

P-20 MATH REMEDIATION SUBCOMMITTEE RECOMMENDATIONS



Recommendations in Three Categories

- Rapid Response
- Systemic
- Progress and Partnership

Recommendation #1

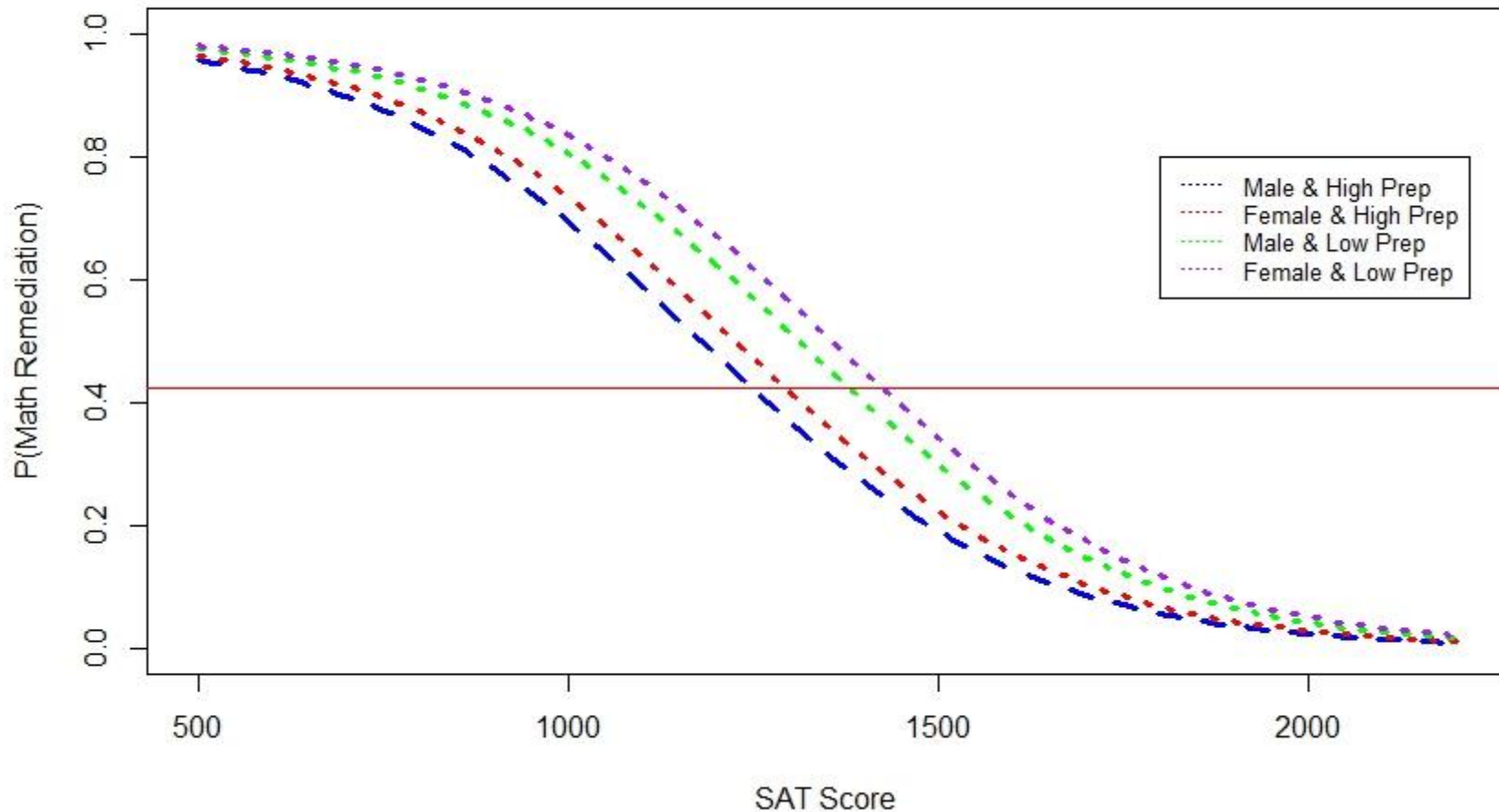
Expand offerings of the Foundations of College Mathematics course to include those high schools where the potential impact is greatest. In particular, offerings should be expanded to include William Penn High School, Delcastle Technical High School, Dover High School, Sussex Central High School, Smyrna High School, Glasgow High School, Hodgson Technical High School, McKean High School, Lake Forest High School, and Howard High School of Technology.

