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The Geography of California Community College Enrollment

Course-Taking Trends in the Online Era

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OVER THE PAST DECADE, the California Community Colleges (CCC) system has steadily expanded its online course offerings—a trend that rapidly accelerated during the COVID-19 pandemic. Students now have more options to take courses offered by institutions that are geographically distant from them, expanding the course-taking landscape for students statewide. This brief explores how the growth of online course taking over the past 10 years has affected the geography of enrollment, specifically the choices students make about where they take courses across California's community college system.

Analysis across all CCC student enrollment reveals that, despite the sharp rise in online course taking, students' ties to their *home college*—defined as the college where they are primarily enrolled in their first term—largely remained intact. Students are somewhat more willing, however, to travel a farther distance to select a home college than they have been in the past. Moreover, their choice to enroll in multiple institutions during their first 2 years has increased modestly in recent years. Overall, while students are enrolling in more online courses offered outside of their home institutions than they were before the pandemic, the expansion of online course options at their home colleges has kept most online enrollments local. When enrolling outside of their home colleges, students have become more likely to cross enroll at sister colleges within their home districts. Thus, community college enrollments remain largely local, despite greater opportunity for online enrollment across the state.

TOPLINES

- The rate of first-time student enrollment in a home campus outside a 30-mile radius from their residence slightly increased between 2014 and 2023, from 10% to 11%.
- Enrollment in multiple colleges increased modestly, with 18% of students who entered the CCC system in 2022 enrolling in more than one institution within their first 2 years, up from 14% of students entering in 2018.
- The rate of online course taking increased substantially: 82% of students who began college in 2022 took at least one online course during their first 2 years, compared to 48% of students who began in 2018.
- The number of online course enrollments outside a student's home campus grew significantly after the pandemic: from 290,000 in 2019–20 to 460,000 in 2023–24—a 59% increase. However, the share of courses across all modalities taken outside a student's home campus remained steady at 21% over the full decade.

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Background

Enrollment in the CCC system is primarily driven by local enrollment patterns. Students' decisions about where to enroll are influenced by regional factors such as campus outreach, high school advising and dual enrollment opportunities, and workforce-development initiatives (e.g., career and technical education program partnerships), as well as word of mouth from family and friends.[1] As a result, students typically choose to enroll at a campus close to home, reducing both travel time and related expenses.[2]

CCC students can access courses outside their local campuses in several ways. They may initially enroll at a *nonproximate college*—that is, one that is outside a 30-mile commuting radius from their residence. Alternatively, once enrolled at a home college (whether proximate or not), they may cross enroll—that is, enroll concurrently at a second college. While students may cross enroll in either online or in-person courses, they may be especially likely to cross enroll in online courses, which do not require travel.

Students are permitted to cross enroll at any college in the system, but the process is easier when cross enrolling in sister colleges in their home district.[3] Colleges in the same district typically use shared systems for application, course registration, financial aid, and course materials, making cross enrollment more seamless.[4] Financial aid typically transfers easily within districts, allowing a student's primary campus to award aid based on their enrollment across all campuses in the district.[5]

Conversely, cross enrolling at a campus outside a student's home district involves additional steps. Students may need to complete a separate application for the secondary campus and navigate different campus platforms. Financial aid often does not transfer automatically across districts, meaning that student aid packages may not take into account enrollment at secondary campuses. Students who cross enroll in face-to-face courses also typically need to travel greater distances to attend a campus outside their home district.

The pandemic-era expansion of online course offerings may have altered enrollment patterns at proximate campuses and affected cross enrollment behavior. At the onset of COVID-19, all CCC campuses rapidly transitioned to fully online instruction and services.[6] Although in-person instruction later resumed, most colleges continued to offer a large share of their courses online. Among the 110 community colleges analyzed in this report, 29 offered more than 20% of their course sections online in fall 2019, with only one exceeding 60%.[7] By fall 2023, 104 community colleges offered more than 20% of their course sections online, and 13 exceeded 60%. So while nearly all CCC campuses now offer some online instruction, many have shifted toward mostly online instruction.

Calbright College, the only fully online college in the CCC system, represents another element of the state's shift toward online education. Established in 2019, Calbright was designed to offer flexible pathways for adult learners to earn workforce-based certificates.[8] Although Calbright's enrollment has grown since its launch, it still represents a very small portion of total online enrollment in California community colleges—in fall 2023, it accounted for less than 1% of all online student course enrollments in the CCC system.[9]

System Efforts to Simplify Cross Enrollment

In recent years, the state has taken steps to simplify online cross enrollment statewide through the California Virtual Campus (CVC) Exchange. The CVC Exchange allows students to enroll at participating campuses in online courses that are not available at their home institutions.[10] Because participating campuses use common systems for application, course registration, financial aid, and course materials, students who enroll through the CVC Exchange encounter fewer administrative barriers than they do if cross-registering on their own, regardless of whether the course is offered within or outside their home campus. At the same time, the CVC Exchange places some limits on eligibility; for instance, it is available only to students previously enrolled in a home college, so first-time students cannot use the CVC Exchange.[11] Similarly, dual-enrolled students and students with GPAs below 2.0 are ineligible to register through the CVC Exchange.

College participation in the CVC Exchange has grown rapidly in recent years: Between the 2021–22 and 2024–25 academic years, the number of teaching colleges (i.e., ones that list courses on the CVC Exchange) increased from 16 to 78. Students now have access to more than 100,000 course options annually through the CVC Exchange. While use of this enrollment method is growing, only a minority of cross enrollments occur through the CVC Exchange.[12]

By connecting campuses statewide, the CVC Exchange has expanded the potential for cross enrollment opportunities considerably, enabling students to access courses across the state regardless of geographic location. These expanded online opportunities may be especially valuable for students in remote areas with more limited access to face-to-face cross enrollments within a reasonable driving distance.

How Has the Geography of Enrollment Shifted?

Using a full record of CCC enrollments, this brief examines whether student mobility across the CCC system has increased in recent years. It first explores whether students' historical preference for enrolling at a home campus within a typical commuting distance has changed. Next, it analyzes enrollment trends by modality (online only, in person only, and multimodal) and the rate of multi-institutional enrollment within a student's first 2 years. Finally, it examines trends in cross enrollment over time and differences by student subgroup, course subject, and college.

Results show that since the onset of the pandemic, CCC enrollment shifted from mostly in-person-only instruction to a mix of multimodal and online-only instruction. Perhaps surprisingly, enrollment across the system remains largely local. Initial enrollment in a campus outside a student's commuting radius and enrollment in multiple institutions over a student's first 2 years have increased only modestly while the share of total enrollments taken as cross enrollments has remained nearly unchanged.

Although there was no major reshuffling statewide, several notable trends have emerged during the era of growth in online course taking. First, while the total number of courses taken via online cross enrollments has increased since the pandemic, home online enrollments have increased even more markedly. This means that online enrollments are more likely to be taken at students' home campuses now than they were before the pandemic. This may be explained by increased availability of online course offerings across the system, reducing the need for students to look outside their home campuses for needed courses. Second, cross enrollment in colleges within a student's home district has increased while out-of-district cross enrollment has declined. Taken together, these trends mean that enrollments remain largely local, despite the increased ease and availability of taking courses statewide postpandemic.

Perhaps surprisingly, enrollment across the system remains largely local.

DATA AND METHODS

This analysis uses administrative data from the California Community Colleges Chancellor's Office (CCCCO) to examine changes in student enrollment patterns. The dataset includes detailed information on course enrollment, student demographics, and financial aid awards for every student enrolled in a CCC.

The analytical sample includes student enrollments in credit courses in fall or spring semesters from the 2014–15 through 2023–24 academic years. Several student groups are excluded from analysis due to characteristics that limit comparability, including noncredit students, students dually enrolled in high school, and students outside the age range of 17–55. Several campuses are also excluded for similar reasons, including those that operate on a quarter-based calendar, deliver exclusively noncredit instruction, or were opened or closed during the study period. The sole fully virtual campus, Calbright College, is also excluded. In total, 110 out of 116 CCC campuses are included.

In Figures 1, 2, A1, and A2, data are unique at the student level and are limited to first-time students. Students who did not meet the sampling criteria described above in their first term are excluded from analysis entirely.

In Figures 3–8, data are unique at the student-by-course-by-term level and are limited to returning students. Observations are excluded only for courses, terms, or campuses in which the student does not meet the sampling criteria previously given. For example, a student enrolled in one credit and one noncredit course in a given year will appear once in the data for the enrolled credit course. There are two additional sample restrictions made in these figures. First, students whose home colleges were excluded from the study were also excluded from analysis. Second, course enrollments that occurred more than 10 years after a student's initial enrollment are excluded from analysis. This ensures that each student's enrollment is observed over the same length of time.

