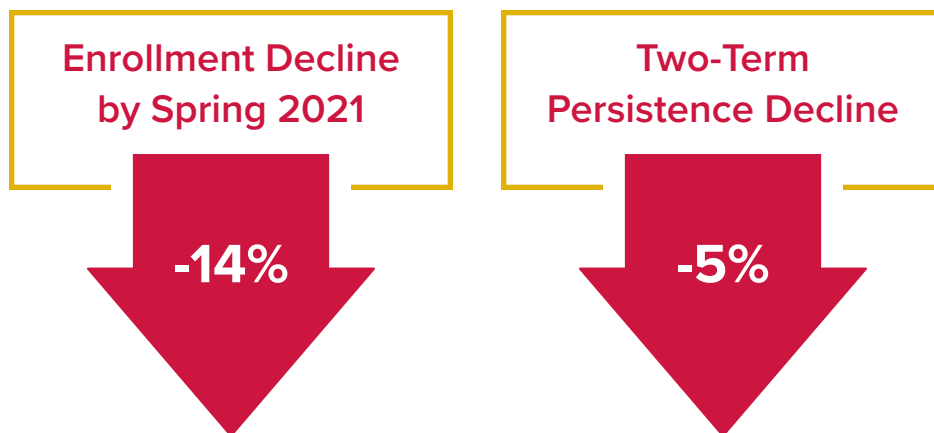


Pandemic-Period Enrollment and Persistence in California Community Colleges

Robert Linden, Michal Kurlaender, Paco Martorell and Scott E. Carrell

Enrollment in California Community Colleges (CCC) was profoundly and unevenly disrupted by COVID-19. This infographic illustrates changes in student enrollment and persistence in the first 18 months of the pandemic. We find that systemwide enrollment declined by 14% and persistence declined by 5%. These changes varied widely by student type and college campus.

Using rich administrative data from the California Community Colleges Chancellor's Office that tracks each student longitudinally, this analysis examines how the onset of the pandemic affected student enrollment duration. Data are disaggregated by student characteristics and college campuses in order to understand variable impacts and equity implications.



Following the onset of the pandemic in March 2020, enrollment in the CCC system declined substantially, a development that both mirrored and contributed to national enrollment declines. By fall 2020, community college enrollment declined by 10% nationally, compared to a negligible change among public 4-year institutions.^{1,2} These declines were not just an early pandemic phenomenon: Community college enrollment continued to decline through spring 2022.³ Year-over-year enrollment in the CCC system, which enrolls one in four community college students in the U.S., fell by 11% in fall 2020 and by an additional 7% in fall 2021.⁴



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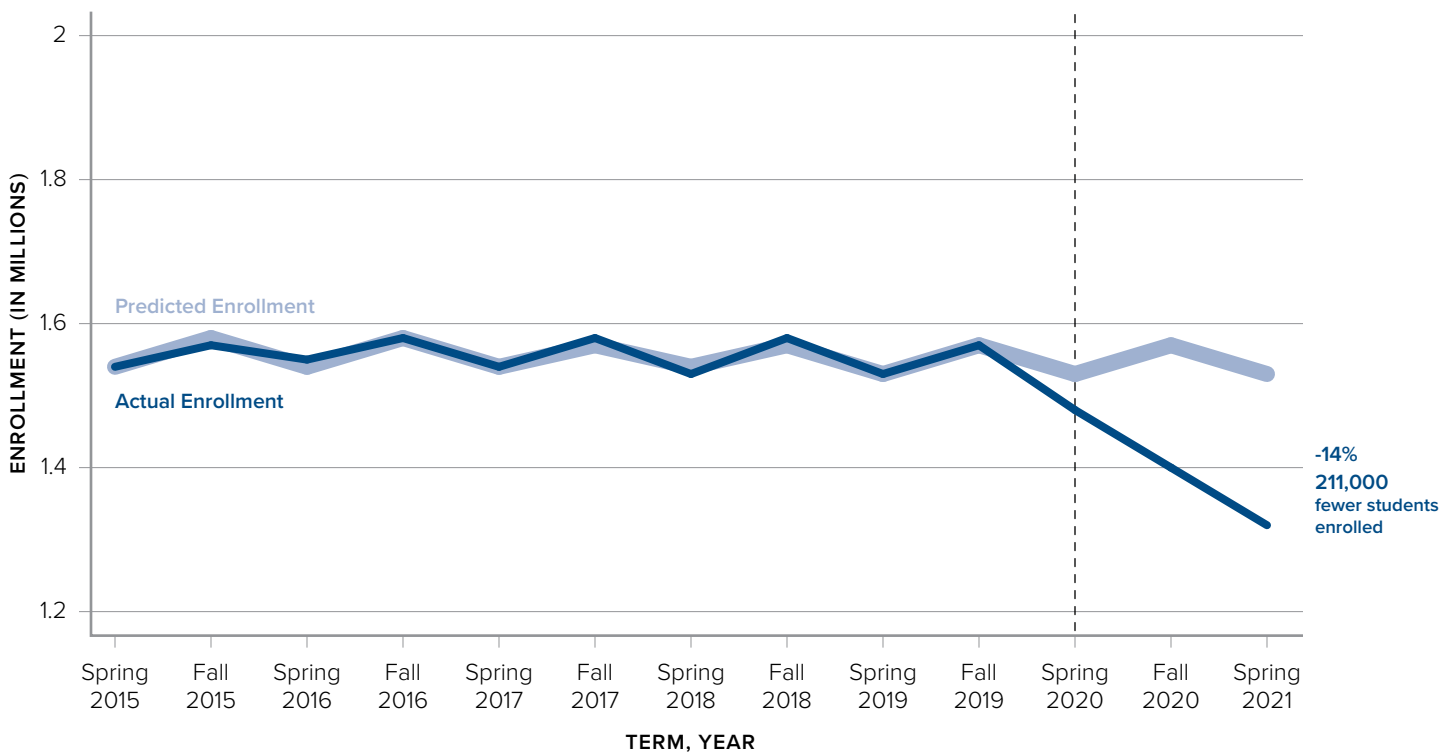
The Center for Community College
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This infographic builds upon earlier California analyses to illustrate changes in enrollment patterns across the CCCs. Our analysis estimates deviations from enrollment levels that would have been expected in the absence of the pandemic — in aggregate, by gender, race, age and first-time status, and by college campus and state region. It also presents findings on changes in student persistence along similar margins.