Key notes:

- Teachers of the FCM course should be vetted by our IHE's and part of a rigorous professional learning experience.
- High schools in the recommendation are result of At-Risk-Rate analysis, taking final look at this data with disaggregated SAT data from DOE.

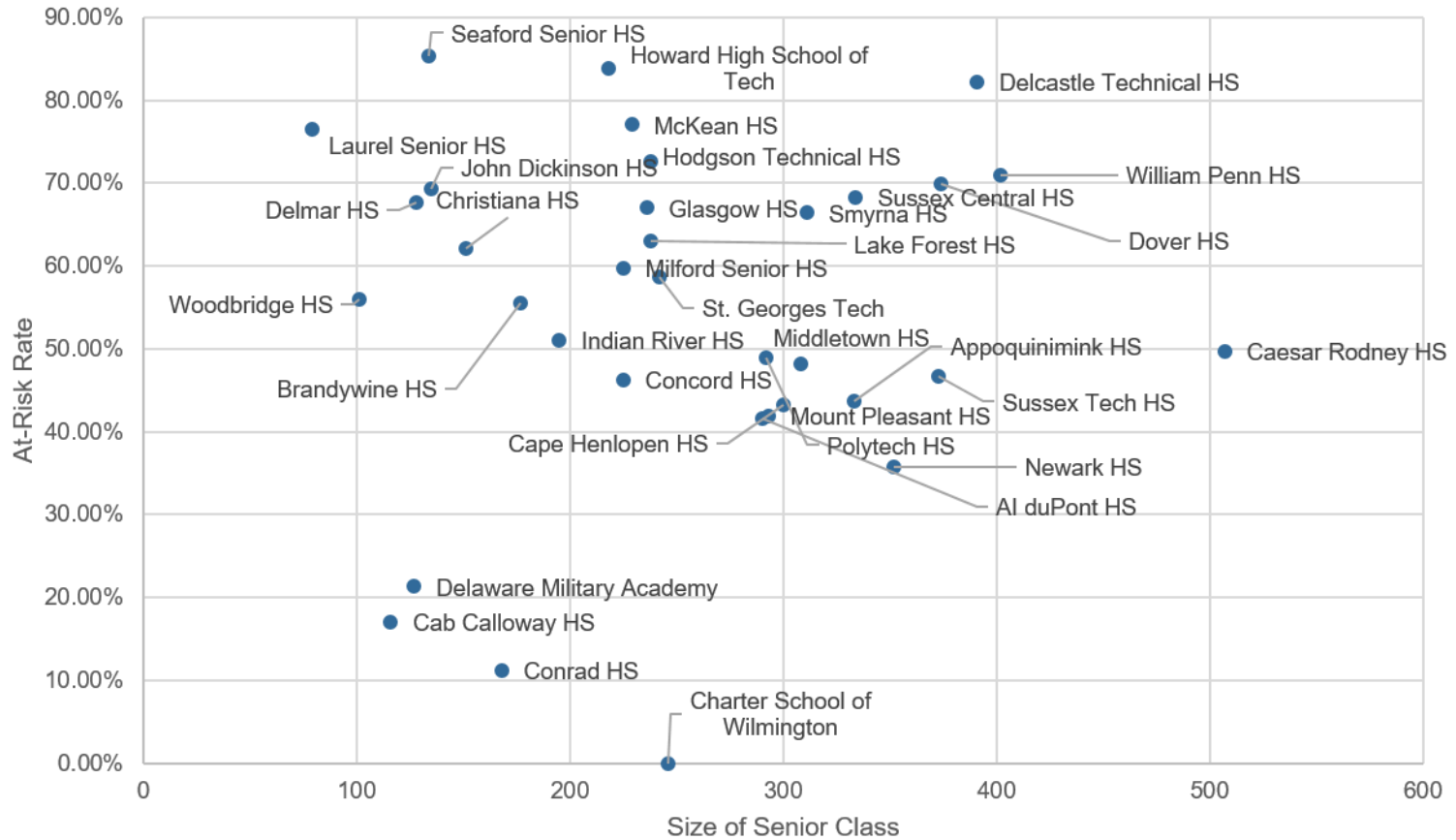
At Risk Rate Analysis

Probability of Math Remediation vs. SAT Score



At Risk Rate Analysis

HS Grade 12 Size vs. At-Risk Rate



Recommendation #2

Delaware IHE's should explore and pilot co-remediation models and other similar efforts designed to reduce time in remediation and increase the success rate of students in remedial courses.

Recommendation #3

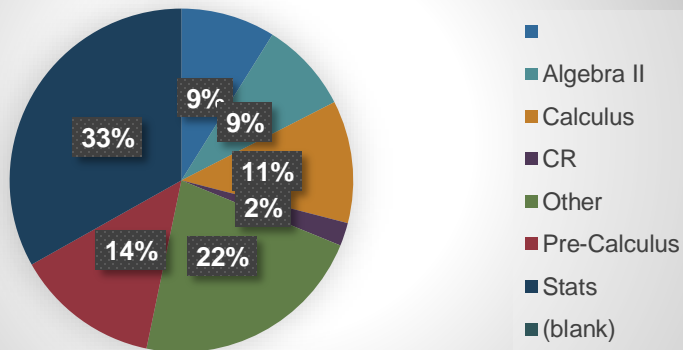
