1-1-2016

Remedial Course Enrollments and Student Outcomes in Maine's Public Higher Education Institutions

Amy F. Johnson
Maine Education Policy Research Institute, University of Southern Maine

Remedial Course Enrollments and Student Outcomes in Maine's Public Higher Education Institutions

Amy F. Johnson

Maine Education Policy Research Institute

University of Southern Maine

January 2016

UNIVERSITY OF SOUTHERN MAINE

PORTLAND • GORHAM • LEWISTON • ONLINE

**Center for Education Policy,
Applied Research, and Evaluation**

Published by the Maine Education Policy Research Institute in the Center for Education Policy, Applied Research, and Evaluation (CEPARE) in the School of Education and Human Development, University of Southern Maine.

CEPARE provides assistance to school districts, agencies, organizations, and university faculty by conducting research, evaluation, and policy studies.

In addition, CEPARE co-directs the Maine Education Policy Research Institute (MEPRI), an institute jointly funded by the Maine State Legislature and the University of Maine System. This institute was established to conduct studies on Maine education policy and the Maine public education system for the Maine Legislature.

Statements and opinions by the authors do not necessarily reflect a position or policy of the Maine Education Policy Research Institute, nor any of its members, and no official endorsement by them should be inferred.

This study was funded by the Maine State Legislature, and the University of Maine System.

A Center of the
School of Education and
Human Development

140 School Street, Gorham, Maine 04038
(207) 780-5044; FAX (207) 228-8143; TTY (207) 780-5646
www.cepare.usm.maine.edu
A member of the University of Maine System

Remedial Course Enrollments and Student Outcomes in Maine's Public Higher Education Institutions

Table of Contents

Remedial Course Enrollments and Student Outcomes in Maine's Public Higher Education Institutions

Amy F. Johnson

amyj@maine.edu

Executive Summary

College readiness remains a large policy challenge for both K-12 schools and higher education institutions. Students who need to pursue remedial coursework before being able to enroll in introductory college requirements face financial and logistical challenges that create barriers to degree progression. In an effort to gain additional information about the scale and context of the problem the University of Maine System and Maine Community College Systems were required to prepare four annual reports with information about the students entering their colleges directly from a Maine high school. These reports provided information on the overall proportion of these students who needed to enroll in remedial coursework, disaggregated by campus, by subject area (math, English, and overall), and by the high school from which they graduated. The second and subsequent reports also detailed retention and graduation outcomes for the students who enrolled in remedial courses in the prior years. This study compiled the results of the four reports in an effort to synthesize what may be learned from them.

The results confirm that a sizeable number of students are arriving at our public higher educations with inadequate preparation for college-level work, with one quarter of all entering recent graduates across both systems enrolling in at least one remedial course. The rates of remediation are higher in mathematics than in English and rates vary considerably across campuses. Some institutions have no students in remedial English courses; this points to varying selectivity in college admissions as well as differences in course pathways provided for supplemental preparation. Namely, in lieu of requiring remedial courses, some colleges offer credit-bearing "developmental" courses to provide additional instruction to students who are not deemed ready for college-level work. These

are not considered remedial because they qualify as elective credit toward a college degree and thus are not captured in the four years of reports.

Additional analysis of the remedial rates reported by high school showed that there are substantial challenges in using those data for making decisions. Many high schools are not included meaningfully in the reports as they do not have enough students entering the systems and enrolling in remedial courses to surpass minimum reporting thresholds. The rates of students entering Maine's public systems from any given high school who enroll in remedial math or English are related to the proportions of students deemed proficient in 11th grade testing, but are not related to any of a handful of other school-based factors. This may be partially due to the finding that the remedial rates in the reports may not be accurate or valid representations of the preparation of all students graduating from an individual high school, as the alumni choosing to enter the Maine public systems may not be typical of the broader graduating class.

In summary the study concludes that the reports confirm the size of the college readiness challenge in Maine, but do not provide helpful insights to high schools or post-secondary institutions into the sources of the problem or what should be done about it. Some recommendations are provided for alternate approaches for informing students and their high schools about college readiness.

