

Traditionally, students entering community colleges who need math remedial/developmental education are required to complete a remedial math course on an algebra track before enrolling in college-level math (e.g., Calculus). However, this curriculum has been criticized for its poor alignment with the math skills relevant to students' majors, jobs, and everyday lives. In 2015, the University System of Maryland (USM) created **the Maryland Mathematics Reform Initiative (MMRI)**.

Collaborating with 12 public institutions (five public four-year institutions and seven community colleges), the MMRI project conducted a reform on math pathways by introducing the new statistics pathway for students in college majors where math requirements can be fulfilled by statistics courses. This brief evaluates the impact of this math pathway reform on the students of Maryland **community colleges**. For the complete findings, please see the full report at:

<https://mhec.maryland.gov/publications/Documents/Research/PolicyReports/MHECPolicyBriefVol5.pdf>

All seven MMRI community colleges implemented the curriculum reform, while three of them also conducted the structural reform.

Key Elements of Two Reform Categories

Curriculum reform

Introduction of new remedial courses in statistics pathway

Structural reform

Implementation or revision of corequisite remediation in math (concurrent enrollment in remedial and college-level math).

AND / OR

Implementation of multiple measures for course placement (e.g., student high school GPA, SAT scores, reading assessment)

Finding 1:

First-year developmental math enrollment and completion increased when aligned with its subject-related college-level math pathway (e.g., developmental statistics aligned with college-level statistics).

10.8
percentage point

increase in proportion of students enrolled in aligned developmental-to-gateway sequence.



7.5
percentage point

increase in proportion of students completing aligned developmental-to-gateway sequence.

Finding 2:

First-year gateway math completion improved when both pathways and corequisite remediation were employed.

5.2
percentage point

increase in proportion of students enrolled in gateway math by end-of-year 1 at MMRI colleges employing both curriculum and structural reforms.



4.1
percentage point

increase in proportion of students completing gateway math by end-of-year 1 at MMRI colleges employing both curriculum and structural reforms.

Finding 3:

MMRI reform does not negatively impact the percentage of enrollees who passed the algebra course, while it significantly enhances the percentage of enrollees who passed the statistics course.



4.7
percentage point

increase in pass rate of gateway statistics courses.

What Else Can Maryland Do?

- Maryland colleges can focus on removing barriers that prevent students from taking college-level math in their first year. Simply offering a developmental (remedial) statistics course doesn't improve enrollment or success in college math. Colleges that made both curricular and structural reform saw improvements.
- Math pathway reforms work best when students get clear advice about which math courses fit their academic goals. Standardized advising tools and stronger communication between math departments and advisors help guide students and support these reforms.