All Grade 12 mathematics courses should reinforce the knowledge students need to avoid remediation. If the Grade 12 course is statistics, it should be rigorously re-imagined in conjunction with DE's IHE's to ensure key mathematical knowledge is reinforced. If the Grade 12 course is not statistics, statistics should be carefully integrated across the high school curriculum.

Grade 12 Courses

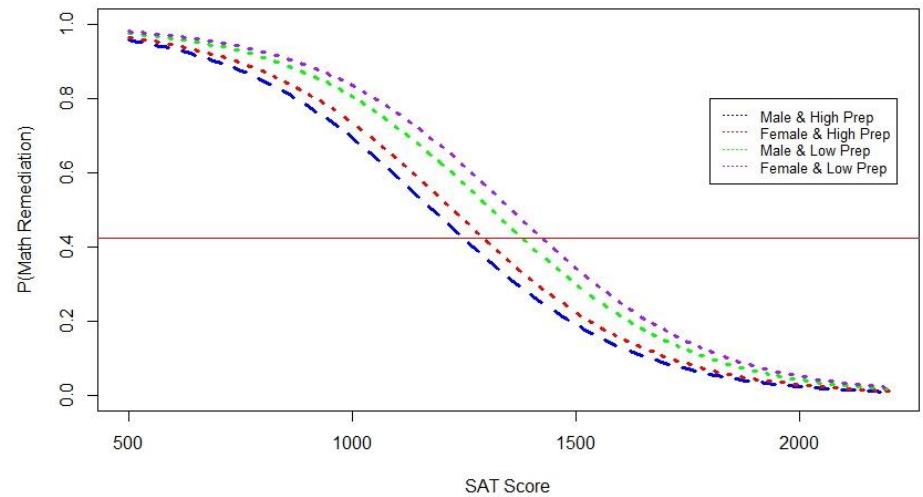
High Prep Courses = { Calculus, Pre-Calculus }

Low Prep Courses = { Statistics, Algebra II, Other, Credit Recovery }

2015 12th Grade Course



Probability of Math Remediation vs. SAT Score



Recommendation #4

Develop and implement a comprehensive communications plan aimed at students, parents, counselors, teachers, and K-12 leadership that educates these stakeholders about the adverse effects of placing into remedial coursework.