Study Purpose and Methods

The impetus for this study came from a 2015 concept draft for proposed legislation (L.D. 1033 in Maine's 127th legislature), which called for compilation and analysis of three years of existing reports regarding the number of traditional-aged students enrolling in remedial coursework upon entry into Maine's public higher education institutions. The goal of the analysis is to look for relationships between the proportion of students at a high school requiring remedial coursework and other high school attributes, with the idea that identification of related factors may suggest potential areas for improvement to reduce future remedial rates.

To complete the study, researchers at the Maine Education Policy Research Institute (MEPRI) combined the six available reports from the University of Maine System (UMS) and Maine Community College System (MCCS) in 2013, 2014, and 2015 to produce three-

year average results for the data on remedial rates by campus and by high school. Results of the additional remedial student outcomes of persistence and graduation rates were combined for the number of years available. Contextual information about remedial placement practices, course policies, and future institutional plans was gathered through websites, report documents, and conversations with selected individuals at the institutional and system levels. The required January 2016 reports were released just prior to publication of this study, and results were incorporated selectively where feasible to update summary data tables.

Background and Context

Challenges of Remedial Courses

When entering college students are identified as needing additional academic preparation to be ready for introductory courses, there are negative impacts at multiple levels. The most direct challenges are for the students themselves. When students are required to enroll in remedial coursework—which, by definition, teaches content that is below college-level work—they incur the financial burden of paying additional tuition for work that does not earn credit toward degree requirements. Remedial courses also delay students' ability to enroll in introductory college courses, as basic proficiency in math and/or writing is typically prerequisite. This in turn forestalls progression toward degree requirements (Bettinger & Long, 2005; Levin & Calcagno, 2008). Being identified as not college-ready also takes an emotional toll; students are sometimes surprised to learn that their high school preparation was inadequate for the expectations at their college. Learning that they are not ready sends a message that they are not "college material" and can undermine their confidence (Balduf, 2009; Connor, publication pending; Scott-Clayton & Rodriguez, 2012). And perhaps most importantly, the lack of preparation signaled by identification for remedial coursework is itself a fundamental underlying problem. Students lacking in the core skills of reading, writing, or mathematics are ill-prepared for the academic expectations in other college subjects. Some research suggests that remedial courses serve their purpose of getting students up to speed for college work (Bahr, 2008), but others suggest it is not necessarily a complete or robust solution, and may not

guarantee full preparation for academic demands (Martorell et. al., 2010). Taking these factors into consideration, it is not surprising that students who begin their post-secondary careers with remedial coursework have substantially higher drop-out rates than students who do not.

This situation also has a cost to colleges. The revenue from tuition and fees does not cover the full cost of education at the vast majority of public 2- and 4-year institutions, including all of those in Maine. Colleges must divert faculty from other courses or hire additional adjunct faculty to teach the remedial courses, which ultimately hurts their budgets. Moreover, the lower retention rates for students requiring remedial coursework also impact institutions as those students are needed to generate tuition and maintain sustainable class sizes in upper-level courses. Some institutions are investing additional resources into developmental education programming in order to mitigate these impacts and improve student outcomes, for example by hiring faculty with particular expertise in supporting adult math learners. These costs add to the overall expenses of supporting students who are not college-ready upon entry. The combination of all these negative impacts on students and on higher education institutions has created a heightened awareness of the problem as policymakers seek for better solutions.

Legislative Reports

In 2012, Maine's 125th Legislature passed a law to require the University of Maine System (UMS) and Maine Community College System (MCCS) to report annually on three pieces of data:

1) The number of students entering their institutions directly from high school that enroll in remedial English and/or mathematics classes during the fall semester, with results by each subject and each campus;
2) The number of students requiring remedial math or English reported by the high school that awarded their diploma; and
3) The retention and college graduation rates of students who were enrolled in remedial courses at each institution.

Notably, the legislation stipulated a reporting threshold of six students in order to protect student confidentiality; data points for five or fewer students were suppressed.

The first of these reports was issued in January 2013 based on data from students entering as first-time students directly from high school in the prior fall 2012 semester. Information on retention and graduation rates was available on this cohort and included in the subsequent reports beginning in January 2014. The Maine Maritime Academy (MMA) was included in the legislative reporting requirement, but does not engage in remedial coursework and therefore did not compile reports.

