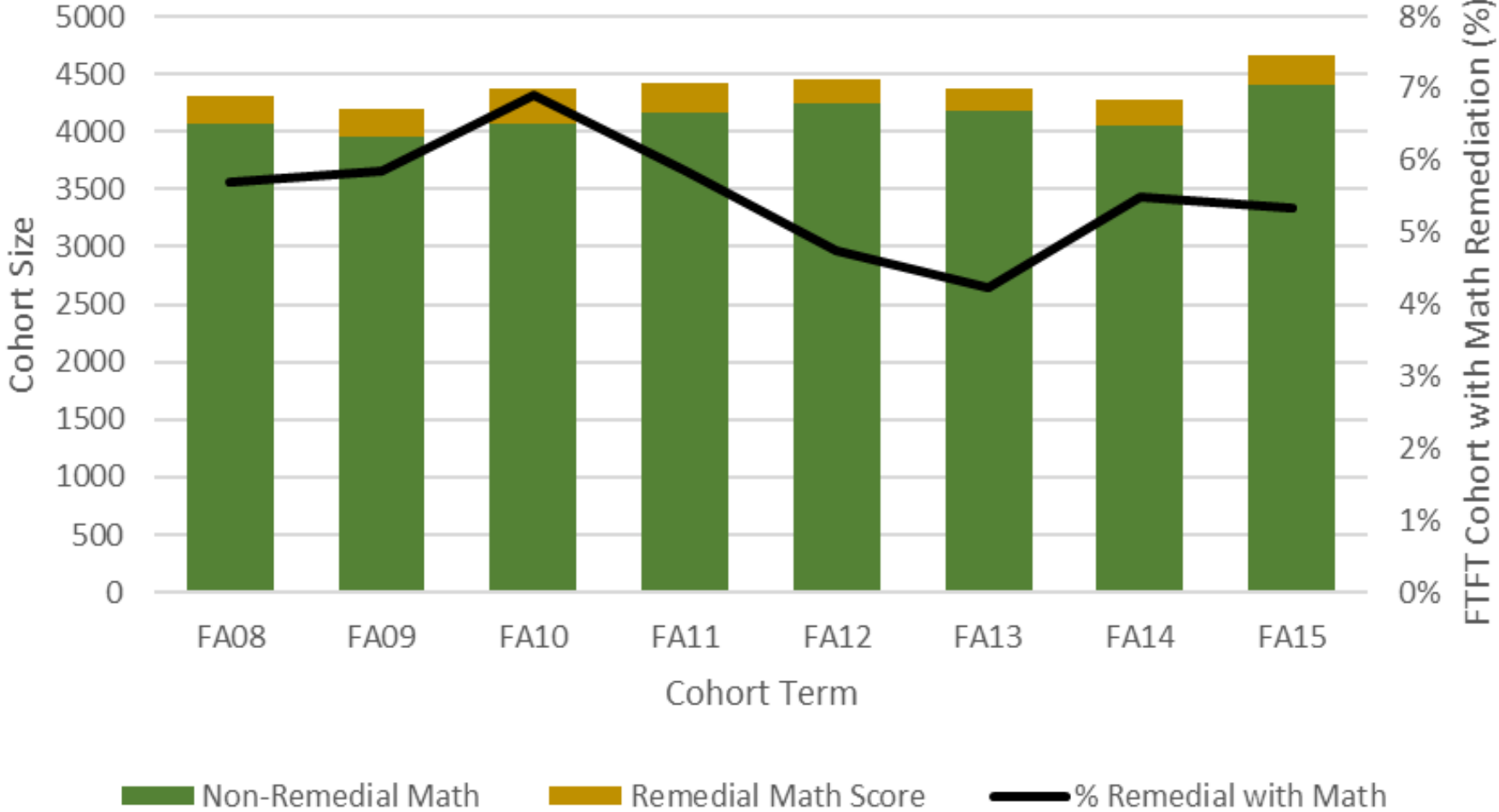




Students with Math ACT Scores below the CDHE College Readiness Level

First-year math completion patterns and success rates

First-Time, Full-Time Freshmen by Math Remediation Status





Performance and Characteristics of Math Remediation Students

- ▶ The persistence and graduation rates for FTFT freshmen with Math ACT scores that are below the cutoff are dramatically lower than their peers with Math ACT scores that are above the cutoff (PP differences are from the three most recent cohorts)
 - ▶ 8 PP gap in freshman retention (78.6% compared to 86.6%)
 - ▶ 14.4 PP gap in third fall retention (64.5% compared to 78.8%)
 - ▶ 12.9 PP gap in 6 year graduation (54.9% compared to 67.8%)
- ▶ Demographically Math Remediation students are more diverse than the overall FTFT cohort
 - ▶ 37% Pell Recipients (compared to about 20%)
 - ▶ 41% First Generation (compared to about 25%)
 - ▶ 34% Minority (compared to about 21%)
 - ▶ 101 Average Index (compared to about 115)
- ▶ In terms of major Math Remediation students are overrepresented among undeclared students as well as in the colleges of Health and Human Sciences and Liberal Arts, but they are underrepresented in Natural Sciences, Business and Engineering.