Data Dictionary

Cross enrollment—A course enrollment at a campus other than the student's assigned home campus. Cross enrollments are further categorized as in district if the enrolling college is in the same district as the student's home college and out of district otherwise.

Course enrollment—A student's enrollment at the time of course attendance, regardless of whether the student completes the course.

Home campus—The campus at which a student enrolled in the most units during their first term taking any number of credit courses, excluding students dually enrolled in high school.

Home enrollment—A course enrollment at a student's home campus.

Import share—The proportion of a college's total enrollment made up of out-of-district cross enrollments. The numerator is the total number of course enrollments taken at the college by students from other home districts (out-of-district cross enrollments). The denominator includes all course enrollments by students associated with the college—that is, the sum of enrollments taken at the college (including home enrollments and incoming out-of-district cross enrollments) and enrollments taken by the college's home students at other colleges (outgoing out-of-district cross enrollments).

Multimodal enroller—A student who enrolls in at least one online and one in-person course during their first 2 years.

Multi-institutional enroller—A student who enrolls in more than one college during their first 2 years.

Online course—A course in which all instructional components (e.g., lectures, labs) are delivered online, synchronously or asynchronously. This classification is unreliable for the 2020–21 academic year due to the system-wide emergency shift from in-person to online instruction in response to the COVID-19 pandemic. In this report, course modalities for 2020–21 enrollments are set to missing across analyses, so trends are interpolated through 2020–21 based on the 2019–20 and 2021–22 values.

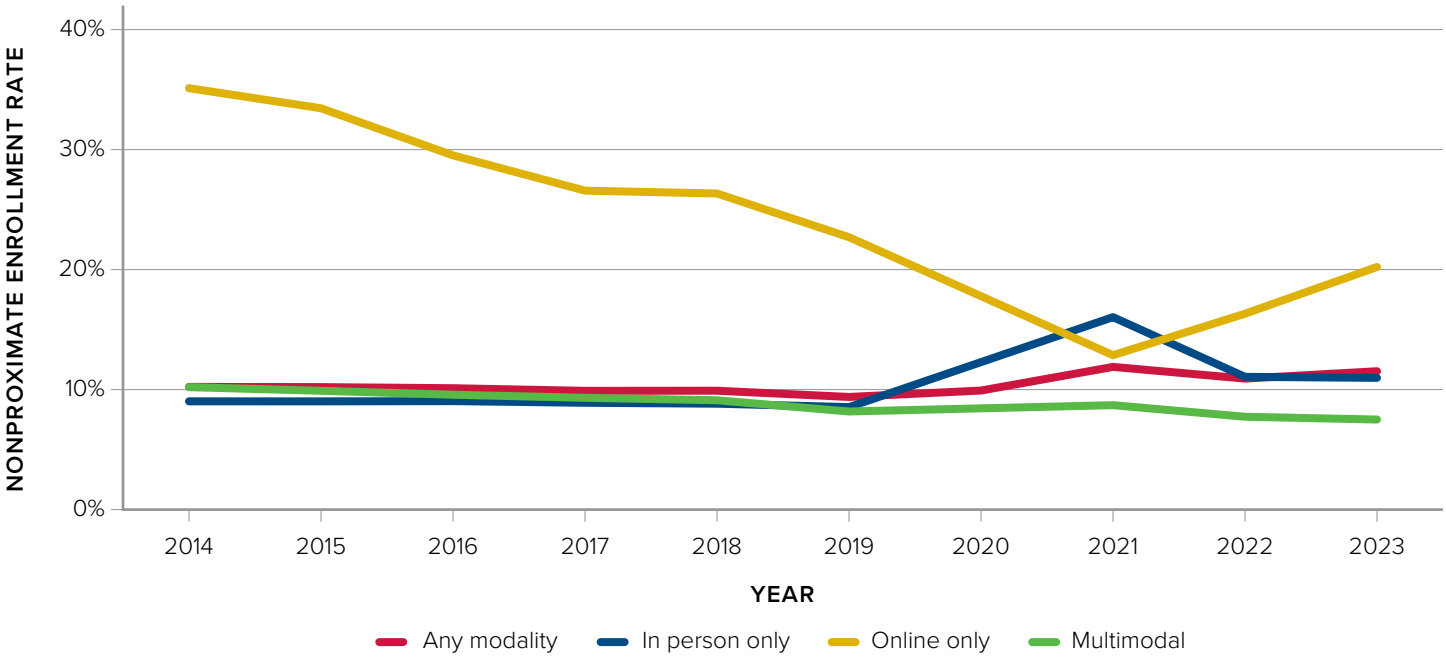
Proximate enrollment—Student enrollment at any campus located within 30 miles of the student's residence. Distance is calculated as the straight-line (Euclidean) distance between the student's home zip code, as listed on their first college application, and the campus zip code listed on the college's mailing address.

Proximity of Initial Enrollment

CCC enrollment has historically been marked by students attending campuses close to where they live. To begin examining how geographic enrollment preferences have changed over time, this section analyzes the distance between students' residences (using the zip codes from their initial college applications) and their initial home colleges, or the institutions where they took the most credits in their first term.

Figure 1 shows the rate of first-time students enrolled at a nonproximate campus (one that is located more than 30 miles from their residence) overall and by modality. Across all students, the nonproximate rate was roughly 10% between 2014 and 2020, increased to 12% by 2021, and remained relatively steady in later years.

Figure 1. Nonproximate Enrollment Rate by Modality Among First-Time Students, 2014–2023



Note. The figure estimates the rate of students whose home campuses are more than 30 miles from their residences, shown for all students and by enrollment modality. The sample includes first-time fall students enrolled in any number of credits, excluding students dually enrolled in high school. Flags for in person only, online only, and multimodal are based on the modalities of courses in which students enrolled during their first terms. Rates for online, in-person, and multimodal students are not estimated for 2020 because nearly all courses were held online that year. Instead, a linear trend is estimated between 2019 and 2021.

Students who took all their classes online during their first term were more likely to attend nonproximate home colleges than those who took all their classes in person. Interestingly, however, this rate was already declining before 2019 and fell even more sharply during the pandemic. One possible explanation is that the expansion of online course offerings during this time allowed students to meet their preferences for online coursework at campuses closer to home. By contrast, the sharp increase in nonproximate enrollments among students taking only in-person classes during the pandemic may reflect the need to search farther from home to find in-person programs. For students enrolled in both modalities, the rate of nonproximate initial enrollments remained fairly steady throughout the study period.

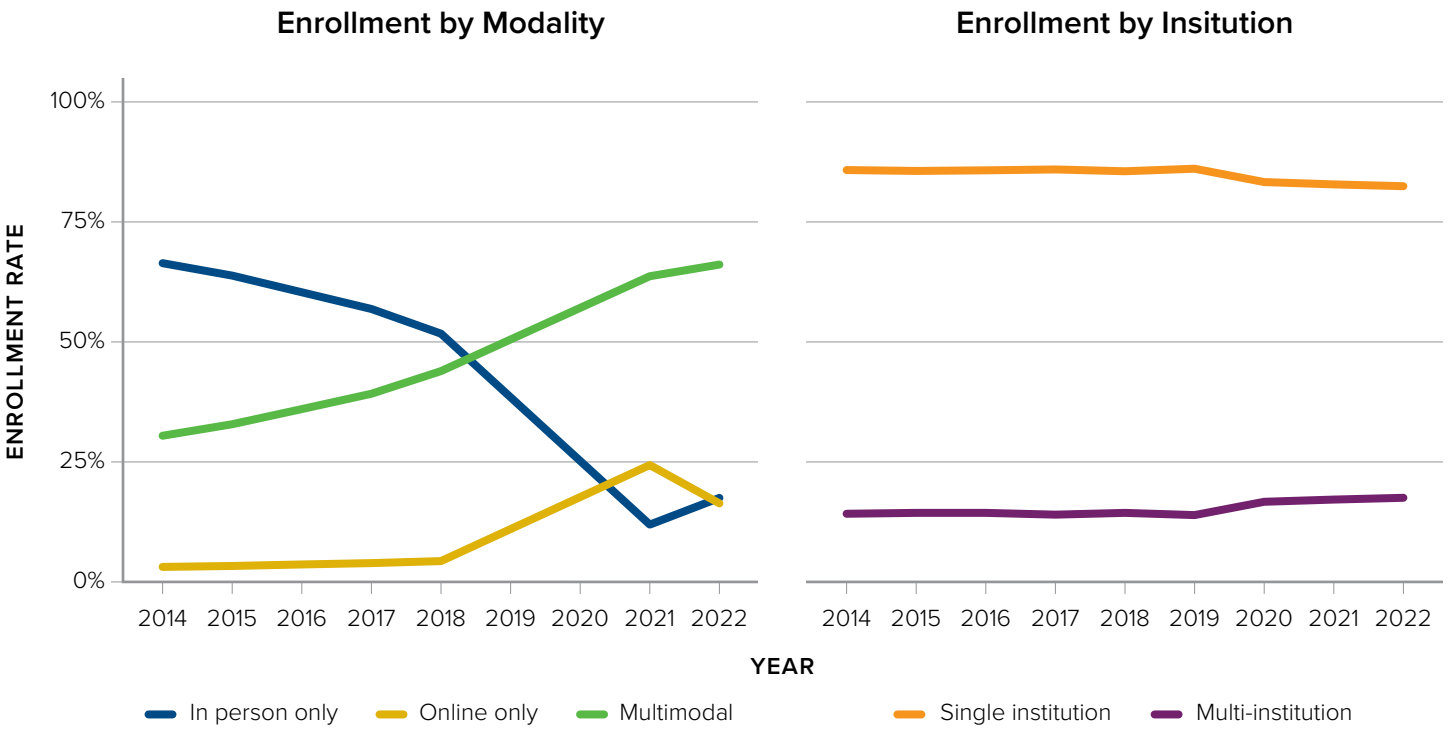
Appendix Figure A1 presents the same analysis showing total numbers of students enrolled in nonproximate campuses on the vertical axis. The number of nonproximate first-time students increased between 2019 and 2023, driven by growth in online-only and multimodal enrollment during the pandemic.