Recommendation #5

Ensure that a Common-Core aligned, rigorous, curriculum is available to students in all Delaware high schools.

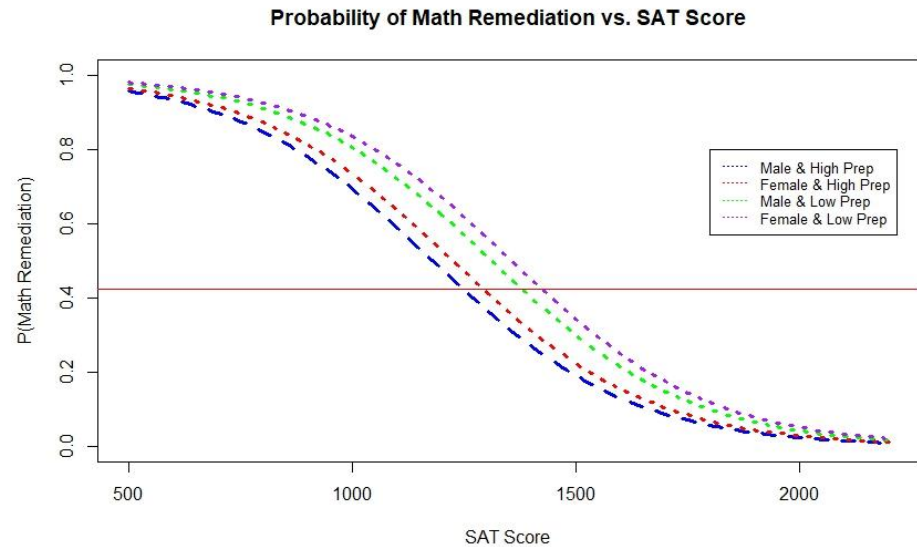
Recommendation #6

Work with Delaware's IHE's to identify causes of the gender gap in mathematics remediation. Specifically, investigate reasons for differential achievement on mathematics placement exams by otherwise academically identical groups of male and female students.

Data Informing Gender Gap Recommendation

There is a significant gender gap in rates of mathematics remediation. This gap is not present for English remediation.

Statewide in 2015, females entered math remediation at a rate of 44%, males at a rate of 39%, a 5% gap. This gap varies by institution. At Deltech, where the largest fraction of remedial students are, females entered math remediation at a rate of 63%, males at a rate of 52%, an 11% gap.



Recommendation #7

In partnership with Delaware's IHE's, develop a content-focused certification program which leads to certification for the large number of secondary mathematics teachers in the state who are presently not certified in mathematics.

Key notes

- DOE is verifying data leading to this recommendation. Subject to edit.
- Finalized data indicates only 68% of high school mathematics teachers in Delaware hold a certification in secondary mathematics and only 66% of middle school math teachers were certified as a middle school math teacher.

Recommendation #8

Establish well maintained, timely, and detailed “feedback loops” between Delaware’s K-12 system and Delaware IHE’s.

Key notes

- Future *College Success Reports* be the responsibility of the P-20 Council, released annually, include IHE placement exam data, and include student success data from Delaware’s IHE’s.
- An annual *Foundational Mathematics Summit* be organized and held by Delaware’s IHE’s, bringing together university and college faculty responsible for placement and introductory coursework with the state’s high school mathematics faculty, counselors, principals, and other key stakeholders.

Recommendation #9

Develop a common policy across all of Delaware's Institutions of Higher Education wherein students meeting the college-readiness score on the mathematics portion of the SAT (530) are guaranteed entry into a credit-bearing mathematics course.

Recommendation #10

Create a standing P-20 Subcommittee on Mathematics Remediation charged to maintain attention on the remediation challenge, oversee the mathematics portion of the College Success Report, monitor the impact of recommendations enacted, continue to analyze statewide data on remediation, and to develop new recommendations aimed at addressing the remediation challenge.