm Emsi. They used these sources to estimate current and projected demand for the ten largest allied health care occupations, which together represent 75 percent of total demand for workers in all allied health professions.

To estimate the supply of allied health professionals, we first conducted an extensive literature review to analyze the challenges in the health care field. Then, we conducted our own quantitative analysis to quantify the clinical hours bottleneck. Specifically, we started with the top ten allied

health fields identified in the McKinsey presentation. These fields, and their corresponding standard occupational classification (SOC) codes, are health technologists and technicians (29-2099), home health aides (31-1011), licensed practical nurses and licensed vocational nurses (29-2061), massage therapists (31-9011), medical and clinical lab technicians (29-2012), medical assistants (31-9092), nursing assistants (31-1014), pharmacy technicians (29-2052), physical therapists (29-1123), and medical coders (29-2071).

Next, we matched the SOC of these fields to their corresponding Classification of Instructional Programs (CIP) codes using the crosswalk that the National Center for Education Statistics (NCES) develops. To this list we added six CIP codes for allied health programs that were not matched to specific occupations in the crosswalk but were closely related to the matched programs and that would likely lead to occupations in the top ten allied health fields. These residual or catchall fields of study were health services/allied health/health sciences, general (51.0000); health and wellness, general (51.0001); allied health and medical assisting services, other (51.0899); allied health diagnostic, intervention, and treatment professions, other (51.0999); health aides/attendants/orderlies, other (51.2699); and health professions and related clinical sciences, other (51.9999).

The end result was the total number of allied health program completions for all institutions in California in the 2017–18 academic year, the most recent year for which data were available from the Integrated Postsecondary Education Data System collected by NCES. It is important to note that the numbers do not precisely represent the total annual count of recent allied health graduates in California because students could have attended an out-of-state institution online or prior to moving to California. Conversely, some fraction of those who completed allied health programs at California institutions may have resided in other states during or shortly after completing their programs. It is also the case that a small fraction of individuals—probably less than 10 percent—completed two or more credentials in the same academic year.⁶ Consequently, the completion counts represent an approximate supply of allied health professionals in a year.

Once we established the increased need for clinical placements, we sought to understand how to address this need. Given the lack of data on clinical placement availability and the limited research on this topic, we used qualitative research methods to explore solutions understood by those navigating these challenges. To this end, we interviewed ten key experts representing different roles in the allied health care field, including a labor union representative,

two employers representing a clinic and a large hospital, a representative of an accrediting agency, a representative of a hospital trade association, and multiple education providers to probe our findings from the literature review and to expand our quantitative analysis. We administered a semi-structured interview protocol that focused on the successes and challenges of the allied health care pipeline, the lack of availability of and access to clinical slots, and promising solutions to address the bottleneck. The interview protocol is in appendix B.

We recorded each interview and had them transcribed. From each transcribed interview, the research team analyzed the responses and thematically coded them, allowing for emergent themes to surface.

To analyze solutions, we used both the analysis of the interviews and the analysis of existing research to identify possible solutions and to evaluate them on a set of key criteria (see table 1). California Competes and Futuro Health selected the criteria based on their relevance for addressing the bottleneck, advancing social goals, and their ability to be implemented. We analyzed each solution vis-à-vis each criterion and, based on this analysis, make recommendations as to which solutions should be pursued.

Table 1: Criteria to evaluate proposed policy solutions

Criterion	Definition
Political feasibility	Ensures the proposed solutions would be accepted and supported by decision makers and key stakeholders
Technical feasibility	Ensures there are no capacity or other technical constraints that would place significant limits on our ability to implement the solutions, including cost, time, space, and technology
Equity (access)	Ensures the proposed solutions enable access and opportunity for career advancement with appropriate pay for underserved populations, including students of color and students from low-income backgrounds
Equity (regional access)	Ensures the proposed solutions are assessed and analyzed based on the specific region’s workforce needs, recognizing they may not address the needs of every region of the state, especially underserved rural areas
Workforce recruitment, training, and retention	Ensures the proposed solutions lead to effective recruitment, training, and retention of allied health care workers in specific allied health professions
Effectiveness	Measures the overall impact of the solution on reducing the clinical hour requirement bottleneck

Examining the Shortage of Allied Health Care Workers

Demand analysis, while essential, only tells half the story. High demand met with adequate supply is not a problem that public policy must address. High demand without adequate supply will lead to shortages that can hamper the ability of Californians to receive quality health care.

California Competes conducted its own analysis to estimate the extent of the shortage by comparing the supply of allied health students to the demand. **For the ten highest demand allied health professions, we estimate there will be nearly 23,000 to 36,000 unfilled jobs per year over the eight-year period. In other words, during the eight-year period, 184,000 to**

296,000 of the nearly 400,000 new jobs will not be filled (see table 2). The supply-demand analysis provides further insight into the specific labor market dynamics of specific professions. For example, we find an undersupply of nursing assistants but an oversupply of medical assistants. This contrast occurs because even though medical assistants are one of the highest demand positions, there are more students completing this program of study than there are new openings. In addition, too few health technologists and technicians, home health aides, and medical and clinical laboratory technicians are trained in California to meet the demand for these jobs.

Table 2: Expected labor shortage in highest demand allied health professionsⁱ

Supply and demand of top 10 allied health professions				
Top 10 high-demand allied health professions	Supply Total completions (2017–18)	Demand Average annual new jobs (2017–2024)	Average annual number of unfilled jobs	
Health technologists and technicians, all others	136	1,233	1,097	
Home health aides	103	5,479	5,376	
Licensed practical and licensed vocational nurses	5,614	6,318	704	
Massage therapists	1,905	3,549	1,644	
Medical assistants ⁱⁱ	13,066	11,551–25,150 ⁱⁱⁱ	-1,515–12,084	
Medical and clinical laboratory technicians	250	1,561	1,311	
Medical coders	1,304	1,567	263	
Nursing assistants	1,705	13,796	12,901	
Pharmacy technicians	1,767	2,961	1,194	
Physical therapists ^{iv}	1,398	1,388	-10	
Total	27,248	49,403–63,002	22,965–35,754	

i. This table focuses on the highest demand of allied health professions. However, there are allied health professions with critical demands, but they have smaller numbers, such as medical imaging technicians.

ii. Please see appendix C to learn more about four possible explanations for the apparent possible oversupply of medical assistants.

iii. More recent data from Burning Glass recorded 25,150 job postings for medical assistants in California from December 2019 to November 2020, which is larger than McKinsey’s projected demand of 11,551. Some fraction of those 25,150 jobs estimated by Burning Glass will likely be filled by promotions and by within-field transfers from other employers, but probably most will not. As such, 25,150 may be closer to the true demand for medical assistants than McKinsey’s 11,551.

iv. It is important to note that all physical therapists need a master’s or a doctoral degree to practice (a more recent licensing requirement), whereas the other allied health fields only need a subbaccalaureate degree.