Overall Trends of Math Behavior

- ▶ Not all of the students are taking the MPE by the start of their first fall and very few place into College Algebra
 - ▶ 9% never take the MPE at CSU
 - ▶ Among those that take the MPE only 27% of these students place into college algebra
- ▶ A majority of these students are avoiding math in the first year regardless of MPE placement
 - ▶ Only 36% of the math remediation students take a math course at CSU in their first year (compared to about 84% of the FA14 FTFT cohort) and only 2% transfer a math course into CSU




Possible Math Pathways: Do not take the MPE

- ▶ About 9% of the math remedial students; 21 students in each FTFT cohort
- ▶ This is the most diverse group among the math remediation students
 - ▶ 42% Pell Recipients
 - ▶ 47% First Generation
 - ▶ 39% Minority
- ▶ These students aren't taking a math course at CSU or transferring math credits in their first academic year
- ▶ These students have the lowest persistence and graduation rates among the math remedial students
 - ▶ Freshman Retention: 38.1%
 - ▶ Third Fall Persistence: 20.5%
 - ▶ 6 Year Graduation: 13.2%
- ▶ Recommendation: Identify students who haven't taken the MPE by the end of the first fall semester and intervene. This is about 21 students per cohort.



Possible Math Pathways: Take MPE and Do Not Place into College Algebra

- ▶ 67% of math remedial students; about 162 students per cohort
- ▶ Among the students who do not place into College Algebra
 - ▶ About 40% (64 students per cohort) of these students take or transfer in Math within the first year and they have graduation/persistence rates that are higher than overall math remediation group but lower than CSU's overall rates
 - ▶ Freshman Retention: 83.8%
 - ▶ Third Fall Persistence: 73.3%
 - ▶ 6 Year Graduation: 66.1%
 - ▶ About 60% of these students (98 students per cohort) do not take or transfer in math within the first year and their graduation/persistence rates are the only higher than those who do not take the MPE
 - ▶ Freshman Retention: 69.6%
 - ▶ Third Fall Persistence: 54.3%
 - ▶ 6 Year Graduation: 44.7%
- ▶ Recommendation: Intervene with these students who do place into college algebra to ensure that they earn math credits within the first year. This will most likely be about 160 students per cohort



Possible Math Pathways: Take MPE and place into College Algebra

- ▶ 24% of math remedial students; about 59 students per cohort
- ▶ Among the students who place into College Algebra:
 - ▶ These students have successfully remediated and most likely have taken the MPE more than once
 - ▶ Their persistence and graduation rates are above the rates of non-remedial math students
 - ▶ Freshman Retention: 94.9%
 - ▶ Third Fall Persistence: 86.6%
 - ▶ 6 Year Graduation: 76.8%
 - ▶ A large proportion (about 52%) of these students still don't complete math in the first year. The success rates of these students who avoid math in the first year are slightly lower than the rates of those who take math in the first year but not dramatically (still higher than our overall rates)
- ▶ Recommendation: Try to understand what helped these students successfully remediate, is it only personal attributes or are there support systems that other students can utilize.

Conclusions

- ▶ An average of 242 students in each freshman cohort have a math test score that is below the CDHE cutoff for math college readiness. These students have much lower success rates and are a large enough group that moving the success rates upwards could have an impact on CSU's overall success rates.
 - ▶ This effort should focus on making sure that all of these students take the MPE by the end of their first fall semester (about 20 students)
 - ▶ Supplemental instruction could help support those students that don't place college algebra (162 students; 98 of whom currently avoid math in the first year and might require more intensive interventions to ensure math enrollment)
- ▶ We need to have a better system for tracking the MPE results. Currently CSU only stores the highest MPE results so first attempt dates and scores are overridden. Knowing the date of the first attempt and the total number of attempts could help inform our understanding of student success.

Discussion...

No MPE

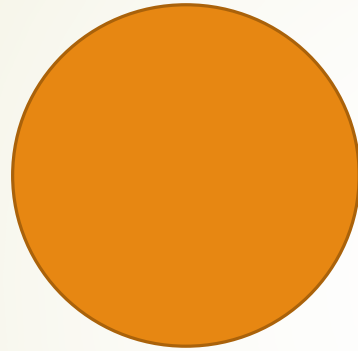


9% (21)



R, P, G = LOWEST

Take MPE;
Don't place
into Algebra



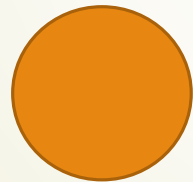
67% (162)



40% (64) take Math
= R, P, G are OK

60% (98) take no Math
= R, P, G are LOW

Take MPE;
Do place
into Algebra



24% (59)



R, P, G = OK