Explaining Differences Across Institutions

Variation across institutional remedial course rates can be attributed to three categories of differences. First, institutions vary in their selectivity. For example, as with the Maine Maritime Academy, the University of Maine generally admits students who are deemed ready for college-level work and this is reflected in their negligible remedial course rates. Other institutions partner with nearby adult education programs and refer to them their applicants who need additional preparation before enrollment in higher education. Others offer "bridge" programs in the summer between high school graduation and college enrollment, so that students are ready for college work in their first semester. In other words, part of the difference seen across colleges can be explained by the average first-semester preparedness of the students they enroll, which is impacted both by selectivity and by the provision of supplemental experiences before matriculation.

Secondly, additional variation exists because of different approaches for supporting students who are not ready for college-level work. These pathways rely on three basic types of course structures. The first category includes true remedial courses, which do not carry credit toward a college degree and are identifiable because they are numbered below 100. These remedial course enrollments are the focus of the annual UMS and MCCS reports that are the subject of this study. Another category of courses that are typically called "developmental" (but not remedial) are credit-bearing courses that serve as prerequisites to the traditional entry-level college English and math courses. These developmental courses *do* count toward graduation requirements as elective credit. However, the need to complete these courses as prerequisites to entry-level classes can still impede progress

toward meeting degree requirements. There is a third general approach for supporting students who have been identified as needing additional preparation for college-level work, in which students enroll directly into introductory level college classes but with additional academic supports or course modifications. Modifications can vary and include compressed courses (which cover remedial and college-level content in one semester, often requiring additional credits), co-enrollment in 1-credit supportive companion courses (sometimes modularized so students participate only in what is needed), and implementation of technology-based supports such as self-paced math tutorial programs. Common terminology for these various approaches continues to evolve, but they all share the property that students enroll directly into traditional introductory courses during their first semester. Institutions in UMS and MCCS that rely heavily on remedial courses will have higher reported rates in these legislative reports than institutions who place students into credit-bearing developmental courses, even if they have a similar number of students identified as not college-ready.

Lastly, a small amount of inter-institutional difference can be attributed to their assessment practices for determining remedial course placement. All of the institutions in the UMS and MCCS make an initial determination of college readiness based on SAT scores. That is, students who achieve certain threshold scores on the SAT-Math and SAT-Verbal exams are automatically considered prepared for entry-level college courses. Students with either SAT score below the established cut scores must take the relevant Accuplacer exam(s) for further placement determination. Institutions may vary both in the scores used for the minimum SAT screening and in the minimum Accuplacer results considered adequate for placement into introductory college courses. This means that two students at different colleges with identical SAT and Accuplacer scores could have opposite remedial course placement outcomes. However, it is unlikely that this is a large factor in explaining institutional differences. The Maine Community College System has standardized its cut scores for both SAT screening and Accuplacer assessment across its institutions. The University of Maine System institutions do not use identical scores, but the cut scores generally fall within a narrow range. As described above, UMaine does not offer remedial courses and thus does not have a stated placement assessment process. Most other UMS institutions use SAT screening scores of 500 each on math and verbal tests, which is just

slightly higher than the 480 math and verbal used in MCCS. Two institutions use SAT-math screening scores of 480 and 490, and one uses an SAT-Math of 550. All use an SAT verbal of 500 except for USM which places all incoming students into the introductory-level College Writing course regardless of SAT score. Variation in Accuplacer scores is more difficult to compare as only some institutions have their placement score matrices clearly posted on their websites; however, a recent report showed little variation (Maine College Transitions Working Group, 2012 report unpublished), and it is unlikely that policies have changed dramatically since then. While this variation in scores may present other challenges to prospective students seeking consistent information it does not greatly influence differences in institutional remedial placement rates.

It is noteworthy that 11th grade assessment score of 1142 that has been established as signifying proficiency is not the same as the scores used by post-secondary colleges to pre-screen for college readiness. A score of 1142 aligns to an SAT-Reading score of 460, an SAT-Writing score of 450, and an SAT-Math score of 460[1].

Findings

Institutional Data

As shown in Table 1, the rates of enrollment in remedial courses varied considerably across institutions. The proportion of students enrolling in remedial English courses ranged from 0% to 35% across colleges and was 12% overall across both systems over the four years of reporting. The proportion of students enrolling in remedial mathematics courses was higher than for English, ranging from 0% to 55% across colleges, and was 24% overall across both systems.

