

# Improving the Accuracy of Remedial Placement

There is widespread concern nationwide about low rates of college readiness among high school graduates—about half of all entering college students take at least one remedial course, and among those who take any, the average is 2.6 remedial courses.<sup>1</sup> Yet little attention is paid to how college readiness is actually determined. At community colleges, where almost half of all students begin college, readiness is usually determined by whether students score above or below the cutoffs on relatively short, standardized math and English assessments, such as the ACCUPLACER and COMPASS placement tests.

This is part one of CCRC's practitioner packet on improving remedial placement. For ideas on using institutional data to inform decisions about assessment practices, see [Improving Assessment and Placement at Your College: A Tool for Institutional Researchers](#) (part two). To learn more about the costs of assessment, see [Calculating the Costs of Remedial Placement Testing](#), part of the CCRC Analytics series.

## How Accurate Is the Current System?

In 2009, CCRC conducted research showing that a substantial number of students with scores below the cutoffs on placement tests skipped remediation and nonetheless performed well in college-level courses.<sup>2</sup> We then took a closer look at the assessments themselves. CCRC conducted two different studies, analyzing data from tens of thousands of community college entrants in a large urban community college system (“urban study”), and a statewide community college system (“statewide study”).<sup>3</sup> Incorporating rich information on students’ high school performance, placement test scores, and demographics, we developed statistical models to predict how students would have fared, had they been placed directly into college-level courses.

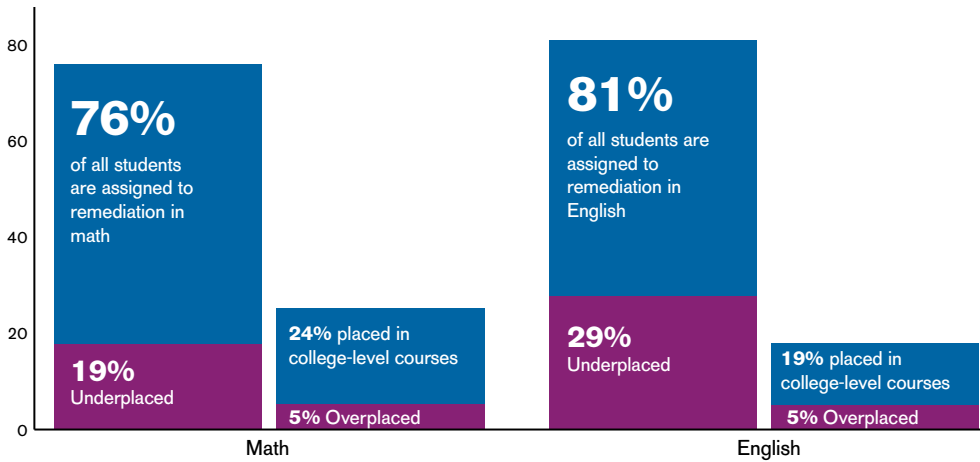
In both analyses, we found that underplacements into remediation were far more common than overplacements into college-level courses. In the urban system, our analysis predicted that nearly a quarter of students assigned to remedial math and a third of students assigned to remedial English could have passed college-level courses with a B or better. In the statewide system, the rate of severe underplacement ranged from 14 to 28 percent.<sup>5</sup>

### DEFINITION

#### SEVERE UNDER - AND OVERPLACEMENT

Severe underplacement signifies placing a student in remediation who is predicted to get a B or better in a college-level course. Severe overplacement signifies placing a student in a college-level course who is predicted to fail it.