Students who took all their classes online during their first term were more likely to attend nonproximate home colleges than those who took all their classes in person.

Enrollment Trends Across Modalities and Institutions

Figure 2 shows that enrollment by course modality during a student's first 2 years changed significantly over the study period. Cohorts entering prior to the pandemic showed steady increases in multimodal enrollment (and, to a lesser extent, in online-only enrollment), alongside decreases in in-person-only enrollment. Among students who entered in 2014 and 2018—whose 2-year enrollments reflect prepandemic course offerings—multimodal enrollment rose from 30% to 44%, online-only enrollment rose from 3% to 4%, and in-person-only enrollment declined from 66% to 52%. These shifts accelerated among cohorts affected by the pandemic. Between the 2018 and 2022 cohorts, multimodal enrollment increased from 44% to 66%, online-only enrollment increased from 4% to 16%, and in-person-only enrollment fell sharply from 52% to 18%. In just 4 years, the CCC system transitioned from primarily in-person instruction to instruction that was primarily conducted either partly or wholly online.

Figure 2. Enrollment Rate by Modality and Institution Among First-Time Students, 2014–2022



Note. The figure estimates the rate at which students enroll in courses that are in person only, online only, and multimodal as well as in single or multiple institutions during their first 2 years of study. The sample includes first-time fall students enrolled in any number of credits, excluding students dually enrolled in high school. Enrollment by modality is not estimated for the 2019 and 2020 cohorts because those 2 years overlapped with 2020–21, when nearly all courses were delivered online. Instead, a linear trend is estimated between the 2018 and 2021 cohorts.

Enrollment trends by institution show modest changes during the study period. The share of students enrolled in multiple institutions during their first 2 years was stable between the 2014 and 2018 cohorts at 14%. This rate increased notably among cohorts enrolled during the pandemic. Between the 2018 and 2022 cohorts, multi-institutional enrollment increased from 14% to 18%—a 29% increase.

Appendix Figure A2 presents the same analysis showing total numbers of enrolled students on the vertical axis. These trends closely mirror the trends described in this section.

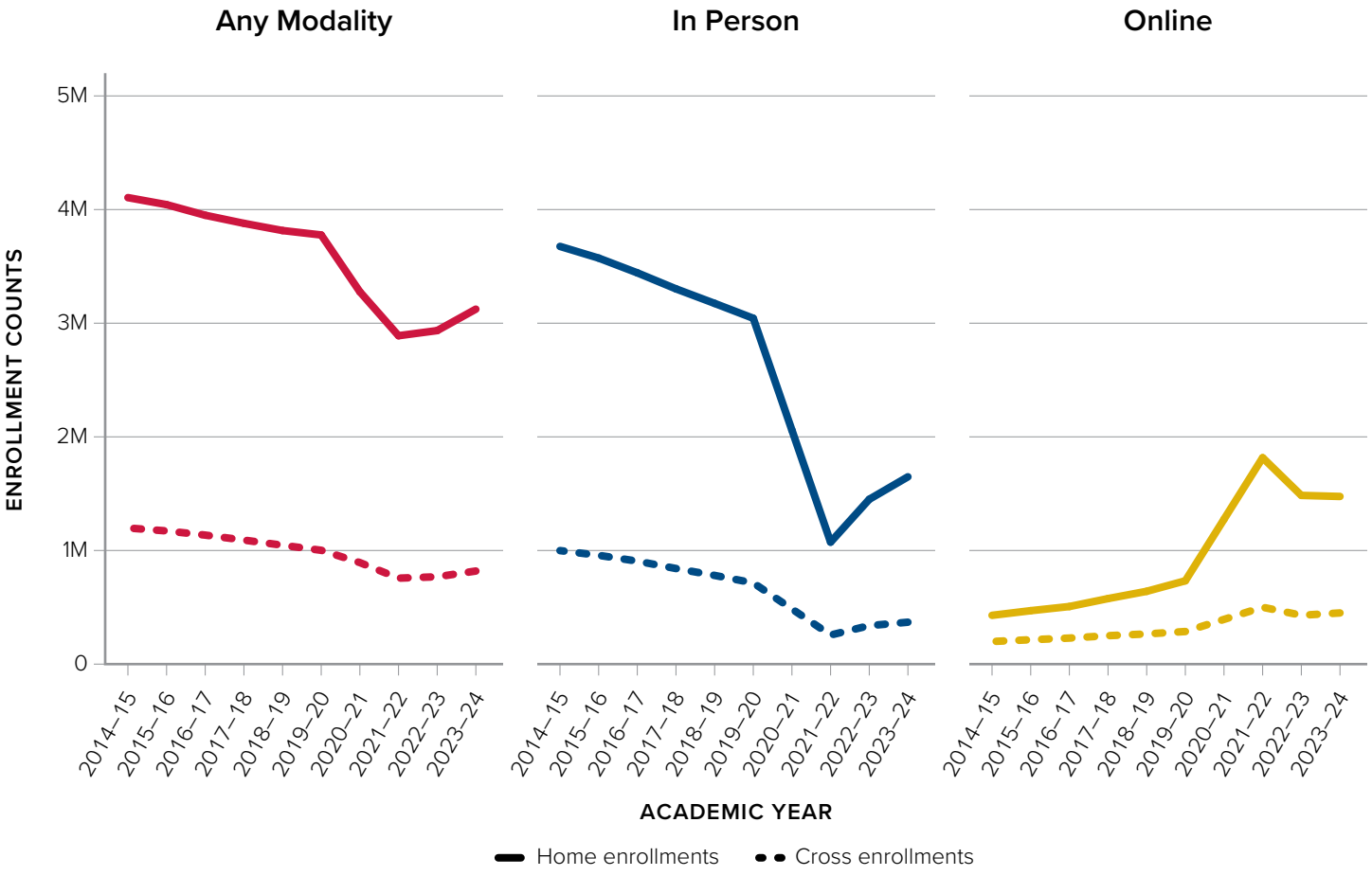
In just 4 years, the CCC system transitioned from primarily in-person instruction to instruction that was primarily conducted either partly or wholly online.

Cross Enrollment Trends

This analysis suggests that the CCC system saw two parallel trends: a rise in online course taking and a more modest increase in students taking courses across multiple institutions during their first 2 years. This section examines these trends in more depth, looking at enrollment in secondary campuses—or cross enrollment—by modality as well as within and across community college districts. For these analyses, each student is assigned a home campus, defined as the college where they took the most units in their first term. This measure is used to distinguish between home enrollments and cross enrollments.

Figure 3 shows the total number of course enrollments taken across the system from 2014–15 through 2023–24. Home enrollments declined sharply during the study period, falling from 4.1 million in 2014–15 to 3.8 million in 2018–19 and then to 3.1 million by 2023–24. Cross enrollments fell from 1.2 million in 2014–15 to 1 million in 2018–19 and then to 820,000 in 2023–24. These trends reflect the gradual decline in enrollment through the latter half of the 2010s, followed by the steep enrollment losses resulting from the pandemic.