Estimating the Need for Additional Clinical Placements

Multiple factors contribute to the shortage of allied health professionals, and the pandemic has exacerbated many of the issues that have plagued the students in the pipeline. Industry experts note that the lack of availability and access to clinical training hours contribute to California’s shortage of allied health care workers. Students in allied health care programs must complete clinical hour requirements for licensure, certification, or other forms of program completion. These requirements range from 160 hours for medical assistants to 1,040 hours for medical and clinical laboratory technicians. Interviewees questioned whether the large number of clinical hours required is necessary for students to become proficient in required competencies and reflects the skills needed for the occupation. Our analysis uses the requirements set out by licensing boards and is agnostic on whether the number of hours required is appropriate. As a result, **our analysis finds a total of 4.6–6.5 million additional clinical hours are needed to fill the 184,000 new unfilled jobs by 2024** (see table 3).

In addition, our analysis shows that while medical and clinical laboratory technicians do not have a large gap in terms of the number of students being trained, the gap becomes significant when the number of clinical hours required come into play. Geographic barriers can also prevent students from accessing clinical hours because placements are largely located in large urban hospital or clinic settings. The inability to offer the number of clinical placements needed to meet the demand to train 500,000 allied health professionals results in a significant bottleneck in the pipeline with students trying to complete more clinical hours than there are clinical hours available. This bottleneck has only been worsened by the pandemic as hospitals and clinics have shifted to virtual visits and have limited opportunities for in-person clinical learning experiences as augmented, and virtual reality has thus far not been an accepted modality for completing clinical hours.

Table 3: Up to 6.5 million more clinical hours needed to meet demand for new allied health professionals

Required clinical hours for top 10 allied health professions

Top 10 high-demand allied health professions	Supply Total completions (2017–18)	Demand Average annual new jobs (2017–2024)	Average annual number of unfilled jobs	Clinical hours required/completion	Total # of new clinical hours needed
Health technologists and technicians, all others	136	1,233	1,097	0	0
Home health aides	103	5,479	5,376	20	107,520
Licensed practical and licensed vocational nurses	5,614	6,318	704	954	671,616
Massage therapists	1,905	3,549	1,644	500	822,000
Medical assistants	13,066	11,551–25,150	-1,515–12,084	160	N/A–1,933,440
Medical and clinical laboratory technicians	250	1,561	1,311	1,040	1,352,000
Medical coders	1,304	1,567	263	160	42,080
Nursing assistants	1,705	13,796	12,901	100	1,290,100
Pharmacy technicians	1,767	2,961	1,194	240	286,560
Physical therapists	1,398	1,388	-10	30	N/A
Total	27,248	49,403–63,002	22,965–35,754	3,204	4,571,876–6,505,316



There are many challenges beyond clinical hour requirements that contribute to the shortage in allied health professions, including the low patient census because of COVID-19. These challenges result in fewer training opportunities, industry partners rejecting placements because of risk of infection, inadequate student preparation or the idea that training students is burdensome to the clinical operations, and the inequities in resources for

students in public versus private education programs. Specifically, interviewees noted that private institutions navigated the limited clinical placements by paying facilities to provide students the clinical hours needed. While these challenges merit additional study, the primary focus of this study is the clinical hour requirement bottleneck. As such, the proposed solutions to addressing the bottleneck challenge are targeted for those professions with a shortage.

Analysis of Proposed Policy Solutions

As noted, the interviews focused on the causes of the allied health professionals' shortage and potential remedies, particularly related to the clinical hour requirements. These potential remedies were generated in various ways. We conducted a review of the current research on allied health workers and had some initial conversations with various stakeholders and experts in the field to familiarize ourselves with the clinical hour requirement issue. We then used the interviews to both confirm the potential solutions and learn about new ones.

The proposed solutions are:

Collective stakeholder effort change

- » Strengthening regional consortia composed of educational institutions, employers, and community-based organizations committed to addressing the bottleneck hurdle

Educational program changes

- » Increasing the use of various simulation modalities as an additional mechanism for students to achieve minimum competencies in their required clinical hours;
- » Incorporating the use of telehealth patient contacts as another mechanism for students to achieve minimum competencies; and
- » Increasing the use of credit for prior learning (CPL) and competency-based education (CBE) as alternatives for students to achieve minimum competencies

Employer changes

- » Incentivizing clinical training sites to increase clinical training opportunities and pay for clinical hours;
- » Identifying currently untapped alternative physical facilities that could be used as clinical sites; and
- » Expanding the use of Federally Qualified Health Centers (FQHCs) and other nonacute health care sites as clinical placements

Next, we describe each solution in more detail and provide an analysis based on the identified criteria— their technical and political feasibility, their equity, and their effectiveness—and identify the regulatory or statutory changes needed, if any, to implement them effectively. We conclude with a summary of the analysis of the potential solutions with the evaluation criteria.

Collective stakeholder effort change

Strengthening regional consortia composed of educational institutions, employers, and the community

There are already a few regional consortia made up of educational institutions and health care facilities that have developed strong relationships to address the bottleneck. These consortia allow for open dialogue, understanding between the educational institutions and the clinical providers, and innovative solution development. Consortia also help with future job placements. One interviewee, who advocated for strengthening the consortia, noted the willingness of hospitals in the regions to continue serving as clinical sites because of their strong relationships with local educational institutions. These connections are critical for educational institutions struggling to make training arrangements with clinical sites, especially during the COVID-19 pandemic. The creation and support of these partnerships are currently ad hoc, dependent on personal relationships formed over time and are usually small-scale local efforts. Interviewees noted a lack of resources or systemic mechanisms in place to implement this solution across the board; however, existing education-employer partnerships could be leveraged in the development of these consortia.