Enrollment Changes

Systemwide Enrollment: Predicted vs. Actual

For five years prior to the onset of the pandemic, CCC enrollment followed a largely predictable pattern. By spring 2021, however, systemwide enrollment had fallen 14% below what would have been expected in the absence of COVID-19. Despite colleges' shift to online course formats, roughly 211,000 fewer students than expected were enrolled.

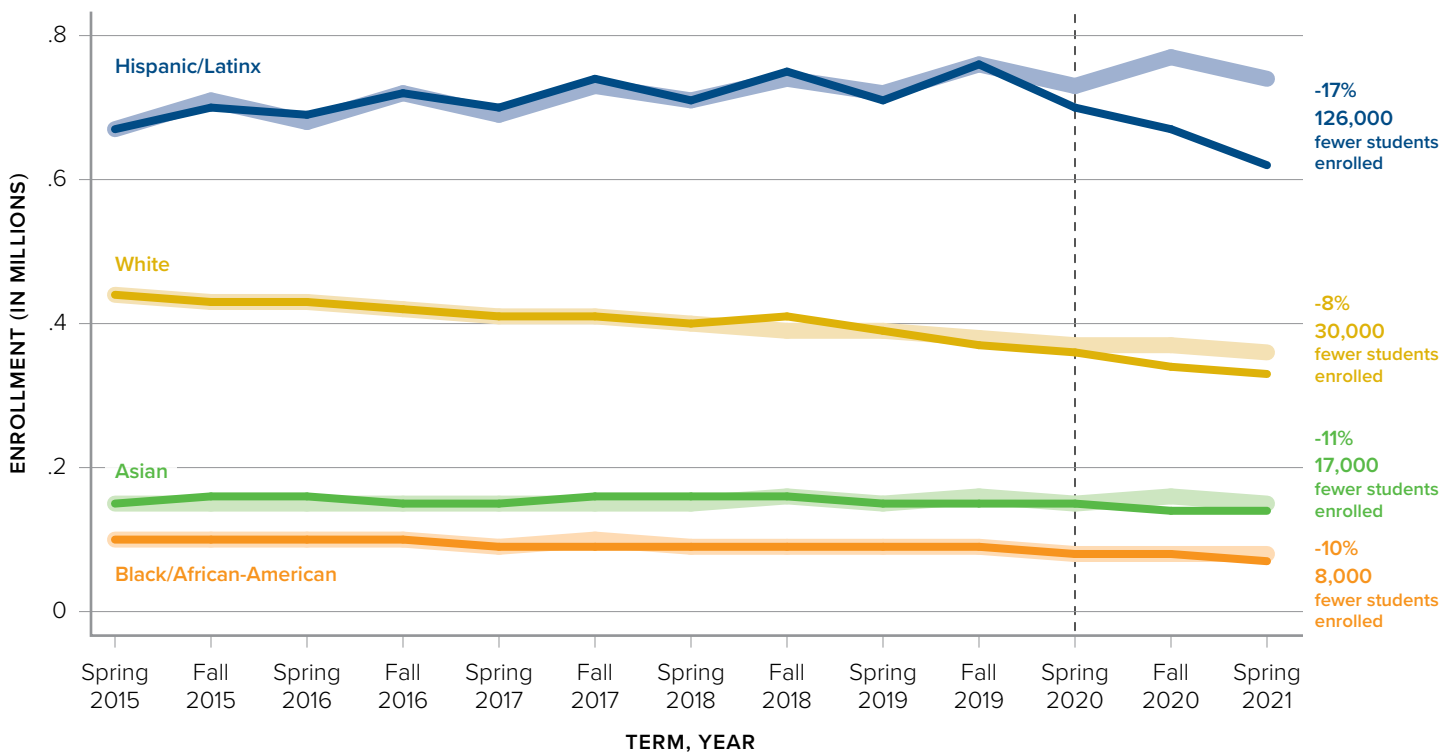
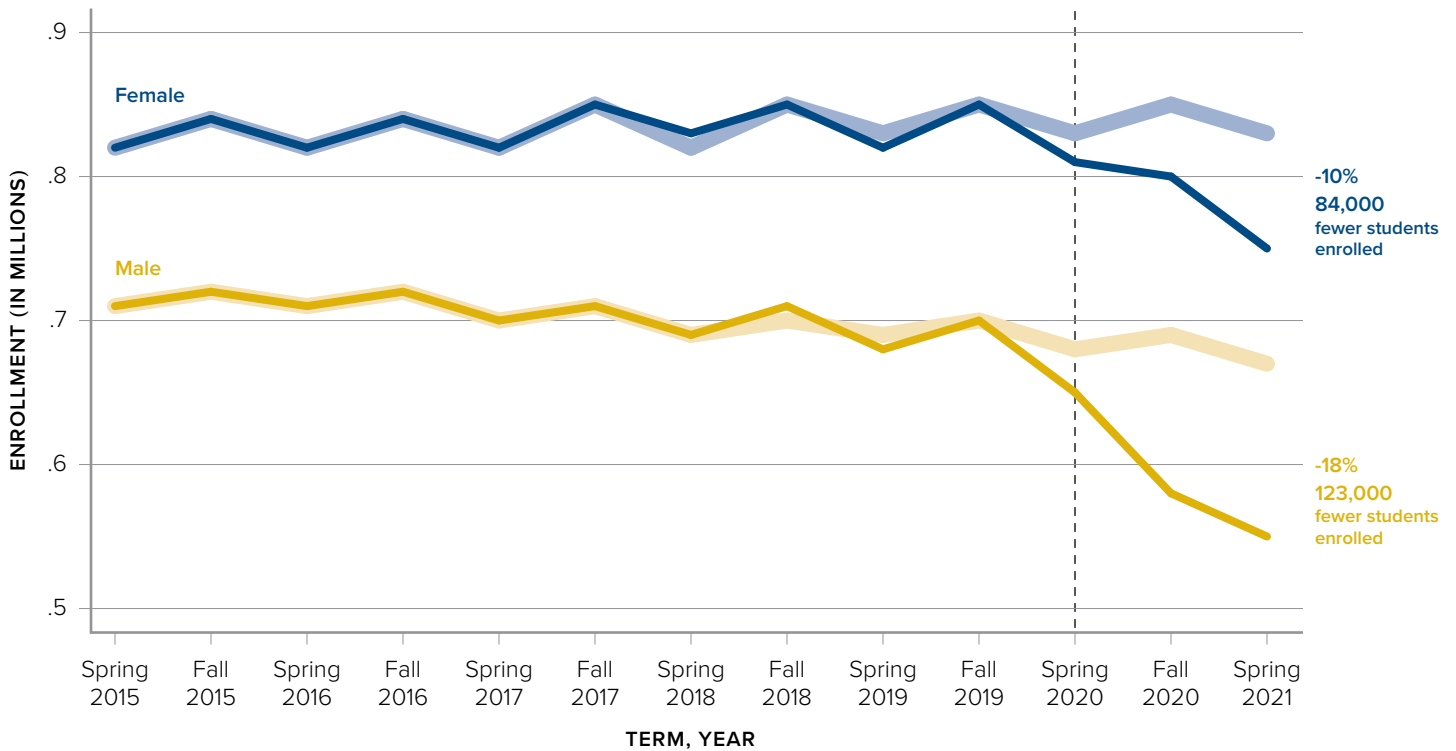