[1] As indicated at http://www.maine.gov/doe/mhsa/documents/score-scales.pdf accessed 1/05/16

Table 1: Four-year Average Remedial Rates by Institution

(Fall 2012, Fall 2013, Fall 2014, and Fall 2015)

	Average Number of Students per Year		**Rates of Remedial Course Enrollment**		
	Entering directly from a Maine HS	Enrolled in Remedial Cours(es)	Overall (Any Subject)	English	Math
MCCS					
CMCC	399.8	175.0	44%	34%	27%
EMCC	319.3	166.5	52%	25%	44%
KVCC	173.5	31.8	18%	2%	17%
NMCC	119.8	22.3	19%	9%	11%
SMCC	793.8	476.0	60%	23%	55%
WCCC	82.8	52.3	63%	35%	54%
YCCC	168.8	65.3	39%	13%	34%
MCCS total	***2057.5***	***989.0***	***48%***	***22%***	***40%***
UMS					
UMA	160.5	56.5	35%	18%	27%
UMF	293.0	40.5	14%	0%	14%
UMFK	107.3	29.3	27%	24%	11%
UMM	76.5	38.0	50%	19%	42%
UMaine	1,202.8	2.0	0%	0%	0%
USM	488.5	88.8	18%	0%	18%
UMPI	135.5	25.5	19%	0%	19%
UMS total	***2,464.0***	***280.5***	***11%***	***3%***	***10%***
Overall total	***4,521.5***	***1,269.5***	**28%**	**12%**	**24%**

The UMS and MCCS reports also provided data on selected outcomes of the students enrolled in remedial courses. Table 2 provides the one-year persistence rates for students who took one or more remedial courses, and is based on three years of data for the cohorts entering in Fall 2012, Fall 2013, and Fall 2014.

Table 2: One-Year Persistence Rates for Students Enrolling in Remedial Courses

College	Average # Remedial Students Enrolled per Year	Average # Students Retained in Next Fall Sem.	Average # of Students Graduated or Transferred	Total Retained, Graduated or Transferred after 1 Year		Not Enrolled in College*	
				#	%	#	%
CMCC	190	97	5	102	53%	89	47%
EMCC	162	81	7	88	55%	73	45%
KVCC	30	15	1	16	52%	15	48%
NMCC	24	11	0	12	49%	12	51%
SMCC	497	271	21	292	59%	205	41%
WCCC	55	16	13	28	52%	27	48%
YCCC	64	41	4	44	70%	19	30%
MCCS Total	**1022**	**531**	**51**	**582**	**57%**	**440**	**43%**
UMaine	3	1	0	2	67%	1	33%
UMA	63	26	2	31	49%	32	51%
UMF	37	28	1	30	80%	8	20%
UMFK	33	16	2	19	57%	14	43%
UMM	32	15	2	19	58%	14	42%
UMPI	27	13	1	17	61%	11	39%
USM	88	60	0	69	78%	19	22%
UMS Total	**283**	**158**	**7**	**185**	**65%**	**98**	**35%**

** Based on National Student Clearinghouse match data*

The Maine Community College System also provided 2-year retention and graduation rate outcomes for the Fall 2012 and Fall 2013 entering cohorts. The combined data for these are provided in Table 3.

Table 3: Two-year Retention and Graduation Rates, MCCS
(Average for Fall 2012 and Fall 2013 Cohorts)

College	Avg. # Remedial Students Enrolled per Year	Avg. # Students Retained 2 years	Average # Students Graduated or Transferred	Total Retained, Graduated or Transferred		Not Enrolled*	
				#	%	#	%
CMCC	215.5	72	19	91	42%	124.5	58%
EMCC	163	47.5	16	63.5	39%	99.5	61%
KVCC	30	10	1	11	37%	19	63%
NMCC	25.5	5.5	3	8.5	33%	17	67%
SMCC	520	185	50.5	235.5	45%	284.5	55%
WCCC	67	7	22	29	43%	38	57%
YCCC	57.5	28.5	6.5	35	61%	22.5	39%
MCCS Total	**1078.5**	**355.5**	**118**	**473.5**	**44%**	**605**	**56%**

Lastly, the most recent MCCS report provides the three-year retention and graduation rates for the first reported cohort from Fall 2012. To provide a longitudinal depiction of retention of that cohort over time the overall rates from each report are provided in Table 4.