The relationships developed through regional consortia can advance the development and execution of solutions that address the region’s specific needs and can promote the engagement of the other solutions proposed below.

Pros: Strong faculty partnerships with clinical placement sites help address capacity issues. A current example might be that there are more older health care workers retiring or not wanting to work in hospitals and risk exposing themselves and their families to COVID-19. A regional consortium approach can coordinate placement more efficiently and reduce inter-institution competition. Consortia drive open communication between the facilities and the institutions, resulting in the development and delivery of targeted solutions to a region’s specific needs.

Cons: Since these partnerships are largely ad hoc, interviewees noted no guide or template on what effective consortia look like and how to build on existing ones. As a result, forming these partnerships could be resource intensive requiring time from key employers, institutions, and community members—time they may not have much of given their duties.

Regulatory/statutory changes required: To advance the development and effectiveness of these local and regional partnerships, there should be a statewide effort that supports their creation and effective use. Significant new investments may not be needed if the partnerships can leverage existing supports, such as the California Community Colleges Strong Workforce Program. To promote engagement, federal or state funding could be contingent on formation and participation in one of these consortia. This arrangement could be a requirement for clinical placement sites or educational institutions or both. However, any such mandate should include support for such engagement, as effective partnerships require strong commitment from all parties involved and sufficient organizational capacity in the institutions and the facilities. Another less resource intensive change that the state could do is evaluate the outcomes of these consortia and share successful practices to guide institutions and health care providers.

Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 High	 High	 High	 High	 High	 High

Educational program changes

Increasing use of various simulation modalities as an additional way for students to achieve minimum competencies in their clinical hours requirement







Simulations have long been used in training and educational programs, particularly in skills-based modules. Simulations provide a different avenue from in-person clinical placements for students to achieve their competencies and can help address bottlenecks by reducing the demand for physical face-to-face clinical placements as well as reducing the high costs associated with physical real estate. Simulations are delivered through a variety of platforms, allowing students to experience learning through virtual reality, augmented reality, high-fidelity simulation, or some combination of these modalities. Virtual reality uses computer technology to create a simulated environment. Augmented reality also employs computer technology and adds components that would be present for the student to manipulate that integrate into the simulated environment. High-fidelity simulation uses life-like mannequins in a wide variety of allied health settings. Even the use of robust clinical case scenarios or standardized patients can replace some in-person clinical experiences. These various forms of simulations also have the ability to test students' critical thinking abilities and measure minimum competencies.

Pros: Supporters of simulations state that simulations can ensure students receive the specific timely and standardized training necessary, because faculty can exert a high degree of control over the choice of simulations, their integration with the curriculum, and desired learning outcomes. In contrast, within an in-person clinical environment, the student is exposed to an arbitrary sample of clinical cases over which the faculty member has little or no control. Use of simulations also relieves faculty of some of the burdensome administrative tasks related to setting up clinical placements, providing faculty with more time to focus on quality instruction. In addition, faculty indicated that faculty and students value an increased use of simulations for clinical training as they are less likely to be exposed to infectious diseases, viruses, and other safety issues when in a clinical facility.

Cons: When it comes to implementing all three types of simulations, there are concerns about challenges with students' access to internet bandwidth. With high-fidelity simulations, additional concerns were raised about space and location constraints and access to those locations as most simulations take place on campuses in specific simulation labs. Some interviewees also expressed concern that simulations do not provide adequate patient contact time, do not teach interdisciplinary team skills, nor do they teach patient communication and patient safety. They also questioned whether training completed through simulations is as rigorous as training based on face-to-face interaction with actual patients. For these reasons, interviewees noted historical resistance by licensing boards to increased use of simulations for clinical training, though the pandemic may have shifted this mindset.

Regulatory/statutory changes required: To address recent challenges posed by the COVID-19 pandemic, nursing programs have been permitted to increase the use of simulations from 25 percent to 50 percent of clinical training.⁷ In addition, an interviewee indicated some accrediting agencies have also waived the limits on the use of high-fidelity simulations during the pandemic as a result of restricted clinical space. The waiver may provide additional student outcome data that supports the increased use of high-fidelity simulations and other simulated modalities. To make these changes permanent, lawmakers and regulators would have to enact legislative and regulatory changes permitting a higher percentage of clinical experience to be performed using simulation. As a result, Assemblymember Evan Low authored AB 2288 in 2020 to allow for continued flexibility in finding clinical placements and obtaining clinical experience during the pandemic. The bill, however, does not include language on evaluating the outcomes of students who achieve their minimum competencies through a nonhospital setting. The bill was signed into law by Governor Gavin Newsom.

Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 Moderate	 Moderate	 High	 High	 High	 High

Incorporating the use of telehealth patient contacts as another mechanism for students to achieve minimum competencies







The pandemic has changed the way health care is delivered to maintain the safety of patients and staff and reduce their exposure. As a result, telehealth services have become increasingly important in providing necessary care to patients while minimizing the transmission of diseases and viruses to health care patients and employees. Telehealth technology is not new, and before the pandemic, there were trends showing some increased interest in its use.⁸ However, recently policy changes during the pandemic have reduced barriers to telehealth access and have promoted the use of it as a way to deliver acute, chronic, primary, and specialty care.⁹ Therefore, telehealth patient contacts could also be used for students to achieve their minimum competencies in their clinical rotations.

Pros: Telehealth services can be a safer option for students, hospital staff, and patients by reducing potential infectious exposures. They can also provide cost savings to and reduce the strain on health care systems by minimizing the surge of patient demand on facilities. Because more hospitals are moving toward using telehealth services, educational institutions should replicate and expose students to using telehealth services as another mechanism for students to achieve their competencies.

Cons: Telehealth adoption is relatively new, and while it is expected for virtual rooming and other virtual practices to persist beyond the pandemic, the reimbursement environment remains uncertain. In addition, transmitting medical information across the internet without prior written consent may violate the federal Health Insurance Portability and Accountability Act. Likewise, evaluating students in the course of their virtual interactions with patients without the students' prior written consent may violate the federal Family Educational Rights and Privacy Act.