A Note on Methodology

Enrollment is estimated as the number of students who attempt at least one course in a given term. A student may be counted more than once if they enroll in multiple colleges in the same term. The sample includes 110 colleges; Six colleges were dropped because they were not operational for the full analytical period, operate on a quarter-based schedule, or offer exclusively online education. Predicted enrollment levels are generated by regressing actual enrollment onto a year trend and a spring/fall indicator in the four-year period that preceded COVID-19. Regression coefficients are used to predict enrollment levels in each term. This prediction represents counterfactual enrollment levels, or expected enrollment levels in the absence of the pandemic.

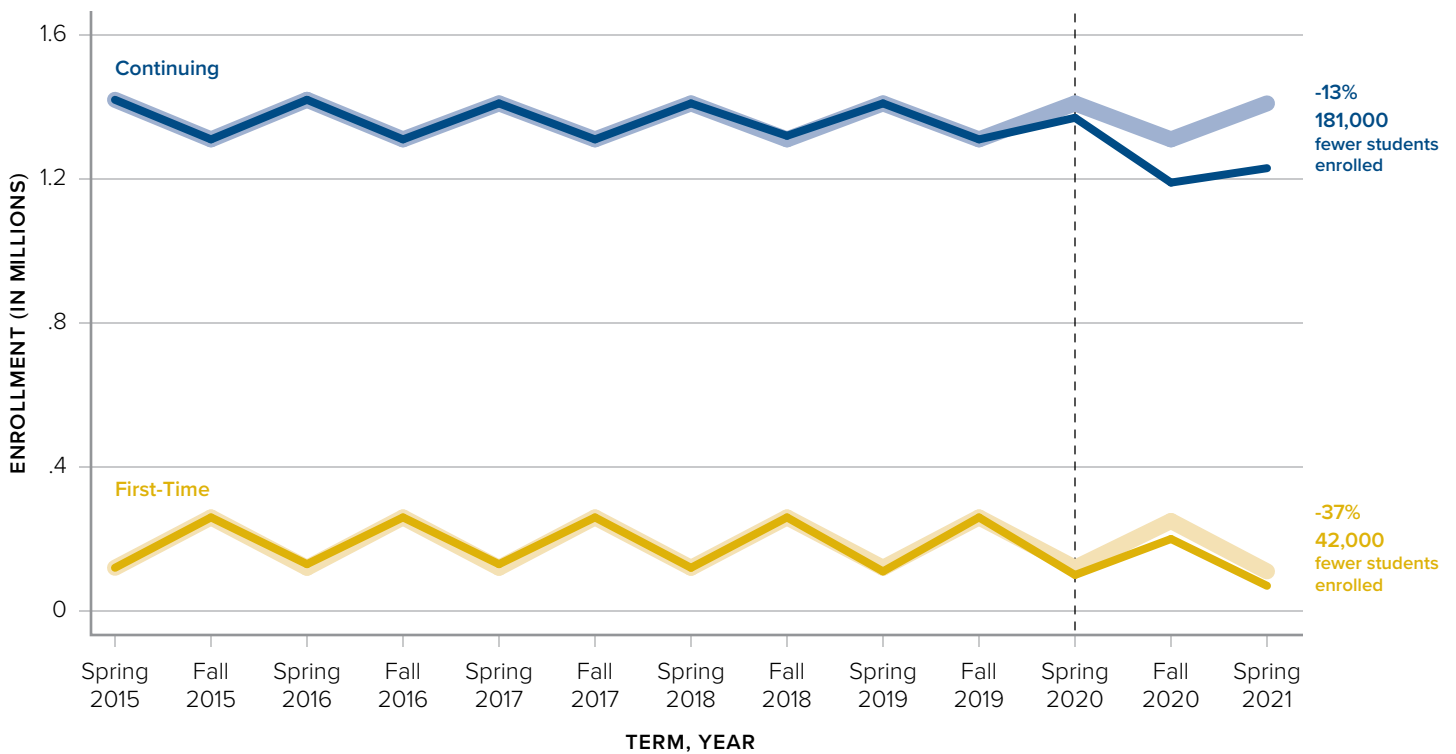
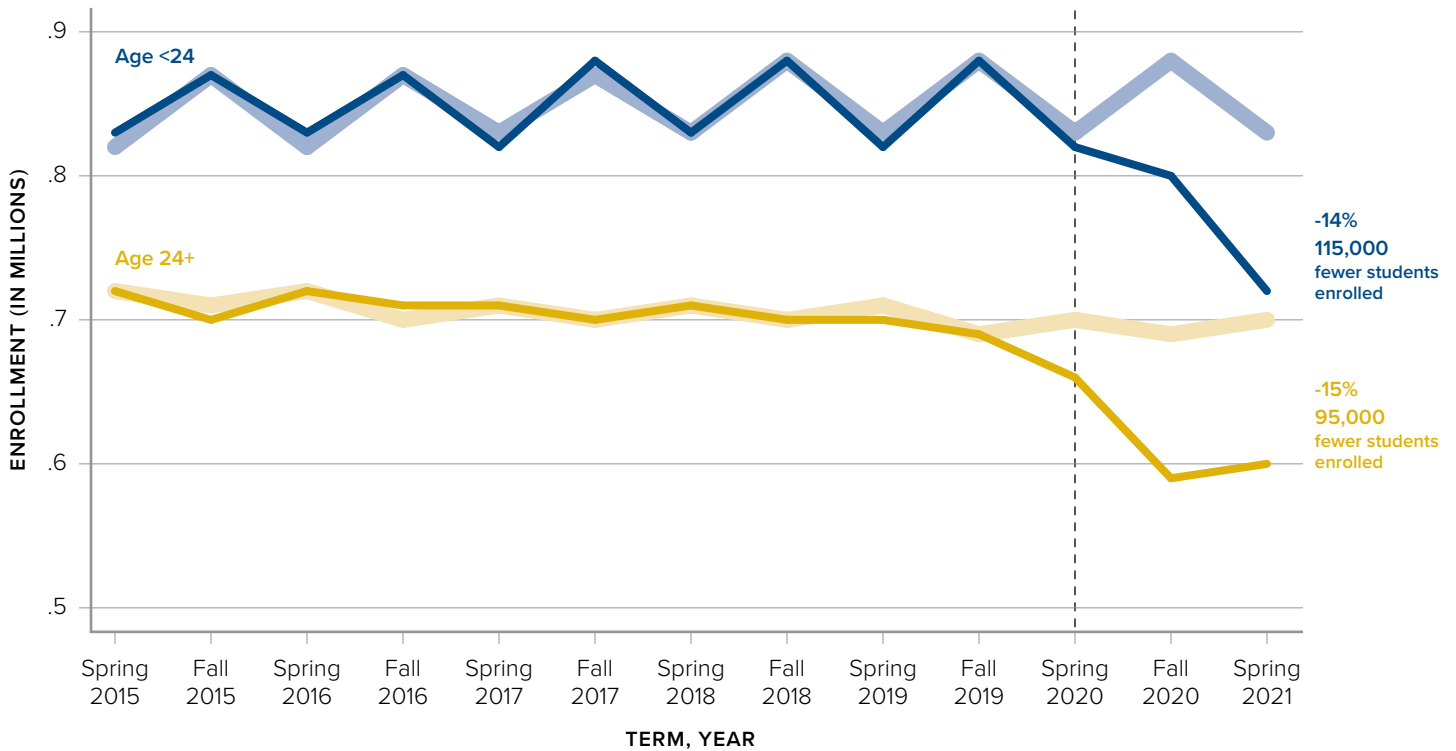
Systemwide Enrollment by Gender and Race: Predicted vs. Actual

Pandemic-period enrollment declines varied substantially by gender, with male enrollment falling by 18% and female enrollment falling by 10%. Declines also varied substantially by race. Hispanic/Latinx enrollment dropped 17%, followed by Asian enrollment,⁵ down 11%, Black/African American enrollment, down 10%, and White enrollment, down 8%.⁶