### Tested Students Severely Underplaced and Overplaced (Urban Study)<sup>4</sup>

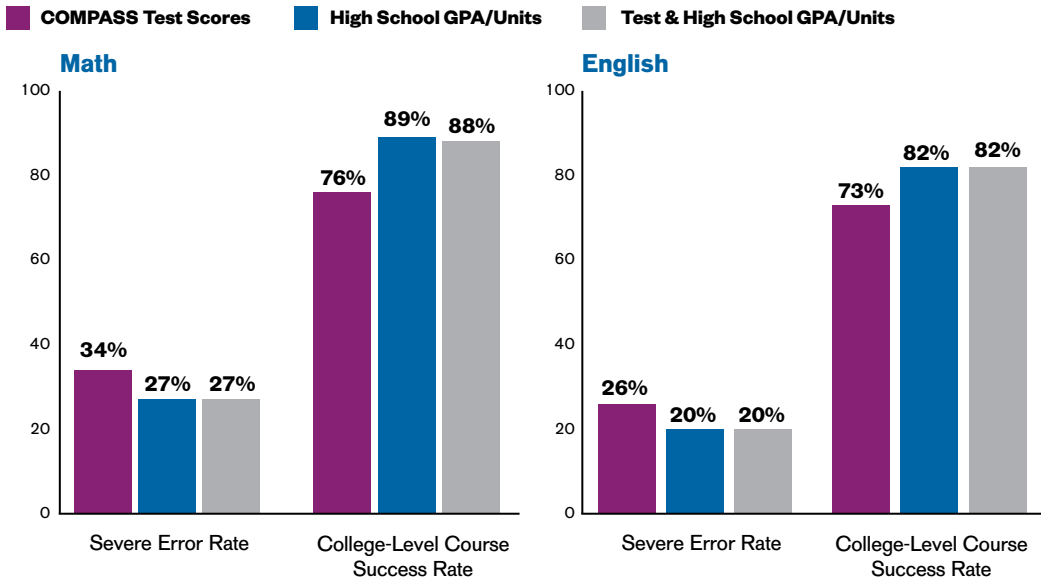


## Are There Better Ways to Measure College Readiness?

To explore alternative methods of remedial screening, CCRC looked at whether more accurate placement decisions could be made by using high school performance data. We found that high school transcript information was surprisingly powerful. Simulations showed that using high school achievement (GPA and the number of completed units in math and English) as the only measure of college readiness would result in fewer misplacements (both into college-level courses and into remediation) and higher success rates in college-level courses, as illustrated in the figure below. Including information from placement test scores in addition to high school information added little benefit.<sup>6</sup>

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### Predicted Rates of Severe Placement Errors and College-Level Course Success by Assessment Method (Statewide Study)<sup>7</sup>



*Note.* College-level course success is defined as earning a grade C or higher. College-level course success rates and severe error rates are impacted both by the choice of placement measure and by the percentage of students assigned to remediation (which is defined by the cutoff that is used). To isolate the impacts of the measure used for placement, these analyses held remediation rates fixed, at around 69 percent in math and 59 percent in English.

## How Does Using High School Information for Placement Affect Student Subgroups?

Our analyses indicated that using high school information would in nearly all cases lower severe placement errors and increase college-level success rates in math and English for racial/ethnic and gender subgroups. However, the analyses also showed that—holding the overall remediation rate fixed—using high school measures instead of traditional placement tests could increase assignment to remediation for some subgroups and alter the composition of college-level courses.

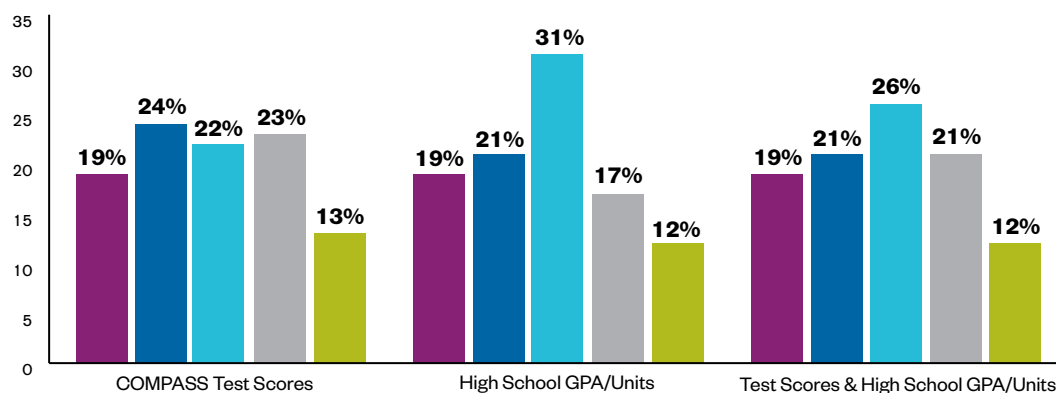
For example, in the urban system, using high school information alone would increase the rate at which Black students are assigned to English remediation and substantially decrease their representation in college English.<sup>8</sup> One way to avoid differential impacts on subgroups would be to allow students to test out of remediation based on either test scores *or* high school achievement.

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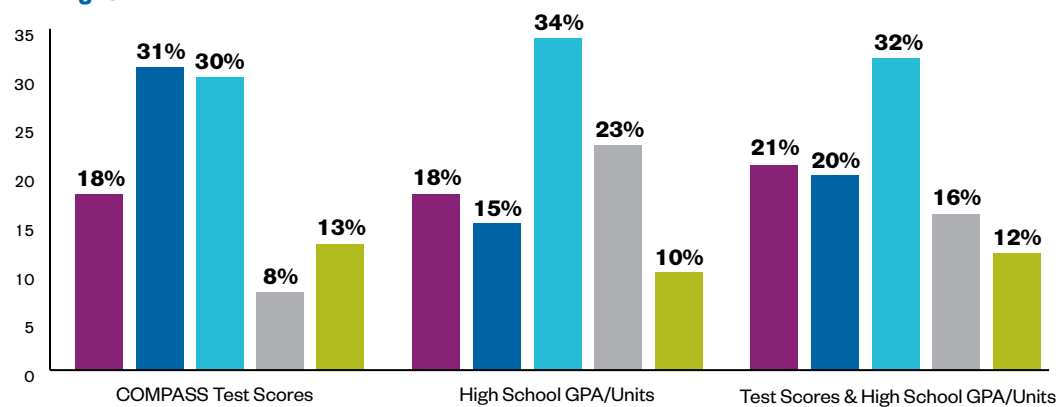
### Predicted Racial/Ethnic Composition of Introductory College-Level Courses by Assessment Method (Urban Study)<sup>9</sup>