Regulatory/statutory changes required: As a way to help curb the spread of COVID-19, a couple of legislative and regulatory efforts have been implemented to increase the usage of telehealth services. For example, the federal government relaxed a number of telehealth-related regulatory requirements because of COVID-19 in March 2020.¹⁰ In addition, Governor Newsom issued an executive order in April 2020 suspending certain state law privacy and consent requirements during the COVID-19 emergency to enable providers to more readily offer services by telehealth.¹¹ However, these changes may be temporary to address the immediate impacts of COVID-19. To expand telehealth clinical services as a way to fulfill clinical hours, accreditation agencies and other regulatory agencies may need to examine student outcomes data.

Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 High	 Moderate	 Moderate	 Moderate	 High	 High

Increasing use of CPL and CBE as alternative ways for students to achieve minimum competencies

CPL policies guide educational institutions in evaluating and awarding eligible students with credit for previous collegiate-level learning gained outside of a recognized college classroom, such as through military experience, work experience, and educational programs outside the United States.¹² Expanding CPL policies to serve students with relevant allied health experience across institutions could alleviate the bottleneck if credit is awarded for courses requiring clinical hours. For an overview of CPL in California's public higher education segments, see the discussion in our [published brief](#).

CBE measures learning and grants credit for students who acquire and demonstrate their knowledge and skills by engaging in learning exercises that align with clearly defined programmatic outcomes.¹³ Expanding CBE policies across institutions is another way to alleviate the bottleneck as the programs are focused on the students learning and mastering the competencies as opposed to the length of time it takes for that student to complete the program. For an overview of the benefits of CBE for students, our higher education institutions, and our state, see the discussion in our [published primer](#).

Pros: Wider, more comprehensive and consistent use of CPL and CBE could allow students to move through their programs more rapidly and improve equity. Specifically, CPL and CBE policies would allow for international credentials to count as credit for certification or degrees and provide opportunities for immigrants and refugees to contribute to the health care field. It would also improve racial equity in recruitment and training, in that nearly 50 percent more Black students could enroll in college.¹⁴ Allied health classifications are largely standardized and defined; hence the ability to award CPL should be easier than in other industries.







Cons: Interviewees noted CPL can be difficult to implement in health care training programs. Educational institutions must ensure that any prior learning credits awarded meet the specialized accreditation standards of a variety of accrediting bodies. Much of the burden of a wider use of CPL falls on faculty, as they are primarily responsible for assessing the prior learning experience to ensure it matches up with the course and the accrediting standard. As such, faculty workloads may need to be adjusted to free up capacity for them to engage in this work more routinely, which would require additional or reallocation of funding.

In addition, CPL and CBE reforms will take years to have an impact. The California Community Colleges (CCC) began reforms around CPL several years ago with changes to policy launched in 2019 and are currently in the process of establishing local CPL policies. CBE reforms are just ramping up with the CCC Chancellor’s Office establishing a collaborative composed of up to 10 colleges to support the implementation of direct assessment CBE for associate’s degree programs. The collaborative aims to inform key aspects for system-wide implementation of direct assessment CBE degree programs. As for implementing CBE more widely, accrediting bodies appear to be slow to recognize competency-based allied health programs, and many hospitals and other employers will not hire allied health professionals with degrees from unaccredited programs. In addition, it could be challenging for faculty to identify and agree upon the most important skills and competencies students should acquire at the end of their program.

Regulatory/statutory changes required: The changes needed to increase the use of CPL and CBE differ by systems. The CCC recently amended Title 5, Section 55050 of the California Code of Regulations to promote the use of CPL, and the CCC Board of Governors recently adopted changes to Title 5, Division 6, Chapter 6, Subchapter 3 to support the implementation of direct assessment CBE programs. The CPL policy of the California State University (CSU) is guided by Executive Order 1036 and would require a revision to this order, which the Chancellor’s Office plans to revisit this academic year. However, the CSU does not have a formal CBE policy and has not made any indication of establishing one. Similarly, the University of California (UC) does not have formal CPL or CBE policies. Increasing use of CPL and CBE at the CSU and UC would likely need to be led by their governing boards (the CSU Trustees and UC Regents) with support from their respective Academic Senates and recommended by the Legislature. Because of the three segments’ inconsistencies in implementing CPL and CBE policies and the burden mainly falling on faculty, this solution seems less like a viable option.

Even if the educational institutions and systems were to expand the use of CPL and CBE, the accrediting agencies for allied health programs would also have to update how they evaluate both CPL and CBE. This change could be done through adjustments at each accrediting agency or through the development of a guide for standardized assessment by health care discipline. While faculty have decision-making power, a standardized guide (like the American Council on Education’s military guide¹⁵) could help inform their decisions and ease the burden on faculty to create a rubric when using CPL and CBE.

Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 Low/Moderate	 High	 High	 High	 Moderate	 Moderate

Educational program changes

Incentivizing large clinical training sites to increase clinical training opportunities

A way to increase clinical training spots is to incentivize clinical training sites, particularly large hospitals that have greater resources. Incentives could take the form of a tax benefit, state assumption of liability insurance, or a stipend to sites that place allied health students for internships. Since some sites may not have the capacity to increase clinical training spots, this proposal should not take the form of a requirement for all facilities or a penalty for those facilities that cannot increase capacity for training students.







Pros: Providing incentives could help address clinical placement facilities’ barriers to providing more clinical placements, but the specifics on the design of the incentive would need further analysis. In addition, the fiscal impact that results in offsetting training costs would be a positive for institutions providing clinical internships. They could be a support to multiple schools and health delivery sites and train multiple health professional disciplines both individually as well as collaboratively with multiple health professions—a model that improves health outcomes. Large simulation centers would also have the capacity to provide multiple models from clinic to community to home care to hospital to disaster preparedness.

Cons: Offering incentives as a solution assumes that current incentives are missing, too small, or misaligned, and they are even illegal for some partners, as it is against the law for community college programs to pay any type of incentives to clinical providers, which is not the case with for-profit providers. Providing incentives also assumes that employers are adaptable—that they can and want to provide more clinical placements. There are also other constraints that take place including the availability of trained preceptors and the ratio of too few patients to too many trainees resulting in a burden on patient care. It remains debatable whether financial incentives would motivate especially large employers to offer more clinicals. The incentives may be more interesting to smaller employers who would be more cost- and revenue-sensitive. There could also be funding for a regional coordinator to help lower workload to employers.