Table 4: Longitudinal Retention Rates of MCCS Students Entering in Fall 2012 that Enrolled in Remedial Courses

College	Remedial Students Enrolled Fall 2012	% Retained, Graduated or Transferred in Fall 2013	% Retained, Graduated or Transferred in Fall 2014	% Retained, Graduated or Transferred in Fall 2015
CMCC	199	54%	40%	39%
EMCC	200	50%	38%	38%
KVCC	23	52%	44%	39%
NMCC	30	37%	20%	37%
SMCC	512	61%	48%	45%
WCCC	56	39%	36%	43%
YCCC	51	69%	63%	55%
MCCS Total	**1,071**	**56%**	**44%**	**43%**

High School Data Representation

Availability of High School Reports

As is consistent with recommended best practice, the legislation establishing the reports set a reporting threshold of five students to preserve confidentiality. Appendix A contains the complete language from LD 1645, the legislative action initiating the reports.

Not all college-going students enter higher education in the fall semester directly following their high school graduation year and only some of those students enroll in one of Maine's public institutions in the Maine Community College System or University of Maine System. When the data suppression rules are applied, less than half of Maine schools were able to receive information about the remedial course needs of their graduates. Table 5 provides information about the proportion of high schools that had reportable data on the total unduplicated number of their graduates who needed to take at least one remedial course upon entry into Maine's public systems.

Table 5. Representation of Maine Schools in Reports of Overall Number of Students in Remedial Courses

School Type	N	Percent of Schools with UMS Data Reported				Percent of Schools with MCCS Data Reported			
		2013	2014	2015	2016	2013	2014	2015	2016
Public (All types)	128	32%	23%	8%	6%	52%	48%	45%	42%
Private - 60% Public	11	45%	36%	0%	0%	36%	64%	27%	27%
All Other Private	40	29%	39%	0%	0%	0%	0%	0%	0%
Adult Ed/GED*	11	30%	20%	0%	0%	10%	10%	10%	10%
Home Schooled	1	0%	0%	0%	0%	0%	0%	0%	100%
Total	**191**	**32%**	**27%**	**5%**	**5%**	**38%**	**37%**	**33%**	**31%**

** The MCCS combined all adult education / GED students into a single "school"; no individual programs received a report, but the overall numbers were reported each year.*

The representation of each school may differ from year to year. In the first three years of reporting only one school in the state received all six of the possible reports, and an additional nine schools received five of the six possible reports. The remaining 95% of schools had four or less reports generated.

Furthermore, Table 5 reports schools that had information reported on the total number of students requiring remedial coursework of *any* type. Yet reporting is most helpful to schools when they are also able to discern whether the remediation was required in math or English. This additional level of disaggregation was suppressed for many schools, as the subgroups typically fell below five students. Table 6 illustrates the very low representation of schools whose reports included adequate detail to identify the type of remediation their graduates needed.

Table 6. Representation of Maine Schools: Reports of Students in Specific Remedial Courses

School Type	N	Percent of Schools Receiving a UMS Report				Percent of Schools Receiving a MCCS Report			
		2013	2014	2015	2016	2013	2014	2015	2016
Public (All types)	128	27%	20%	4%	5%	20%	22%	17%	12%
Private - 60% Public	11	45%	18%	0%	0%	9%	27%	9%	9%
All Other Private	40	29%	39%	0%	0%	0%	0%	0%	0%
Adult Ed/GED*	11	30%	20%	0%	0%	0%	10%	10%	0%
Home Schooled	1	0%	0%	0%	0%	0%	0%	0%	0%
Total	**191**	**28%**	**24%**	**3%**	**4%**	**14%**	**17%**	**12%**	**9%**

It is noteworthy that the rates of reporting both overall and subject-specific remediation in UMS dropped substantially in 2015 and 2016 compared to the two earlier years. In 2013 and 2014, the report applied a generous interpretation of the data suppression rules and included cell counts with zero students despite this being under the threshold of 5 students. This allowed interpolation of data for other missing cells, and resulted in a far greater number of schools receiving information about student outcomes. When data suppression was tightened to a more literal interpretation of the law in the January 2015 and 2016 reports, there was much less information available.