Figure 3. Home- and Cross Enrollment Levels by Modality, 2014–15 to 2023–24



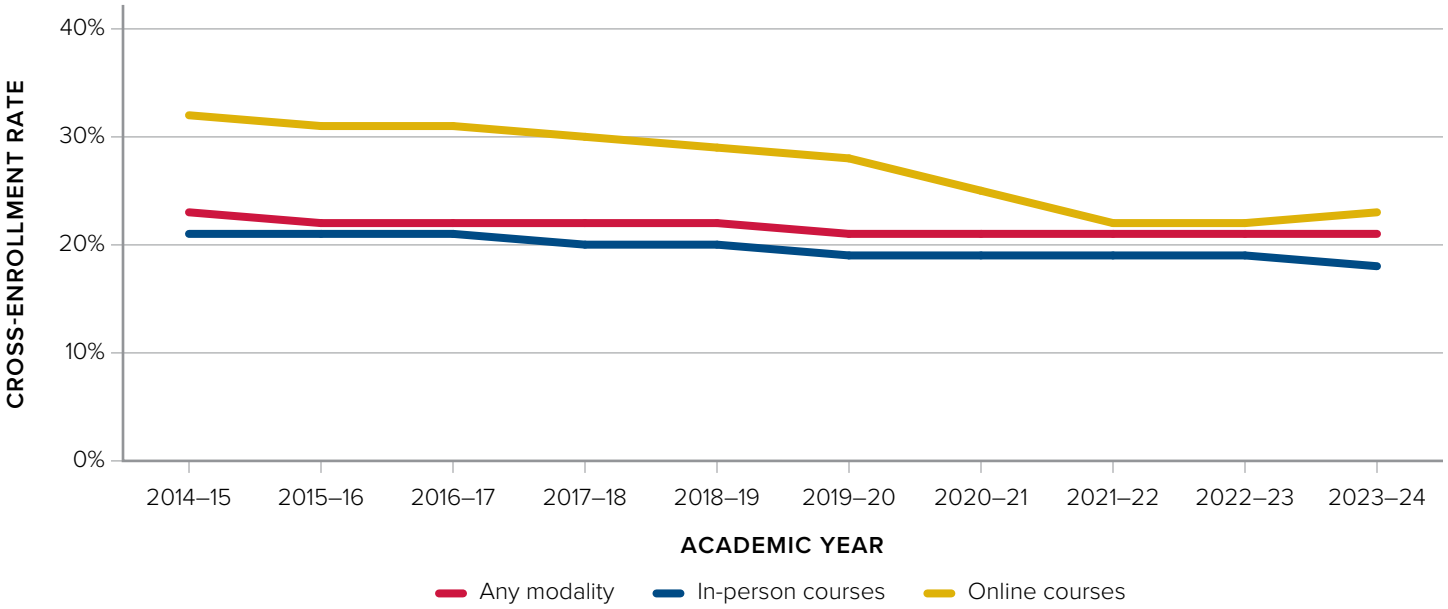
Note. The figure estimates the total number of student course enrollments classified as home enrollments and cross enrollments across all courses, in-person courses, and online courses. The sample includes credit course enrollments during the fall or spring semester among returning students, excluding students dually enrolled in high school. In-person and online totals are not estimated for 2020–21 because all courses were delivered online that year. Instead, a linear trend is estimated between the 2019–20 and 2021–22 academic years.

The decline in enrollment is even more stark when looking at in-person enrollments specifically. In-person home enrollments plummeted from 3.7 million in 2014–15 to 1.1 million in 2021–22 while in-person cross enrollments fell from 1 million to 260,000 during the same period. By 2023–24, in-person home enrollments and cross enrollments rebounded slightly to 1.6 million and 370,000, respectively.

While in-person enrollments were declining before the pandemic, online enrollments were steadily increasing, both through home enrollments and cross enrollments. These trends escalated sharply during the pandemic; online cross enrollments rose from 270,000 in 2018–19 to 500,000 in 2021–22, an 85% increase, while online home enrollments rose 183% over the same period, from 640,000 in 2018–19 to 1.8 million in 2021–22. While online home enrollments declined by 18% between 2021–22 and 2023–24 as the pandemic abated, online cross enrollment levels remained fairly stable. Overall, the pandemic accelerated the trend of growth in both online home enrollments and cross enrollments, but the growth was especially pronounced for online home enrollments.

Figure 4 shows the cross enrollment rate—the share of enrollments taken through cross enrollments—overall as well as rates for online and in-person courses. Because cross enrollments fell more sharply than home enrollments (Figure 3), the cross enrollment rate declined from 22% in 2014–15 to 21% in 2023–24.

Figure 4. Cross Enrollment Rate by Course Modality, 2014–15 to 2023–24



Note. The figure estimates the rate of student course enrollments classified as cross enrollments across all, in-person, and online courses. The sample includes credit course enrollments during the fall or spring semester among returning students, excluding students dually enrolled in high school. In-person and online rates are not estimated for 2020–21 because all courses were delivered online that year. Instead, a linear trend is estimated between the 2019–20 and 2021–22 academic years.

Prior to the pandemic, when most students did not enroll in any online courses (Figure 2), the cross enrollment rate for online courses was higher than the rate for in-person courses: 31%, compared to 21% in 2014–15. This is likely the result of limited availability of online courses at student's home campuses, prompting them to seek these courses at other colleges across the state.[13] It may also reflect the fact that cross enrolling online imposes relatively lower burdens on students, who can avoid the travel costs associated with in-person cross enrollment.

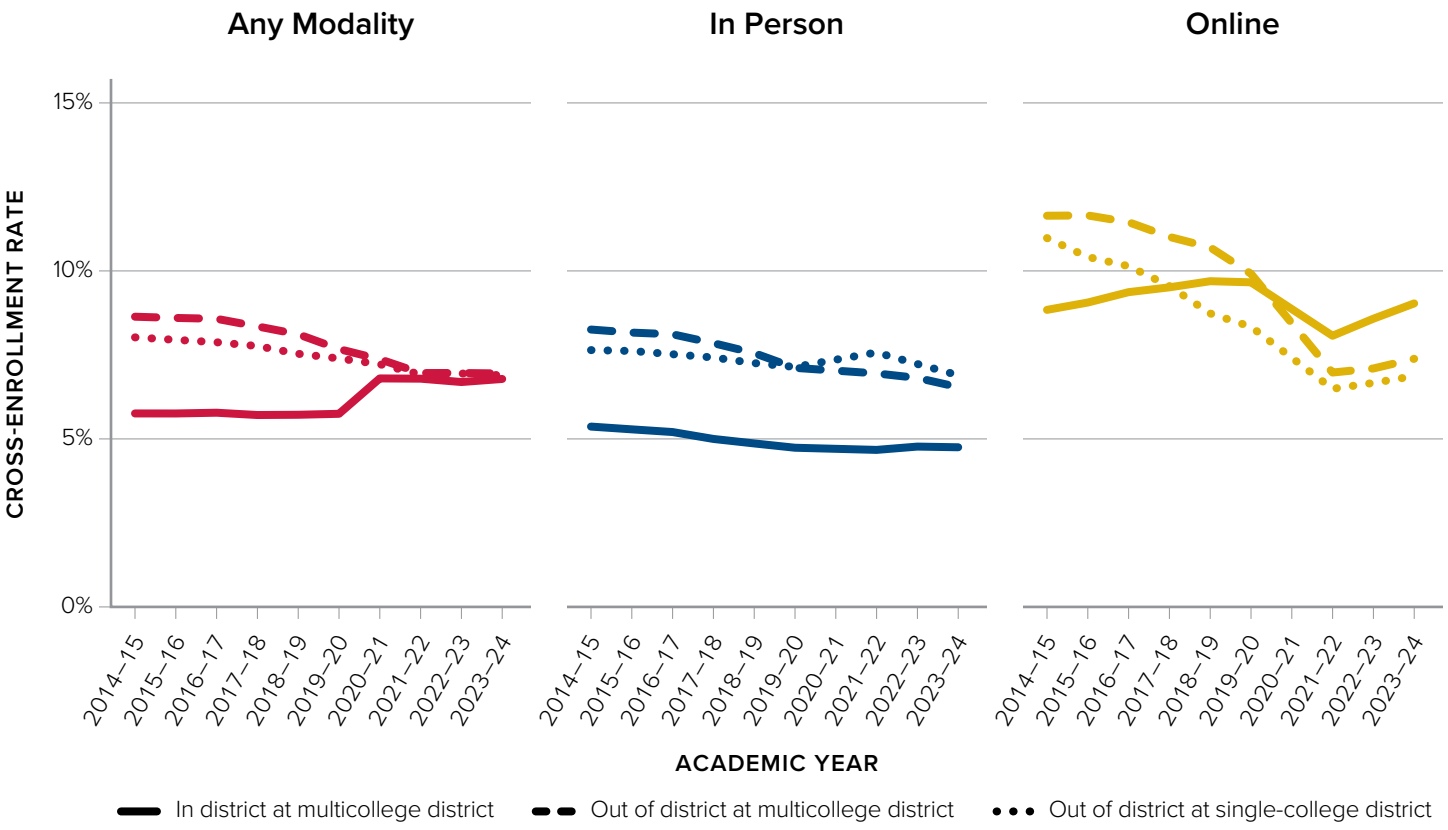
Although online cross enrollments rose during the pandemic, online home enrollments rose by an even greater margin (Figure 3). Thus, the cross enrollment rate in online courses declined from 29% in 2018–19 to 23% in 2023–24. Over the same period, the cross enrollment rate of in-person courses declined from 20% to 18%. Taken together, these results suggest that the expanded availability of online courses at students' home institutions made online course taking somewhat more local during the pandemic than it had been previously.