Moreover, as health care facilities are grappling with a health and economic crisis, they may need a significant incentive to prioritize clinical placements. Because of the current economic recession, the California state government has little appetite for policies that increase costs like this policy likely would. However, given the importance of training allied health professionals during the COVID-19 pandemic, this challenge may be overcome, as evidenced by the fact that current bills with a fiscal impact have been passed. Any proposed incentives should look to the successes and challenges other states faced as they implemented such policies.

Regulatory/statutory change required: Statutory change would be needed to create the incentives hospitals and other clinical settings would receive. However, in other states where such tax incentives have been implemented, employers state that the incentives are more trouble to apply to than they are worth. As such, the incentives must be carefully crafted and implemented to ensure they are an effective lever for change.

Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 Low	 Low	 Moderate	 Low	 High	 Moderate

Exploring and increasing usage of untapped alternative physical facilities as clinical sites







While accrediting agencies largely require training in hospital settings, some interviewees stated students do not necessarily need to complete all of their clinical training in a hospital setting. Increasing the usage of non-hospital-based acute care facilities, like mobile clinics, could alleviate bottlenecks by increasing the supply of clinical placement sites.

Pros: There are creative untapped locations and facilities that could be used to help students meet their minimum competencies, including school-based health centers, pop-up clinics, prisons, and food delivery services for low-income and disabled residents, such as Meal on Wheels. Specifically, one interviewee shared her experience of needing to find a clinical site for her students since they were kicked out of the hospitals because of the COVID-19 pandemic. As a result, she thought of Meals on Wheels. Her idea was to have her 40 nursing students not only deliver meals to the seniors but also conduct well checks and educate them on their health. While the Board of Registered Nursing approved the idea, Meals on Wheels did not return her call. There would need to be further study on the disincentives for Meals on Wheels to participate as an alternative clinical site, but it could be due to risk of liability (in case a nursing student was injured on the job) and lack of administrative capacity to engage in these types of collaborations. These alternatives to hospitals and clinics can help meet the training requirements of students who have limited access to their clinical training sites because of their location, transportation options, or work schedules.

Cons: Interviewees noted that students who trained in alternative clinical sites may not be prepared to work in hospital settings and that the training might not be as rigorous as the training that takes place in hospital clinical placements. However, the opportunities for allied health professionals via workforce studies indicate that health care is more often found in the homes and community than the hospitals, a model that is also cost saving.

Regulatory/statutory change needed: Accrediting agencies approve sites suitable for clinical placements. As a result, the educational institutions often appeal for approval for alternative clinical placement sites. To make the use of alternative sites more efficient and the standards for review more transparent, accrediting boards could set standards or criteria for acceptable alternative clinical sites. This change could facilitate the appeals process or, ideally, create formal standards for clinical placement sites that are inclusive of these alternative venues. Accrediting bodies could focus on very specific minimum training requirements that can be satisfied in various alternative settings. In addition, there is a need for more research on the impact of alternative sites on student competencies.

Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 High	 Moderate	 High	 High	 High	 High

Expanding the use of FQHCs and other non-acute health care sites for clinical placements







FQHCs help meet the needs of an underserved area or population by providing services that target health disparities, working to empower underserved areas with high-quality patient care, and promoting opportunities for employment for the community. Given their commonly small size and lean financials, they are not frequently or widely used for clinical placements.

Pros: Given their focus on underserved communities, high quality care, and improving employment, the use of FQHCs for clinical placements would enhance student training opportunities, as well as give underrepresented and rural students expanded opportunities to do clinical placements within their local communities. Interviewees noted the rigor of the training currently provided by FQHCs, including the opportunity for students to acquire technical skills and experience working with underrepresented, multilingual populations and those with complex health issues. This develops students' ability to address patients' and communities' social determinants of health. Because there are thousands of these small providers, aggregating them into a consortium or leveraging existing regional bodies could create efficiency in scale.

Cons: FQHCs tend to have a smaller infrastructure, including fewer staff, fewer resources, and lower patient counts, which means students must spend more hours to achieve minimum competencies and a sufficient number of interactions with patients. As a result, FQHCs are not able to handle more than a few students at once, which creates added burdens for educational institutions in setting up placements. In addition, FQHCs typically do not pay staff as well as larger hospitals do. As a result, the students they train frequently opt for jobs at higher-paying facilities after they graduate, and the FQHCs experience a smaller return on their training investment in terms of recruitment.

Regulatory/statutory changes required: FQHCs receive the majority of their revenue through annual federal grants and through Medicaid and Medicare reimbursements. In addition, the Affordable Care Act set aside additional grants for FQHCs and increased the number of Medicaid recipients that rely on them. FQHCs would need additional funding if they were to enhance student training opportunities. Similar to large employers, they could also receive a tax benefit if they had the resources for more clinical training spots. Ongoing support for new capital and operational costs would help ensure their use as clinical placement sites. Increased funding to meet these needs may not require regulatory or statutory changes, but it would require increased federal grants or higher Medicaid and Medicare reimbursement rates (effectively increasing the FQHCs' revenues). Alternatively, FQHCs could shift existing revenues to increase spending for clinical placements, but this change would mean reducing services in other areas. In addition, interviewees indicated that it is more difficult for educational institutions to create partnerships with FQHCs because of the small size of the facilities. As such, federal policymakers should encourage FQHCs to form training agreements and consortia with local educational institutions, perhaps through administrative guidance.











































Summary of analysis of proposed solution:

Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
 High	 Moderate	 High	 High	 Moderate	 High

Recap: Potential solutions to the allied health worker bottleneck and associated tradeoffs

Table 4 distills the policy solutions and related considerations in the order presented above. Each solution is followed by a rating of its political and technical feasibility, its impact on equity for allied health care workers and across regions of the state, its effect on current and prospective allied health care workers, and its anticipated degree of effectiveness in reducing the clinical hours bottleneck.