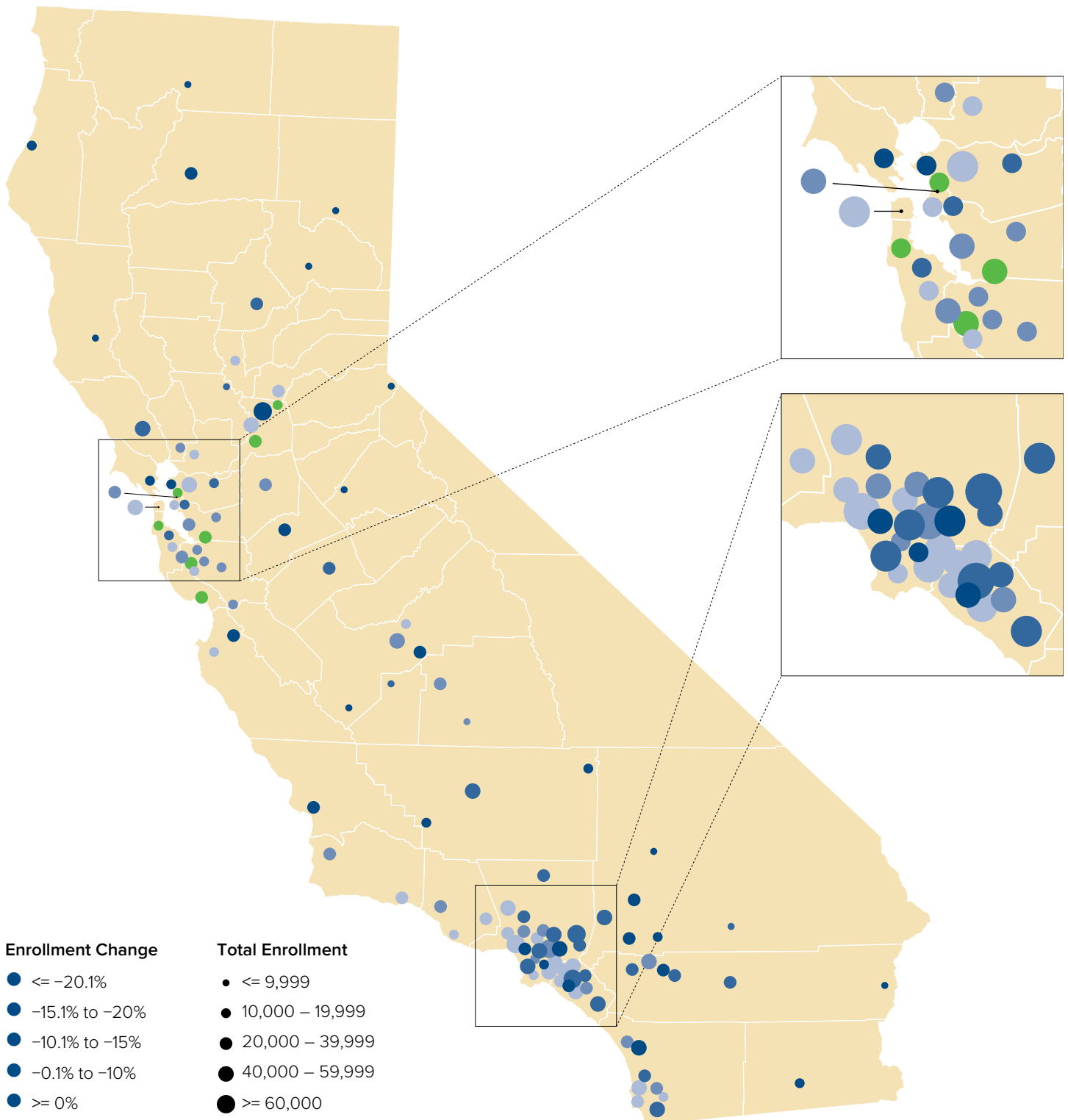
Enrollment by Age and First-Time/Continuing Status: Predicted vs. Actual

CCC enrollment among all age groups fell after pandemic onset, with enrollment by students under age 24 falling by 14%, or 115,000 students. Enrollment by students age 24 and older declined by 15%, or 95,000 students. From fall 2020 through spring 2021, enrollment losses among older students appeared to level off, while the decline among younger students continued. Enrollment among first-time students fell by a dramatic 37%,⁷ or 42,000 students, while enrollment among continuing students fell by 13%, or 181,000 students.



Mapping Enrollment Changes in Spring 2021

Enrollment declines varied significantly by campus, with some campuses (represented by dark blue dots) losing more than 20% of their pre-pandemic enrollment.^{8,9} Other campuses (light blue dots) lost fewer than 10% and still others (green dots) gained enrollment over what would have been predicted in the absence of the pandemic. Dot size represents a college's total enrollment in fall and spring 2019, with larger dots indicating higher college enrollment.