Taken together, these results suggest that the expanded availability of online courses at students' home institutions made online course taking somewhat more local during the pandemic than it had been previously.

A student's choice to cross enroll within or outside their home district may depend on the options available at other colleges in the same district, if any exist. As noted earlier, cross enrollment is often easier within the same district because sister colleges typically share key student service systems, such as financial aid. However, students whose home colleges are in a single-college district must look beyond their own districts for cross enrollment opportunities.

Figure 5 shows that across all courses, the in-district cross enrollment rate increased at multicollege receiving districts while the out-of-district cross enrollment rate fell at both single- and multicollege receiving districts. These changes may similarly be driven by the increase in supply of online courses, which was even more pronounced at the district level.[14] Before the expansion of online courses, students may have navigated the additional administrative hurdles associated with cross enrolling out of district (e.g., submitting a separate application) in order to find a given course. After the expansion, students were more likely to find the same courses in district. Because students may be more familiar with in-district than out-of-district offerings (e.g., counselors at their home colleges may advise them to enroll online at in-district campuses) and in-district cross enrollments add little administrative burden on the student (e.g., no separate application form required, financial aid is portable), students may increasingly cross enroll in district.

Figure 5. In- and Out-of-District Cross Enrollment Rate by Course Modality, 2014–15 to 2023–24



Note. The figure estimates the rate of all, online, and in-person student course enrollments that are in-district cross enrollments at at multicollege districts as well as those that are out-of-district cross enrollments at single- and multicollege districts. These three rates sum to the overall cross enrollment rate. In-district cross enrollment is not shown for single-college districts because students cannot receive this enrollment type. The sample includes credit course enrollments in the fall or spring semester among returning students, excluding students dually enrolled in high school. In-person and online rates are not estimated for 2020–21 because all courses were delivered online that year. Instead, a linear trend is estimated between the 2019–20 and 2021–22 academic years.

The in-person, out-of-district cross enrollment rate was similar across single- and multicollege districts before the pandemic and increased temporarily for single-college districts during the pandemic. This is surprising, given that single-college districts are often located in rural, remote areas farther from other districts while multicollege districts are often found in densely populated regions of the state with closer neighboring districts (see Appendix Figure A3). However, the results suggest that the additional travel burden potentially associated with in-person cross enrollment in single-college districts does not reduce these types of enrollments.

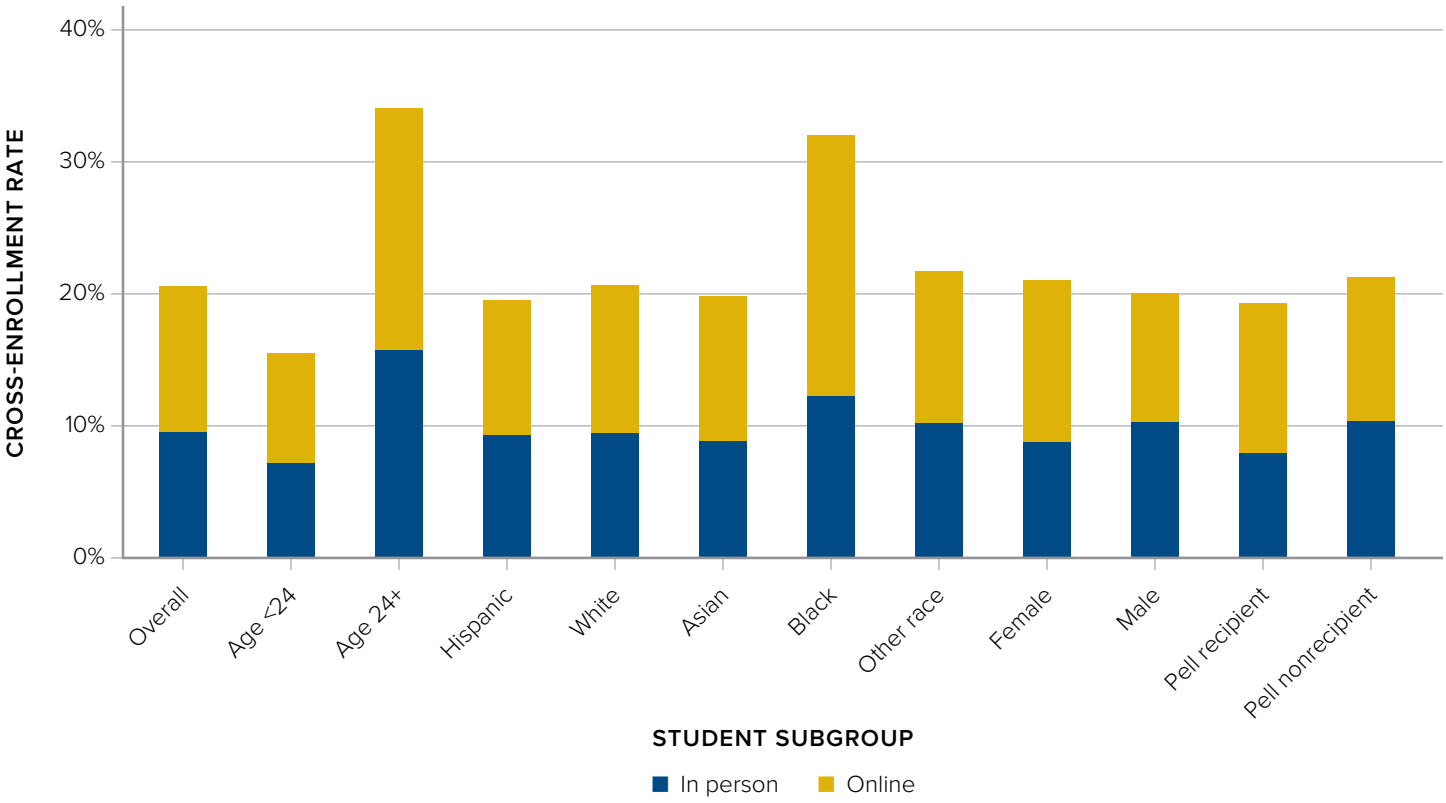
Taken together, cross enrollment trends indicate that the expansion of online course options has not upended the largely local geography of enrollment. Student ties to their home campuses have largely remained stable, as reflected in the steady cross enrollment rate across all courses. In some ways, system-wide enrollment has become more local, with students now less likely to cross enroll out of district than in previous years.

Cross Enrollment Variation by Student Subgroup, Course Subject, and College

This section explores the drivers of cross enrollment by comparing overall rates—as well as rates for in-person and online courses—across student subgroups, course subjects, and receiving colleges. The results focus on enrollment in 2023–24 to highlight the most recent cross enrollment patterns.

Figure 6 shows that students aged 24 and older cross enroll at much higher rates than those aged 23 and younger: 34% compared to 16%. Black students have the highest cross enrollment rate among racial subgroups at 32%. For both older and Black students, the higher overall rate is driven by a disproportionate cross enrollment in online courses.[15]