Table 4: Evaluation of policy solutions

Classification of policy solution	Policy solution	Criteria					
		Political feasibility	Technical feasibility	Equity (access)	Equity (regional access)	Workforce recruitment, training, and retention	Effectiveness
Collective stakeholder effort change	Strengthen regional consortia composed of educational institutions, employers, and community-based organizations	 High	 High	 High	 High	 High	 High
Educational program changes	Increase the use of simulations	 Moderate	 Moderate	 High	 High	 High	 High
	Incorporate the use of telehealth	 High	 Moderate	 Moderate	 Moderate	 High	 High
	Increase the use of CPL and CBE	 Low/Moderate	 High	 High	 High	 Moderate	 Moderate
Employer changes	Incentivize clinical training sites	 Low	 Low	 Moderate	 Low	 High	 Moderate
	Explore untapped alternative physical facilities	 High	 Moderate	 High	 High	 High	 High
	Expand the use of FQHCs	 High	 Moderate	 High	 High	 Moderate	 High



Reducing Bottlenecks Requires a Multipronged Regional Approach

Ultimately, ameliorating bottlenecks will likely require a set of solutions that, in concert, address the various barriers that led to the bottleneck. The solutions above have different impacts, levels of feasibility, and implementation timelines. As such, using multiple solutions simultaneously will build on each solution's strengths while leveraging other solutions to address its challenges. For example, as some interviewees noted, in-person hospital clinical placements should not be completely eliminated, but rather they should be supplemented with other clinical placement locations and formats. This approach may alleviate the bottlenecks stemming from health care training's reliance on hospitals while providing students a diversity of training experiences and expanding their range of experience as health care workers. For example, a new student first participates in various simulations to build competencies and confidence. Then, the student transitions to an FQHC or an untapped alternative clinical site (e.g., mobile clinic) to gain access to low acuity and to work with diverse patients. Lastly, the student migrates to a much more limited assignment in a facility with high acuity patients. The hours that the student just completed from each step count toward their capstone experience, and it reduces the amount of time required to spend in a large urban hospital setting.

To achieve the level of change necessary, California's allied health workforce training pipeline requires significant change on a large scale while recognizing the size of the state with its variance in regional needs. Addressing the clinical bottleneck will require the use of multiple solutions. To promote efficiency and increase the effectiveness of changes, we recommend any solution set begin with the development of a regional consortium that leverages local assets, advances shared interests, and drives reform and innovation. Specifically, the members of the consortium can work together to identify specific solutions that address the unique needs of its region and community. A consortium can draw upon the policy analysis conducted in this study to home in on approaches that will deliver the expected results given its priorities, goals, and challenges. Bringing together institutional leaders, employers, and community-based organizations allows for an open dialogue of the needs and the long-term, systemic, and innovative changes needed to help students in allied health training programs' ability to move more quickly through their clinicals, and ultimately into the workforce.

Appendix A

Literature reviewed

Bradley, C. S., Johnson, B. K., Dreifuerst, K. T., White, P., Conde, S. K., Meakim, C. H., Curry-Lourenco, K., & Childress, R. M. (2019). Regulation of simulation use in United States prelicensure nursing programs. *Clinical Simulation in Nursing*, 33, 17-25. <https://www.sciencedirect.com/science/article/abs/pii/S1876139919300672>

California Department of Consumer Affairs. (n.d.). *Breaking barriers to address allied health workforce shortages: Strategies to expand earn and learn training models in California*.

California Future Health Workforce Commission. (2019). *Meeting the demand for health: Final report of the California Future Health Workforce Commission*. <https://futurehealthworkforce.org/wp-content/uploads/2019/03/MeetingDemandForHealthFinalReportCFHWC.pdf>

California Health Care Foundation. (2016). *Stepping up to the plate: Federally qualified health centers address growing demand for care*. <https://www.chcf.org/wp-content/uploads/2017/12/PDF-SteppingUpPlateFQHCs.pdf>

California Hospital Association. (2009). *Allied health: The hidden health care workforce: Addressing the long-term need for qualified, culturally competent allied health professionals*. https://www.calhospital.org/sites/main/files/file-attachments/CHA_Allied_Health_Issue_Brief.FINAL_.pdf?1492641766

California Senate Health Committee. (2012). *A review of California's health care workforce shortages and strategies to address these shortages*. <https://shea.senate.ca.gov/sites/shea.senate.ca.gov/files/Background%20Paper.pdf>

Criscitiello, R. (n.d.). *Equal valuation: The case for reforming unpaid internships in California's allied health care workforce*. SEIU-United Healthcare Workers West.

Hanock, B., Sanghvi, S., & Johns, T. (2020, January 10). *Labor market needs and portfolio of education pathways*. McKinsey and Company; Tammy Johns, Strategy & Talent. Presentation to the Futuro Health Board of Directors.

Love, I., Palmer, I., Parton, B., Prebil, M., & Tesfai, L. (2020). *Strengthening the health care workforce in a time of crisis*. <https://www.newamerica.org/education-policy/edcentral/strengthening-health-care-workforce-time-crisis/>

Mareck, D. G. (2011). *Federal and state initiatives to recruit physicians to rural areas*. *Journal of Ethics*, 13(5):304-309. <https://journalofethics.ama-assn.org/article/federal-and-state-initiatives-recruit-physicians-rural-areas/2011-05>

Medical Assisting Education Review Board. (2017). *Practicum and simulation report*. <https://www.maerb.org/Portals/0/17PracticumReport.pdf>

McConville, S., Bohn, S., & Beck, L. (2014). *California's health workforce needs: Training allied workers*. Public Policy Institute of California. https://www.ppic.org/content/pubs/report/R_914SMR.pdf

Smith, A. A. (2020). *Nursing students are eager to answer California's call to help stop coronavirus spread*. EdSource. <https://edsources.org/2020/nursing-students-are-eager-to-answer-californias-call-to-help-stop-coronavirus-spread/627175>

Appendix B

Interview protocol

Context:

My name is [name] with California Competes: Higher Education for a Strong Economy. We are a higher education research, policy, and advocacy organization focusing on the intersection of equity and economic growth.

We have been asked by Futuro Health to conduct research into California's allied health worker shortage. Futuro Health is a partnership between Kaiser and SEIU-UHW focused on improving the health and wealth of communities by growing the largest network of credentialed allied health workers.