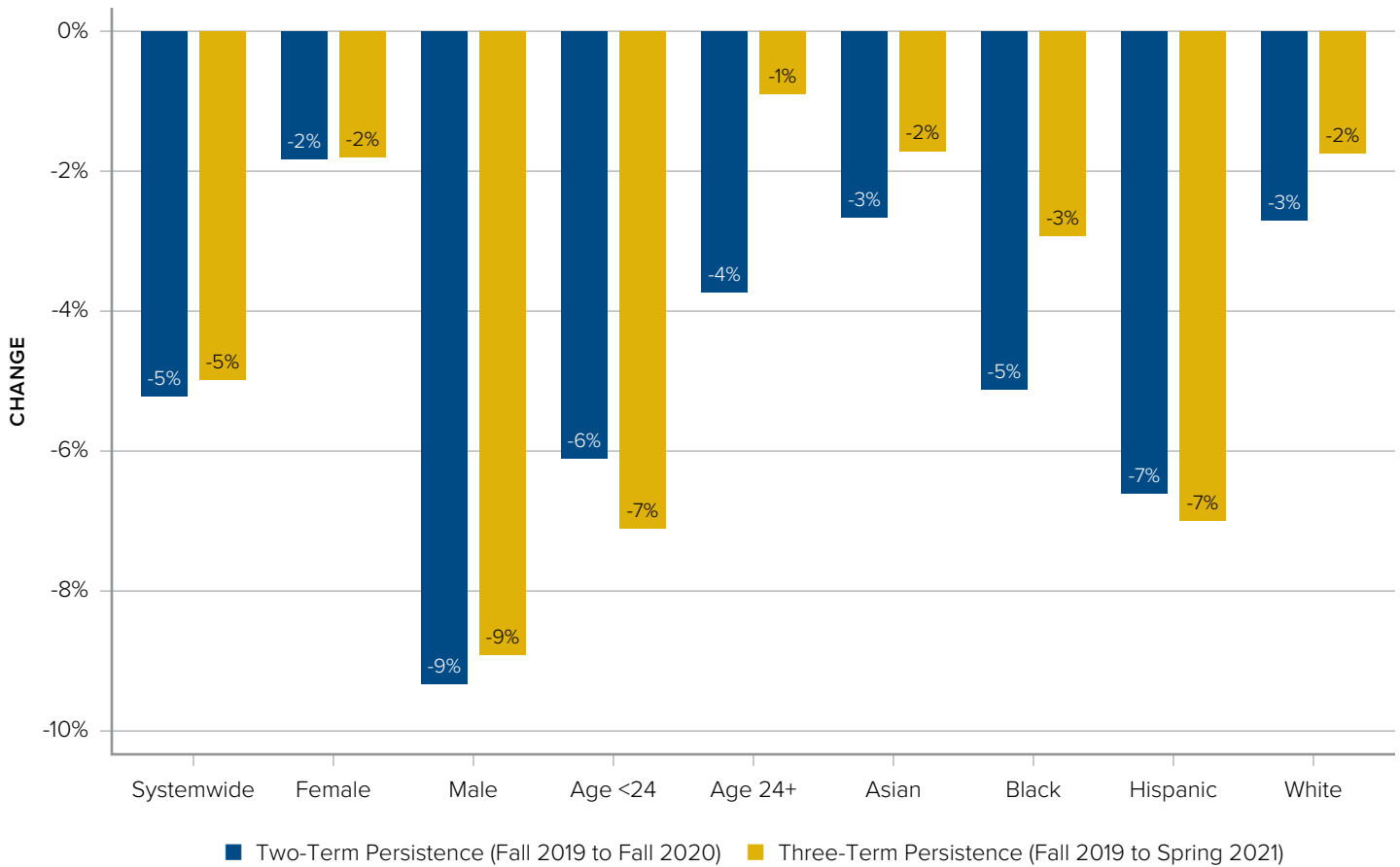


Persistence Changes

The next set of figures focuses on continuing students, who make up a majority of students who did not return to the system after the first 18 months of the pandemic.

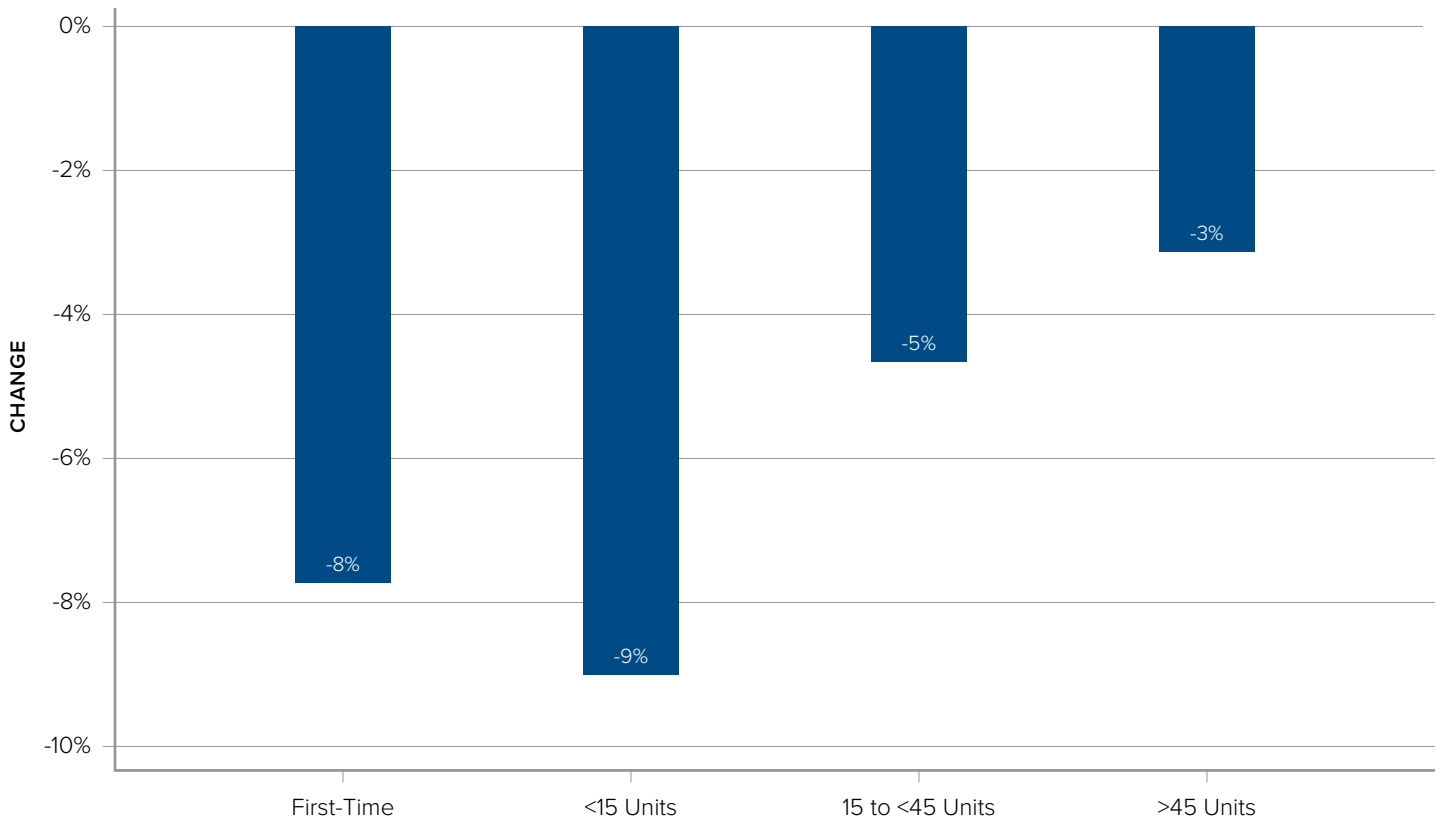
Persistence Changes by Student Gender, Age, and Race