Figure 6. Cross Enrollment Rate by Subgroup in 2023–24

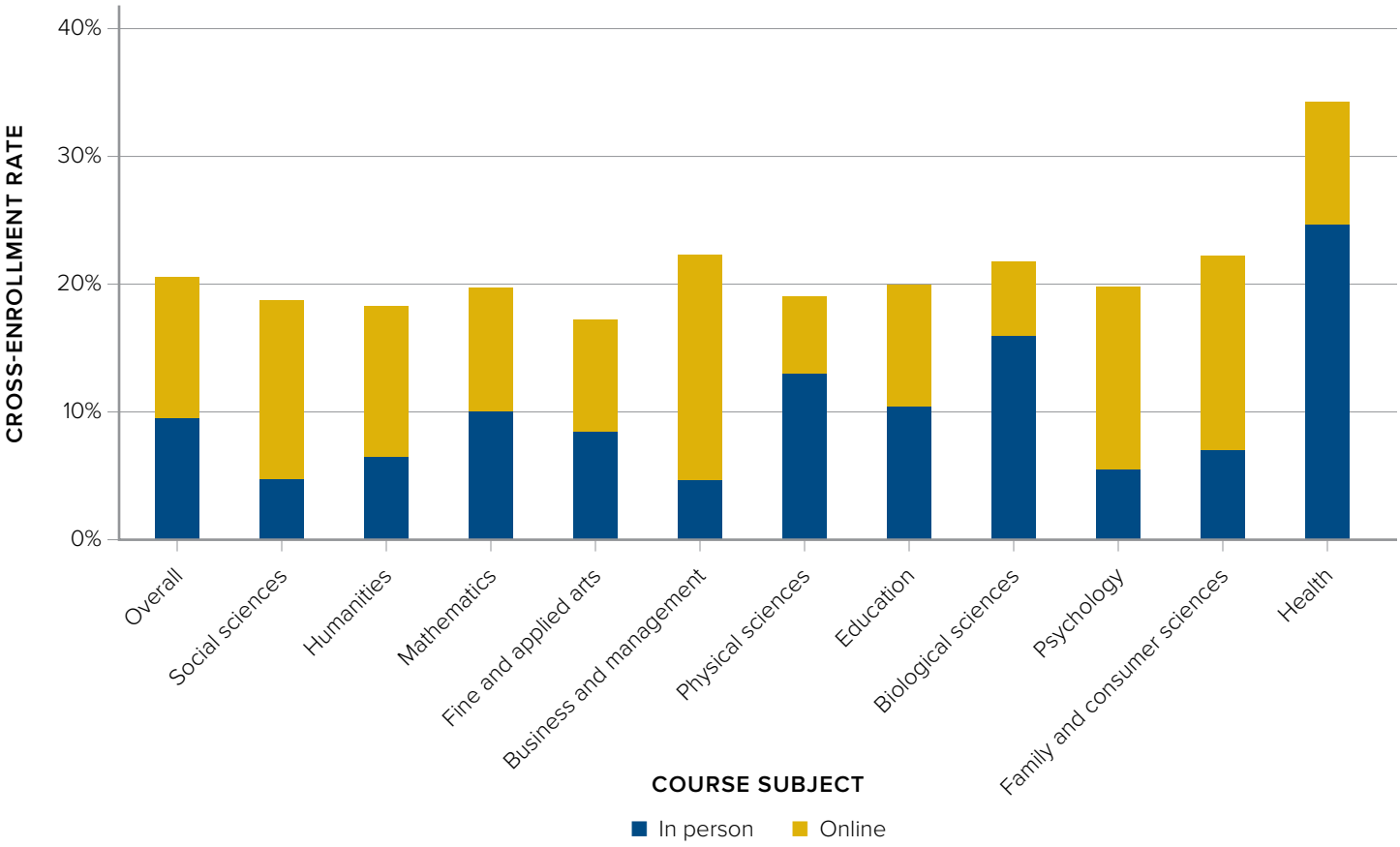


Note. The figure estimates the rate of student course enrollments in 2023–24 that are in-person and online cross enrollments overall and across student subgroups. The sample includes credit course enrollments in the fall or spring semester among returning students, excluding students dually enrolled in high school.

These differences may indicate that some student groups are more likely to use cross enrollment opportunities than others. For example, older students—who often balance work and parenting responsibilities along with coursework—may cross enroll to create schedules that better align with their needs, such as online, evening and weekend, or compressed-format courses. Differences may also stem from varying barriers to cross enrollment. For instance, Pell Grant recipients may be less likely to cross enroll if their financial aid packages do not easily align with out-of-district enrollment or if the travel costs associated with in-person cross enrollment present a greater burden.

Figure 7 shows that health courses had the highest overall share of cross enrollments at 34%, driven by a disproportionately high share of in-person cross enrollments. This could be because of requirements to take lab-based courses in the subject area, which are often in high demand. By contrast, the share of online cross enrollments in health was similar to that for all courses. Social sciences, humanities, business and management, psychology, and family and consumer sciences courses enrolled a disproportionately high share of online cross enrollments, though their total cross enrollment share was similar to that of courses overall.

Figure 7. Cross Enrollment Rate by Course Subject in 2023–24

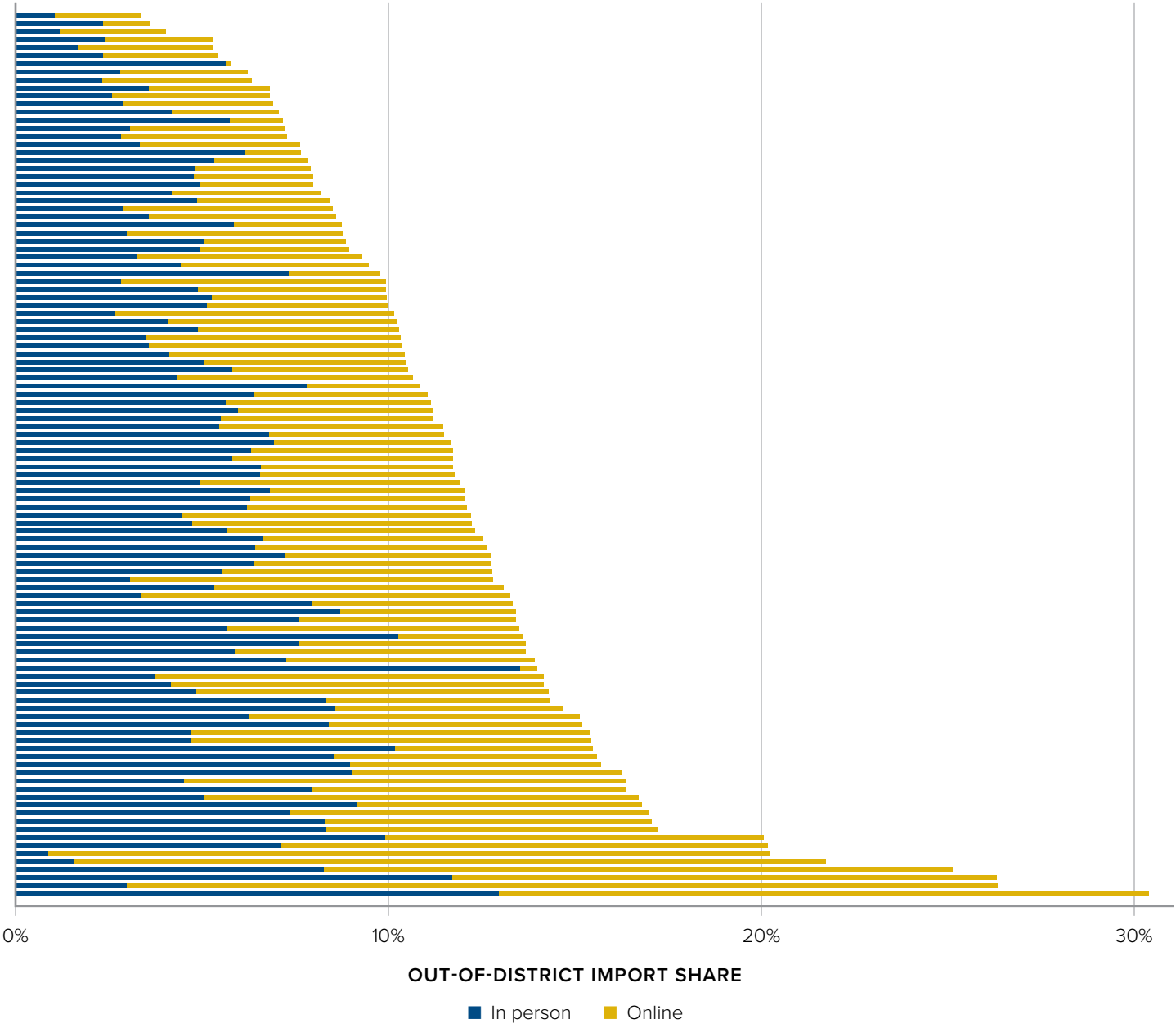


Note. The figure estimates the rate of student course enrollments in 2023–24 that are in-person and online cross enrollments overall and across course subjects. The sample includes credit course enrollments in the fall or spring semester among returning students, excluding students dually enrolled in high school. Course subject flags are based on the CCCCO Taxonomy of Programs. The figure presents course subjects with the highest overall course enrollments in 2023–24, sorted from highest to lowest. Interdisciplinary studies courses are omitted because these courses typically differ from standard academic subjects (e.g., tutoring, orientation).