White Black Hispanic Asian Other/Unknown

#### Math



#### English



## Determining the Best Way to Use High School Information

While there is strong evidence that incorporating high school information can improve placement accuracy, it is important to note that the best way to use high school information—and which high school information to use—may vary by college and college system. One college or college system may achieve the greatest placement accuracy by using the “best of” placement test scores or high school transcript information; another may find that using high school GPA alone yields the greatest accuracy. Colleges that are considering modifications to their placement methods can use their own data on student test scores, high school performance, and performance in college-level courses to guide their decisions on a revised system.<sup>10</sup> When trying out a new approach, colleges should certainly track the subsequent performance of students, paying heed in particular to whether subgroups of students experience differential impacts.

## Conclusion

College leaders and policymakers in several states have recently begun to question the assumptions underlying remedial placement testing. At Long Beach City College in California, for example, a pilot program that incorporates high school grades into the placement process saw immediate impacts. After the launch of the program, the percentage of students who placed into and passed college English in their first year more than tripled, and for college math, the increases in enrollment and successful completion were almost as large.<sup>11</sup>

Overall, the research presented here strongly suggests that using high school information can improve placement accuracy and student outcomes. It also serves as a reminder that colleges changing their assessment practices should monitor how new approaches to assessment and placement impact different subgroups of students. For colleges that are considering changing their assessment and placement practices, CCRC has released a short publication—*Improving Assessment and Placement at Your College: A Tool for Institutional Researchers*<sup>12</sup>—designed to help colleges begin the process of evaluating and improving their system of assessment and placement.

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## Endnotes

1. Scott-Clayton, Crosta, & Belfield (2014).
2. Bailey, Jeong, & Cho (2010); Jenkins, Jaggars, Roksa, Zeidenberg, & Cho (2009).
3. Belfield & Crosta (2012); Scott-Clayton (2012); Scott-Clayton et al. (2014).
4. Scott-Clayton (2012). Students took the COMPASS placement test. The severe error rate is the sum of (1) the proportion of students placed into the college-level course and predicted to fail there and (2) the proportion of students placed into remediation although they were predicted to earn a B or higher in the college-level course. The remediation rate is the percentage of all students assigned to remediation. Adapted from author's calculations using administrative data on first-time entrants, fall 2004 through fall 2007.
5. Scott-Clayton et al. (2014).
6. Scott-Clayton et al. (2014).
7. Statewide system math estimation represents a sample of 4,881 entrants (2008–2009); English estimation represents a sample of 8,307 entrants (2008–2009).
8. Scott-Clayton et al. (2014).
9. Scott-Clayton et al. (2014). Urban system English estimation represents a sample of 34,808 entrants (2004–2007); math estimation represents a sample of 37,860 entrants (2004–2007).
10. For more on this topic, see Belfield (2015).
11. Hetts & Fuenmayor (2013).
12. Belfield (2015).

## Sources

- Bailey, T., Jeong, D. W., & Cho, S. W. (2010). Referral, enrollment, and completion in developmental education sequences in community colleges. *Economics of Education Review*, 29(2), 255–270.
- Belfield, C. R. (2015). *Improving assessment and placement at your college: A tool for institutional researchers*. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Belfield, C., & Crosta, P. M. (2012). *Predicting success in college: The importance of placement tests and high school transcripts* (CCRC Working Paper No. 42). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Hetts, J. J., & Fuenmayor, A. (2013). *Promising pathways to success: Using evidence to dramatically increase student achievement*. Long Beach, CA: Long Beach City College.
- Jenkins, D., Jaggars, S. S., Roksa, J., Zeidenberg, M., & Cho, S. W. (2009). *Strategies for promoting gatekeeper course success among students needing remediation: Research report for the Virginia Community College System*. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Scott-Clayton, J. (2012). *Do high stakes placement exams predict college success?* (CCRC Working Paper No. 41). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Scott-Clayton, J., Crosta, P. M., & Belfield, C. R. (2014). Improving the targeting of treatment: Evidence from college remediation. *Educational Evaluation and Policy Analysis*, 36(3), 371–393.
- Scott-Clayton, J., & Rodriguez, O. (2014). *Development, discouragement, or diversion? New evidence on the effects of college remediation* (NBER Working Paper No. 18328). Cambridge, MA: National Bureau of Economic Research.

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