Post-March 2020, two- and three-term student persistence each declined in the CCC system by roughly 5%. Comparing rates across subgroups using the two-term measure, male persistence declined more (down 9%) than female persistence (down 2%). Persistence rates declined more for younger students (down 6%) than older students (down 4%). Persistence rates declined more for students of color than for White students. Specifically, persistence rates among Black/African American and Hispanic/Latinx students declined by 5% and 7%, respectively; Asian and White students declined by a smaller amount, 3%.



Change in Two-Term Persistence by Academic Intensity

Students who began in the CCC system more recently or who completed fewer units showed larger persistence declines.¹⁰ First-time student persistence declined by 8% while persistence among students with fewer than 15 completed degree units declined by 9%. By contrast, student groups that had completed 15 to 45 degree units declined by 5%. Those that had completed 45 or more degree units declined by 3%.



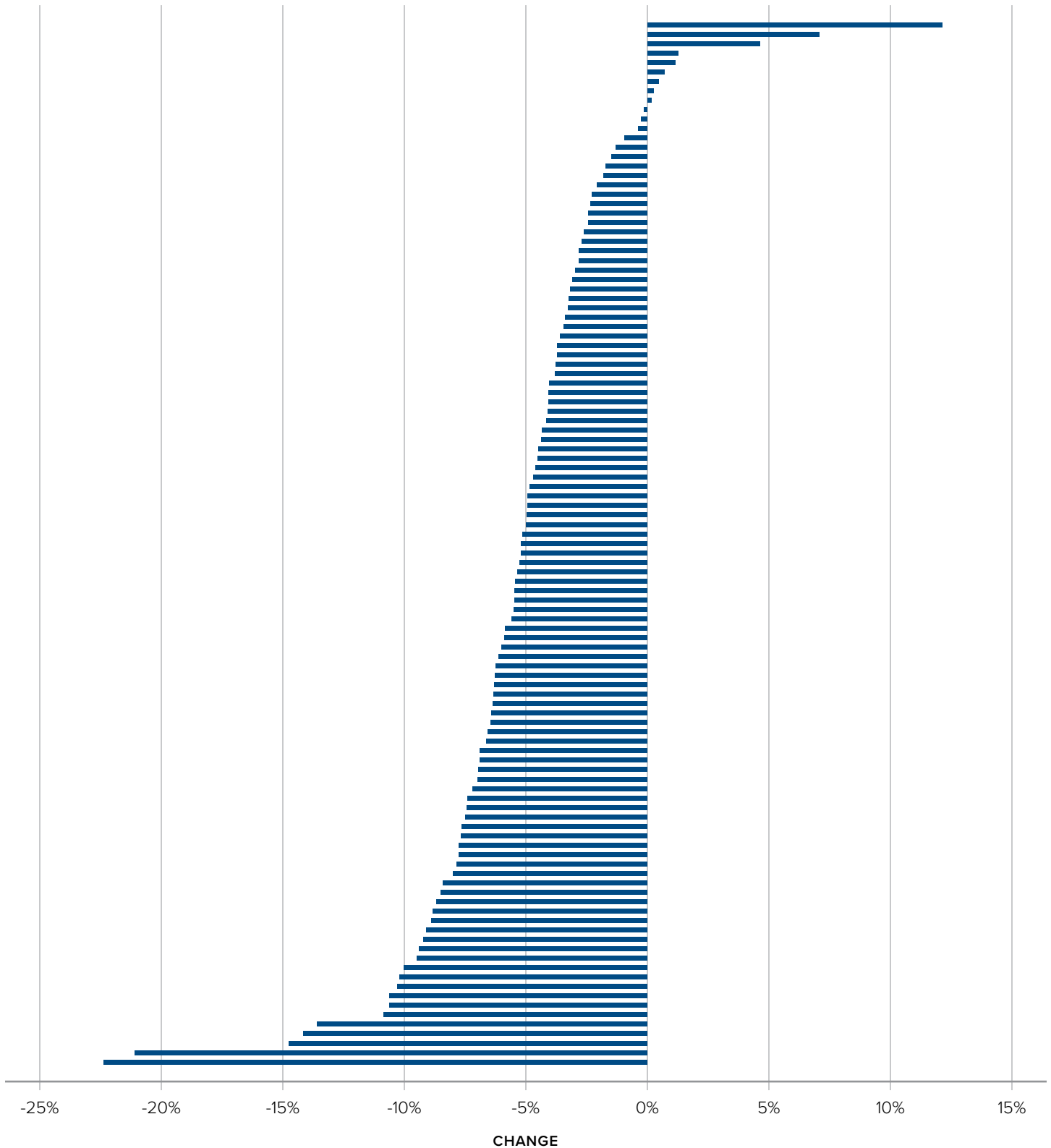
A Note about Methodology

Persistence, or a student's enrollment across multiple terms, is calculated as the proportion of students enrolled in a given fall who re-enrolled in the fall (for two-term persistence) or spring (for three-term persistence) in the following academic year. Persistence rates are estimated across a sample of students who attempted at least one course in the CCC system, were ages 17 to 55, had a high school diploma or equivalent credential, were not high school students dually-enrolled, and did not hold a bachelor's degree. A student cannot be sampled more than once in a given term; A student who enrolls in multiple campuses is assigned to the campus at which they attempted the most units. Sampled colleges included all 113 semester-based campuses. Quarter-based colleges were not included because student persistence across terms at these campuses is not directly comparable to that of semester-based colleges. Students who earned an associate degree prior to the term in which they may have re-enrolled are considered persisting.

Persistence changes represent the percent change in the persistence rate for a given student group in fall 2019. The percent change is calculated relative to fall 2018 for two-term persistence and fall 2017 for three-term persistence. Because spring 2020 saw small enrollment declines relative to what would have been expected based on pre-pandemic patterns, the three-term persistence rate for fall 2018 may also have been affected by the pandemic.

Changes in Persistence by Campus

There was substantial variation in two-term persistence across colleges after pandemic onset.¹¹ Several colleges showed persistence declines that exceeded 10%, while a handful of other colleges showed increases in student persistence.¹²



Looking Ahead

Our understanding of pandemic-era CCC enrollment continues to emerge, and there is much yet to know about how institutions and the students they serve will respond to re-engage and recover enrollment. This analysis is foundational to future work that will explore enrollment strategies and the impact of resources dedicated to recovery.

Author Biographies and Acknowledgements

Robert Linden is a Research Fellow at Wheelhouse. Michal Kurlaender is Professor and Chair of Education at the University of California, Davis. Paco Martorell is Associate Professor of Education at the University of California, Davis. Scott E. Carrell is Professor of Economics at the University of California, Davis. Research and dissemination was supported by Lumina Foundation. Dissemination was supported by College Futures Foundation, the Bill & Melinda Gates Foundation and the Institute of Education Sciences, U.S. Department of Education, through Grants R305E150006 and R305A210217 to the Regents of the University of California. 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, and Valerie Lundy-Wagner for helpful feedback. Findings and conclusions are those of the authors and do not necessarily reflect the positions or policies of Wheelhouse funders, its Board of Advisors, nor the agencies providing the data.