Differences by course subject may reflect both demand- and supply-side factors. For example, health courses may be especially attractive for cross enrollment because they are often tied to high-demand workforce credentials, such as certificates in nursing or allied health fields. Students may be more willing to travel farther to take these courses in person if they are not available at their home colleges. At the same time, limited availability of these courses at students' home colleges could be driving cross enrollment in health courses in the first place.[16]

Figure 8 shows the share of receiving-college enrollment made up of out-of-district cross enrollment, or the *import share*, for the 110 community colleges included in the analysis. Measuring import share using out-of-district rather than in-district cross enrollments allows for comparisons between colleges in single- and multicollege college districts since both types receive out-of-district enrollments at similar levels (Figure 5). This measure also highlights cross enrollments that are likely to be more strongly demand driven because students face greater barriers when enrolling out of district (e.g., longer commute times for in-person courses and the need to navigate additional campus administrative systems).

Figure 8. College Out-of-District Import Shares in 2023–24



Note. The figure estimates the share of total college enrollment made up of in-person and online out-of-district cross enrollments in 2023–24. Total enrollment includes all course enrollments by students associated with the college: home enrollments or incoming cross enrollments taken at the college and outgoing cross enrollments taken at other colleges. The sample includes enrollments among returning students in credit courses, excluding students dually enrolled in high school.

College-import shares vary widely: from 3% to 30%. During the 2023–24 academic year, 37 colleges imported less than 10% of their enrollment from out-of-district institutions while eight colleges imported more than 20%. There was also substantial variation in the share of imports by in-person versus online enrollments: 60 colleges imported more than half their cross enrollments through online courses while the remaining 50 colleges imported less than half this way. Still, most of the highest importing colleges relied primarily on online courses for their imports.

Differences in college-import shares may be driven by several factors. A college may attract out-of-district cross enrollment through course offerings in subjects and modalities that are high in demand statewide (or low in supply at other colleges).[17] Additionally, a college's proximity to neighboring districts may affect its import rate, particularly for in-person courses that require students to travel.

Discussion

The rise of online course offerings in the CCC system over the last decade has expanded course-taking opportunities for students statewide. Roughly four in five students who began college in 2022 took at least one course online during their first 2 years, compared to half of students who began in 2018. Despite the increase in online course taking, community college enrollment largely remains local.

Several factors may explain the relatively small growth in cross enrollment in recent years despite expanded online opportunities. Colleges and districts have strong financial incentives to retain students. Under the state's Student Centered Funding Formula, despite some incentives for increased completions and financial aid awarding, 70% of district apportionment is based on enrollment levels, so each out-of-district cross enrollment reduces a district's funding compared to enrolling the student in an in-district course.[18] As a result, colleges and districts may be reluctant to promote cross enrollment options to students. Students may also be unaware of the option to cross enroll online through the CVC Exchange or through traditional application routes because these opportunities may not be sufficiently advertised. Although CVC Exchange enrollment has seen large year-over-year growth since its inception (from 1,500 course enrollments in 2021–22 to more than 33,000 in 2024–25), it is still relatively new, and its users are likely those who are more adept at navigating campus administration.[19]

While barriers to cross enrollment are lower than in years past, some obstacles remain. Colleges typically offer seats for cross enrolling students only after their own students have had an opportunity to enroll through priority registration. This means that if colleges can fill their courses with their own students, they may not feel the need to offer spots to cross enrolling students, even if there would be a demand for the courses they offer. Moreover, to protect against fraudulent applications, colleges may limit cross enrollment to students living within 50 miles of the college or require a short drop for nonpayment penalty that makes enrollment prohibitive for students with financial need (since their home colleges typically need more time to process their aid).[20] Finally, students who cross enroll through the CVC Exchange are limited to two courses per term.[21] All of these factors limit students' ability to take advantage of new and expanding opportunities to cross enroll in online courses.

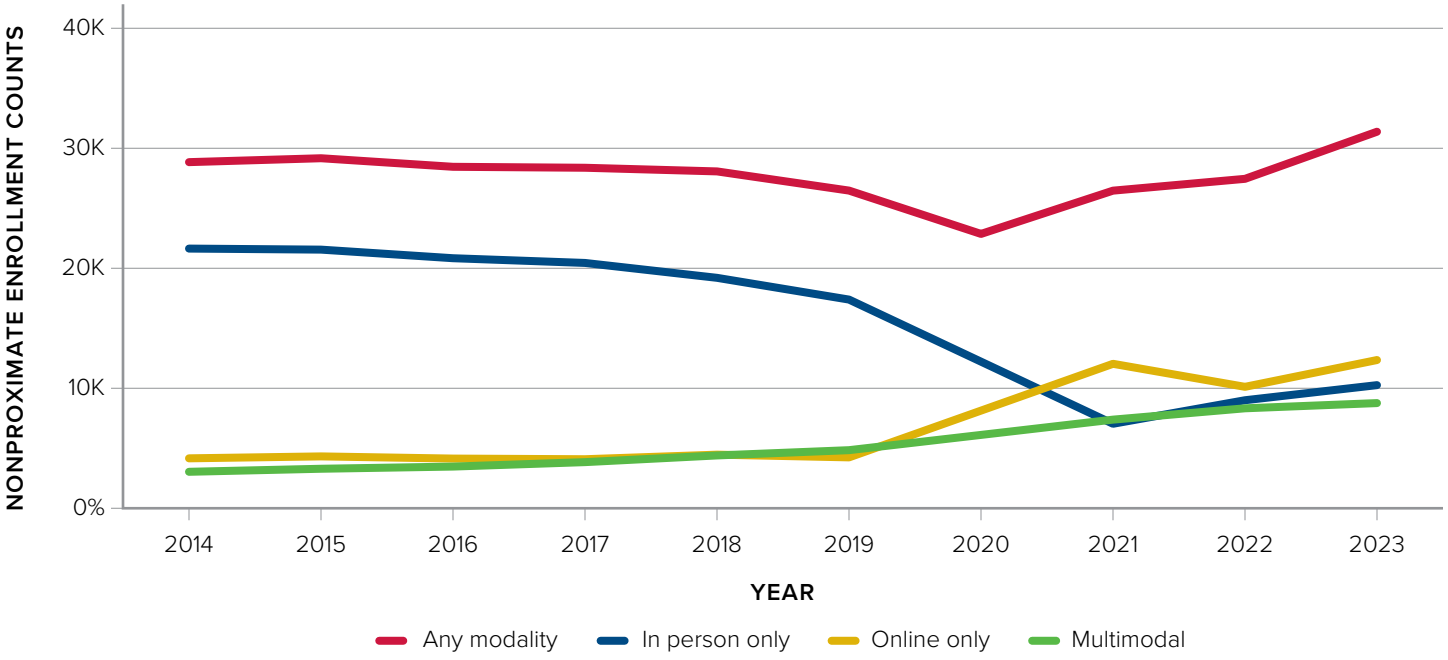
Although the expansion of online course taking has not significantly shifted the geography of student enrollment, cross enrollment remains an important aspect of the CCC system. Students aged 24 and older, who often balance multiple responsibilities outside of school, cross enroll at higher rates than other student groups overall, especially through online courses. This reflects the importance of making flexible course offerings available to all students statewide, regardless of local availability.

Author Biographies and Acknowledgments

Robert Linden is a research fellow at Wheelhouse: The Center for Community College Leadership and Research at the University of California, Davis. Cassandra Hart is professor of education at the University of California, Davis. Michal Kurlaender is the Chancellor's Leadership Professor of Education Policy and faculty director of Wheelhouse. *The research reported here was conducted under research partnership agreements between the University of California, Davis (Michal Kurlaender, PI) and the California Community Colleges Chancellor's Office. Funding for this work was provided by Lumina Foundation and the Institute of Education Sciences, U.S. Department of Education, through Grant R305X220016 to the Regents of the University of California. Dissemination was supported by College Futures Foundation and Gates Foundation. The authors are grateful to the California Community Colleges Chancellor's Office for providing data necessary for this analysis, and to Susanna Cooper, John Hetts, Marina Aminy, and Mike Vogt for helpful feedback. The opinions expressed are those of the authors alone and do not necessarily represent the views of the Institute of Education Sciences, the U.S. Department of Education, the Wheelhouse Board of Advisors, the funders, or the agencies providing data.*