Our specific project is to identify solutions to address a bottleneck in the allied health pipeline caused by the lack of availability of and access to clinical training hours students must complete in order to be licensed. We are particularly focused on policy solutions that could lead to systemic and sustainable changes.

[e.g., Van Ton-Quinlivan, the CEO of Futuro Health] has identified you as someone we should interview so we can learn more from your experience and expertise in the allied health care field, the challenges you are experiencing (specific to addressing the allied health care worker shortage), and any possible policy solutions you may have. Thank you so much for taking the time to speak with us today. It should only take about an hour.

To better focus on our conversation and capture every detail, I would like to record this interview. Is it OK if I record our conversation? [If concerned, note that the recording will only be heard by the researchers working on this project, the conversation is confidential, and the recording will be destroyed after the research concludes.]

Before we begin do you have any questions for me?

Background

1. Let's start with a little background.
 - a. Tell me about your current role. How does your role and/or responsibilities relate to allied health workers?

- b. What **vantage point** does your current or previous roles give you for understanding potential bottlenecks in the pipeline for allied health care workers?
2. What are some of the things you think are **working well** in terms of the allied health care worker pipeline?

Probe: Why do you believe this? What evidence do you have for these perceptions?
3. What is the most significant challenge you see in terms of the allied health care worker pipeline?

Probe: Why do you believe this? Can you provide us an example supporting this idea?

Existence of Bottlenecks

4. As I mentioned in the background, Futuro Health believes that the biggest challenge to addressing the health care worker shortage is the lack of access and availability to the clinical training hours students must complete to be licensed. There is some evidence that this is a problem—**what are the signs you see, if any, of this problem in your current role?**

*Probe: **If you don't see this bottleneck** as a problem, what do you think is driving this perception? What do you think is the biggest challenge?*

*Probe: **If you do see this as a problem**, do you have any data that you are willing to share with us on the bottleneck issue?*

[If they don't agree with the bottleneck challenge, ask them about solutions to their problem based on the policy alternatives section below and evaluate those solutions. Then wrap up.]

Exploring Policy Alternatives

5. What do you think are the **two to three most promising potential solutions** that can alleviate the clinical bottleneck problem? Please feel free to take a few minutes to think expansively about this. We will drill down into the pros and cons of these potential solutions next.

Probe: Listen for similar responses to the solutions generated below. If they don't bring any of them up, then ask about them. Make sure to elicit details on solutions offered.

Solutions	Interviewee's thoughts
Simulation (includes virtual reality)	
Credit for prior learning and/or competency-based education	
Change to clinic setup (including aggregating small/medium clinics, having pop-up clinics, and renting out unused lab facilities like an Airbnb service)	
Asking big employers (Kaiser, Dignity, Sutter Health) to dedicate financial resources to resolve the challenges	
Other employer contributions (clinical apprenticeships, employer tax benefits to support pipeline development, maintenance, and expansion)	
Other (including legislative changes and ones that were mentioned that are not on the list above)	

Evaluating Alternatives

Now, I would like to discuss some of the pros and cons of the solutions we just discussed. I will ask you questions about a set of criteria to help evaluate them. Specifically, I'll be asking you about technical and political feasibility, the equity implications, and the overall impact of each of the proposed solutions.

6. Let's start with the feasibility of the solution(s) you identified. What are your perceptions of the **political and technical feasibility** of the solutions?
 - a. By politically feasible, we mean if the solution will be accepted and supported by decision makers and key stakeholders.
 - i. Are there stakeholders that would be resistant to this solution? Are there groups that you believe would support this solution? Could you provide us names of those stakeholders (resistant and supportive)?
 - b. By technically feasible, we mean that there are no types of capacity constraints that would place limits on our ability to implement the solutions (i.e., space, personnel, technology, or other constraints).
 - i. What resources would be needed?
 - ii. How much time would it take to implement?

- c. What are the pros and cons of the solution from a political feasibility standpoint?
- d. What are the pros and cons of the solution from a technical feasibility standpoint?
7. Let's talk about the solution(s) you identified above in terms of **equity**.
 - a. Will these solutions enable access and opportunity to career advancement for underserved populations?
 - b. What are the pros and cons of the solutions from an equity standpoint?
8. Now, let's think about how the solution(s) you've identified impact workforce recruitment and **retention**?
 - a. *[Context: We have heard that recruiting and retaining allied health care workers in specific allied health professions is a problem. Health care workers may lack specific skills they need to work with particular populations. They may experience low pay and high burnout. As a result, we want to learn more about if and how the proposed solution allows for addressing this problem.]*
9. Lastly, I'd like to invite you to think about the impact. Thinking of the solutions we just discussed, which solution(s) do you think will have the **most significant impact** on reducing the clinical requirement bottleneck if implemented relative to time and resources needed? Which would have the **least significant impact**?
10. Are there other criteria that we haven't talked about that we should consider?

Wrapping Up

11. Thank you for your insights. As we wrap up, I wanted to take a step back and ask a few questions that are more general in nature.
 - a. Do you know of anyone who is addressing clinical bottlenecks (in other career fields, educational institutions, states, etc.) and experiencing positive outcomes?
 - b. Are you willing to share with us their contact information?
12. Is there anything else we should understand about reducing clinical requirement bottlenecks that we have not talked about?
13. Lastly, is it okay if we follow up with you if we have any further questions?

Thank you again for your time. We will be in touch, and let us know if there is anything we at California Competes can help you with.

Appendix C

Supply of and demand for medical assistants

Background

As shown in table 2, there are as few as 11,551 projected job openings for additional medical assistants per year due to leaving the labor force (3,830), changing jobs (5,310), and growth in positions (2,410). But IPEDS shows the number of completions in medical assisting has been slightly larger than the number of openings in the last few years: 13,565 completions in 2016–17, 13,066 completions in 2017–18, and 12,406 in 2018–19. This memo outlines four possible explanations for the apparent oversupply of medical assistants.

Possibility 1: Projections understate true demand for medical assistant jobs

The estimates in table 2 are conservative projections. While there are many medical assistant (Medical Assistant) openings, there may still be a clear skills gap. Additionally, the [Futuro Health website](#) notes that “A career as a Medical Assisting is often a stepping-stone to other healthcare careers,” namely care coordinator, licensed vocational nurse, registered nurse, or office manager, which could also show the apparent oversupply.