Endnotes

- ¹ National Student Clearinghouse Research Center. (2020). *Fall 2020 Current Term Enrollment Estimates*. nscresearchcenter.org/wp-content/uploads/CTEE_Report_Fall_2020.pdf
- ² Schanzenbach, D. W., & Turner, S. (2022). *Limited Supply and Lagging Enrollment: Production Technologies and Enrollment Changes at Community Colleges during the Pandemic* (No. w29639). National Bureau of Economic Research.
- ³ National Student Clearinghouse Research Center. (2022). *Spring 2022 Current Term Enrollment Estimates*. nscresearchcenter.org/current-term-enrollment-estimates
- ⁴ Bulman, G., & Fairlie, R. (2022). *The Impact of COVID-19 on Community College Enrollment and Student Success: Evidence from California Administrative Data*. EdWorkingPaper No. 22-553. Retrieved from Annenberg Institute at Brown University: doi.org/10.26300/v0b8-0431
- ⁵ Filipinos are included in the Asian subgroup calculation. Pacific Islanders are not included; their decline was 4%.
- ⁶ Prior to the pandemic, Hispanic/Latinx students had showed a strong upward enrollment trend and White students had showed a downward trend, resulting in an enrollment decline estimate that is larger for Hispanic/Latinx students and smaller for White students relative to what would be estimated using a year-over-year measure.
- ⁷ This estimated decline is larger than other estimates derived from public-use data. This is because we use a first-time student measure that indicates whether a student is enrolled in their first term in the CCC system, while other research uses a measure that indicates whether a student is enrolled in their first term in an individual college (e.g., Bulman & Fairlie, 2022). Our estimate is larger in part because students increasingly enrolled in multiple colleges in the pandemic period, which increased the number of new students in colleges.
- ⁸ Sample includes 114 CCC colleges. Two colleges were dropped because they were not operational for the full analytical period or offer exclusively online education. The college-level analysis uses the same methodology as earlier enrollment analyses. Each college's predicted enrollment is generated by regressing its actual enrollment onto a year trend and spring/fall indicator in the four-year period that preceded Covid-19. Enrollment changes are estimated as the percent difference between a college's actual and predicted enrollment.
- ⁹ A college's estimated enrollment change, which captures the change in student counts, may not reflect its change in FTES. A college that shows increased enrollment may show an FTES decline if, on average, its students enroll in fewer units in the pandemic period.
- ¹⁰ Units are measured by a student's cumulative completed units in degree-applicable courses. Persistence rates are estimated using a more restricted sample; students who have no cumulative earned units and who do not attempt any units in the current term are dropped from this analysis.
- ¹¹ Sample includes 111 colleges. Five colleges were dropped because they were not operational for the full analytical period, operate on a quarter-based schedule, or offer exclusively online education.
- ¹² There is no systematic relationship between a college's two-term persistence change and its size of enrollment. The correlation between a college's two-term persistence change and its estimated enrollment decline in fall 2020 relative to the predicted level in the absence of the pandemic is 0.28, indicating a modest, positive relationship between the two measures. This indicates that, on average, colleges that had smaller enrollment declines also had smaller declines in persistence rates.

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