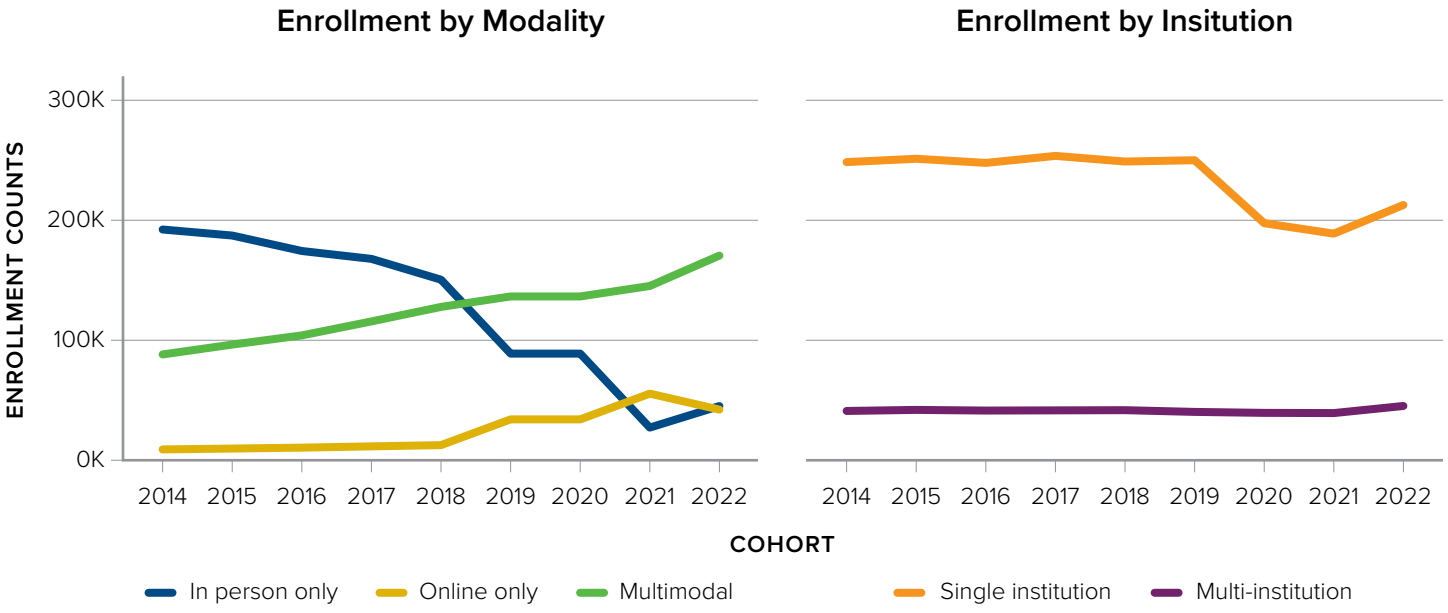
Appendix Figures

Figure A1. Nonproximate Enrollment Among First-Time Students, 2014–23



Note. The figure estimates the total number of students whose home campuses are more than 30 miles from their residences, shown for all students and by enrollment modality. The sample includes first-time fall students enrolled in any number of credits, excluding students dually enrolled in high school. In-person-only, online-only, and multimodal flags are based on the modalities of courses in which students enrolled during their first terms. Counts for online, in-person, and multimodal students are not estimated for 2020 because nearly all courses were held online that year. Instead, a linear trend is estimated between 2019 and 2021.

Figure A2. Enrollment by Modality and Institution for First-Time Students, 2014–22



Note. The figure estimates the total number students enrolled in in-person-only, online-only, and multimodal courses as well as those enrolled in single or multiple institutions during their first 2 years of study. The sample includes first-time fall students enrolled in any number of credits, excluding students dually enrolled in high school. Enrollment by modality is not estimated for the 2019 and 2020 cohorts because their first 2 years overlapped with 2020–21, when nearly all courses were delivered online. Instead, a linear trend is estimated between the 2018 and 2021 cohorts.

Figure A3. Mapping California Community Colleges by District Type

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Endnotes

1 Hill, M. S. (2019). *Nontraditional and the new normal: Three studies on nontraditional student pathways in higher education* (Publication No. 22622181) [Doctoral dissertation, University of California, Davis]. ProQuest Dissertations and Theses. proquest.com/docview/23098560415; *Enlace comunitario: Identifying opportunities to enhance community college outreach and recruitment of Latinx/a/o students* [Research brief]. Wheelhouse: The Center for Community College Leadership and Development. education.ucdavis.edu/sites/main/files/mark_wheelhouse_research_brief_vol_8_n_2_final_2.pdf

2 Stange, K. (2012). Ability sorting and the importance of college quality to student achievement: Evidence from community colleges. *Education Finance and Policy, 7*(1), 74–105. doi.org/10.1162/EDFP_a_00054

3 More than half of California community colleges belong to multicollege districts while the remainder are in single-college districts.

4 Shared student information systems (e.g., Banner, Ellucian) allow students to use a single platform to register for courses and complete financial aid forms while shared learning management systems (e.g., Canvas) provide centralized access to course materials (M. Aminy and M. Vogt, personal communication, August 6, 2025).

5 This means that, in addition to the Promise Grant fee waiver covering tuition at the secondary campus, eligible students may receive additional funding through Pell Grant and Cal Grant B awards.

6 Cooper, S., et al. (2020, August). *Turning on a dime: California community college transformation in response to COVID-19* [Research brief]. Wheelhouse: The Center for Community College Leadership and Research. education.ucdavis.edu/sites/main/files/ucdavis_wheelhouse_research_brief_vol5no2_final.pdf; Hart, C., et al. (2021, June). *Everybody pulling in the same direction: The COVID-19 shift to online delivery of instruction and student services* [Research brief]. Wheelhouse: The Center for Community College Leadership and Research. education.ucdavis.edu/sites/main/files/wheelhouse_research_brief_vol_6_no_6_final_0.pdf

7 These statistics are computed by the authors using the data and sample described in the "Data and Methods" section.

8 Wachs, B. (2024, October 1). Five years of reimagining college—Happy anniversary Calbright! *Calbright News*. calbright.edu/newsroom/blog/five-years-of-reimagining-college-happy-anniversary-calbright

9 This statistic is computed by the authors using all student course enrollments in the CCC system.

10 The CVC Exchange is an initiative funded by CCCCO to improve online course quality and access through the CCC system. It was piloted in 2016. It allows students to search for online courses that are unavailable at their home campuses but offered by participating campuses, to choose their preferred instruction modality (e.g., online asynchronous, online synchronous), and to select courses offered at times that better fit their schedules and learning needs (e.g., fall or spring, evening or weekend, compressed length). See California Community Colleges (n.d.). *OEI Updates: Initiative*. cvc.edu/657-2

11 California Community Colleges. (2020, January 29). *Appendix C: Consortium Reciprocity Agreement*. cvc.edu/consortiumreciprocityagreement/?utm

12 In 2024–25, there were 32,000 course enrollments through the CVC Exchange. Later in this report, analysis shows that total online cross enrollments in the state far exceed this level. See California Virtual Campus. (2025, June 17). *CVC town hall* [Conference session]. Online Teaching Conference. docs.google.com/presentation/d/1Lppk0p6geuOlZ1Wrn_sRaQoraMVlB0vfsEukQ-Cl_kI/edit?slide=id.g2e51516ab2b_0_0#slide=id.g2e51516ab2b_0_0

13 For example, in fall 2019, roughly one in four campuses offered more than 20% of their course sections in an online format. This statistic is computed by the authors using the data and sample described in the "Data and Methods" section.

14 That is, even if a student's home campus offered predominantly in-person instruction in recent academic years, it is very likely that other campuses in the student's district had substantial online offerings. The increase in the in-district enrollment rate cannot be attributed to growth in multicollege district enrollment because the share of students enrolled in these institutions remained stable over the analytical period.

15 Future research should use qualitative methods to examine why Black students are more likely to cross enroll online and, to a lesser extent, to take online courses at their home institutions.

16 The format in which courses are typically offered can contribute to these differences too. For example, social sciences courses may have higher shares of online cross enrollments simply because the subject is more likely to be offered online, given that the courses are often lecture based and do not require students to be physically present on campus. In interviews, online education leaders have suggested that online biology courses are in high demand from students but are rarely offered online, which is consistent with the relatively low rate of online cross enrollment in this subject. The current data do not allow us to disentangle supply- and demand-side factors that may jointly determine cross enrollment rates; such questions should be examined in future work.

17 A college's import share is weakly correlated with its share of course sections that are offered online (0.16 in 2023–24). This is not surprising given that out-of-district cross enrollment rates are similar for in-person and online courses (Figure 5).

18 Linden, R. (2022, September). *Understanding the Student-Centered Funding Formula: A primer on California community college finance* [Research brief]. Wheelhouse: The Center for Community College Leadership and Research. education.ucdavis.edu/sites/main/files/file-attachments/wheelhouse_research_brief_vol_7_n_3_final.pdf

19 California Virtual Campus, 2025.

20 Campuses are increasingly applying these application filters in response to rising incidents of fraudulent student enrollment. The CVC Exchange may waive the 50-mile restriction if it can verify that a student is actively enrolled at their home campus and participating in online courses (M. Aminy and M. Vogt, personal communication, August 6, 2025).

21 California Community Colleges (n.d.).