Possibility 2: A fraction of completers in fields putatively leading to medical assistant jobs are actually training for different occupations

The SOC-to-CIP crosswalk matched four different fields of study to the medical assistant occupation (SOC 31-9092). (SOC is short for standard occupational classification, and CIP is short for classification of instructional programs.) About 13 percent of the matched awards were in three fields of study (medical office assistant/specialist, medical administrative/executive assistant, medical reception/receptionist) similar but not identical to medical assisting. Perhaps these awards do not actually lead to medical assisting careers, despite what the crosswalk says. Still, 11,316 is only slightly less than the projected demand for 11,551 medical assistants per year.

Awards matched to Medical Assistants occupation (SOC 31-9092), academic year 2017–18

Award category (CIP code)	Count	Percent of awards
Medical/Clinical Assistant (51.0801)	11,316	86.6
Medical Office Assistant/Specialist (51.0710)	986	7.5
Medical Administrative/Executive Assistant (51.0716)	754	5.8
Medical Reception/Receptionist (51.0712)	10	0.1
Total	13,066	100.0

Possibility 3: Students completing multiple awards in one year

One of the limitations of IPEDS is that the number of completions is not the same as the number of students completing. A student who completes two awards in the same year is counted as two completions in the IPEDS data. The reason might be a double major where the institution counts the degrees separately, earning stackable credentials, or something else. Starting in the 2011–12 academic year, IPEDS began collecting the unduplicated number of completers from institutions. One publication found about 5 percent more completions than completers overall and 14 percent more completions than completers at two-year institutions¹⁶, but that figure is almost certainly an understatement because it does not account for students completing at multiple institutions. That is, a student who completes at two different institutions in the same year will still be counted as two different completers.

To the extent that medical assisting completers are also completing awards or training for other occupations (perhaps other allied health fields like licensed vocational or practical nurse, nursing assistant, or emergency medical technician) and seeking work in those other occupations, the number of medical assisting completers actually seeking work in medical assisting is smaller than the number of medical assisting completers.

Possibility 4: Completers getting hired in other states

We calculated the supply of medical assisting completers based on California institutions, but it may be that a substantial proportion of them seek employment in other states. An average hourly wage of \$16.65 is not a lot of money given California's high cost of living. It is only 11 percent more than the \$15 minimum wage in some California cities, and other cities have even higher minimums. (Futuro Health's website cites a slightly higher median wage of \$17.90 for medical assistants.)

A cursory check of the top institutions does not show any medical assisting program to be delivered through distance education, so it seems unlikely that large numbers of completers are already living in other states when they complete. But it is not possible to tell how many completers look for jobs in other states.

Notes

1. Hanock, B., Sanghvi, S., & Johns, T. (2020, January 10). *Labor market needs and portfolio of education pathways*. Presentation to the Futuro Health Board of Directors. (Note: McKinsey states that these projections are conservative.)
2. Association of Schools Advancing Health Professions. (n.d.). *What is allied health?* <https://www.asahp.org/what-is>
3. Healthforce Center at UCSF (2016, August 16). *Q&A: The hidden health workforce*. <https://healthforce.ucsf.edu/blog-article/qa-hidden-health-workforce>
4. Hanock, B., Sanghvi, S., & Johns, T. (2020, January 10). *Labor market needs and portfolio of education pathways*. Presentation to the Futuro Health Board of Directors. (Note: McKinsey states that these projections are conservative.)
5. Hanock, B., Sanghvi, S., & Johns, T. (2020, January 10). *Labor market needs and portfolio of education pathways*. Presentation to the Futuro Health Board of Directors.
6. Ginder, S., & Stearns, C. (2014, March). *Postsecondary completers and completions: 2011–12* (NCES 2014-033). Washington, DC: National Center for Education Statistics. <https://nces.ed.gov/pubs2014/2014033.pdf>.
7. California Department of Consumer Affairs. (2020). *Order waiving restrictions on nursing student clinical hours*. https://www.dca.ca.gov/licensees/clinical_hours.pdf
8. American Medical Association. (2020, February). *AMA digital health research: Physicians' motivations and requirements for adopting digital health: Adoption and attitudinal shifts from 2016 to 2019*. <https://www.ama-assn.org/system/files/2020-02/ama-digital-health-study.pdf>
9. Bashshur, R., Doarn, C. R., Frenk, J. M., Kvedar, J. C., & Woolliscroft, J. O. (2020). Telemedicine and the COVID-19 pandemic, lessons for the future. *Telemedicine and e-Health*, 26(5). <https://www.liebertpub.com/doi/10.1089/tmj.2020.29040.rb>
10. Pitts, P.W., Hennessy, J.F., Knauer, J., & Nguyen, S.T. (2020). *Telehealth: Covid-19 legal developments*. Reed Smith. <https://www.reedsmith.com/en/perspectives/2020/03/telehealth-covid19-legal-developments>
11. Executive Order N-43-20. (2020). <https://www.gov.ca.gov/wp-content/uploads/2020/04/4.3.20-EO-N-43-20.pdf>
12. Valenzuela, I., MacIntyre, D. J., Klein-Collins, B., & Clerx, J. (2016). *Prior learning assessment and competency-based education: An overview of programs, policies, and practices*. Research and Planning Group, Council for Adult and Experiential Learning, & Moran Technology Group. <https://files.eric.ed.gov/fulltext/ED570321.pdf>
13. Competency-Based Education Network. (n.d.). *Competency-based education*. <https://www.cbenetwork.org/competency-based-education/>
14. California Competes. (2020). *Credit for prior learning: Leveraging past learning to close present-day equity Gaps*. https://californiacompetes.org/assets/general-files/CACompetes_CPL-Brief_Final_8_11.pdf
15. American Council on Education. (n.d.). *The military guide*. <https://www.acenet.edu/Programs-Services/Pages/Credit-Transcripts/Military-Guide-Online.aspx>
16. Calculated from tables 1 and 2, respectively, of Ginder, S., and Stearns, C. (2014). *Postsecondary completers and completions: 2011–12* (NCES 2014-033). Washington, DC: National Center for Education Statistics. <https://nces.ed.gov/pubs2014/2014033.pdf>.

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