Representativeness of Student Data

In addition to concerns about the number of schools that do not have full results in the annual reports, the analysis raises additional questions about the validity of the school reports that *are* complete. In some schools, the proportion of graduates entering either public college system is small. For example, there were 70 high schools whose MCCS remedial data reports were based on 20% or less of the graduating class. In 11 of these schools the reports were based on 10% or less of the graduating class. The sorting of high school graduates into colleges is non-random; specifically, students who begin their post-secondary careers at a community college are more likely to have lower GPAs and SAT test scores than those who enter the UMS system or private colleges. They are also more likely to come from lower income households. Thus the accuracy of the MCCS reports in depicting the ability of a school to prepare students who are college-ready hinges on whether the students entering the MCCS are typical of all graduates of the school. This is not a solid assumption for many schools and particularly for schools in wealthier communities. To a lesser extent the same limitations hold true for the UMS reports.

When outcomes for students entering UMS and MCCS from any given school are combined the results are more likely to be representative. This reflects a greater share of any given graduating class and includes a broader variety of students. Appendix B provides summary results of the UMS and MCCS results combined over the first three years of reporting, to provide average results for students entering each system from a public high school. The eleven private schools with 60% or more publicly funded students are also included, but no other private school had enough students entering either system and

enrolling in remedial courses to trigger a report with outcomes data. The final column provides an overall remedial rate for students entering both systems. This calculation was only provided for schools that had at least one remedial report in each system over the three years. That is, the school must have had enough students entering into each system and enrolling in remedial courses to have a calculable overall remedial enrollment rate. Of the 128 public high schools and 11 private high schools with public students, only 42 had a remedial report in each system. The numbers of schools with enough data to have calculable subject-specific remedial rate is even lower, with 30 schools having a reportable remedial math rate and only 13 schools with a remedial English course rate in each system.

Remedial Rate Relationships to Other Factors

The final task in the data analysis was to look for factors that appear to be related to the proportion of students needing remedial coursework from each high school. For the reasons explained above regarding the need for adequate representation in the data, correlations were analyzed using overall remedial rates in the combined UMS and MCCS systems. These data should be interpreted with caution, as the comparatively small number of schools with adequate data (only 42 schools out of 139 with publicly-funded students) weakens the power of the analysis. And more importantly, the 42 included schools are likely different in systematic ways from those who were not. Smaller schools and schools with lower proportions of graduates requiring remedial courses are less likely to be represented in the correlations because they were more often subject to suppressed data. This limits the ability to generalize the results and apply them to all schools in Maine. Nonetheless, Table 7 provides the results of bivariate correlations between the three high school remedial rates (overall, math, and English) and other potential variables of interest, where a value of 0 indicates no relationship and 1 is a direct relationship. Data for the analysis were compiled from the Department of Education's public data warehouse, including the college-going data reports in the Research and Reports section.

Table 7: Pearson's Correlations between Remedial Rates and Other Factors of Interest in Maine Publicly-Funded High Schools

	Overall Remedial Rate	Remedial Math Rate	Remedial English Rate
Number of Schools Included in Data	*43*	*30*	*13*
Overall Remedial Rate	--	.863**	*ns*
Remedial Math Rate	.863**	--	*ns*
Remedial English Rate	*ns*	*ns*	--
Percent of Students Proficient in Writing, Grade 11 MHSA	-.521**	-.519**	*ns*
Percent of Students Proficient in Reading, Grade 11 MHSA	-.436**	-.418*	*ns*
Percent of Students Proficient in Math, Grade 11 MHSA	-.527**	-.403*	*ns*
Overall Student Attendance Rate in 2012-13	*ns*	*ns*	*ns*
Percent Eligible for Free or Reduced Price Lunch in 2013-14	*ns*	*ns*	*ns*
Graduation Rate 2013-14	*ns*	*ns*	*ns*
Percent of Graduates Enrolling in College in Fall 2014 (National Student Clearinghouse)	*ns*	*ns*	*ns*

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
"ns" indicates the correlation is not significant

These results show that the relationship between overall remedial rates and math remedial rates is strong. This can be explained by the fact that students are more likely to require remedial math coursework than English across all institutions, thus math rates are a more powerful driver of the overall numbers. This raises the possibility of using overall remedial rates as a proxy for math outcomes, but not for English. In fact, remedial English rates are unrelated to any of the factors explored. This may be due to the variation in remedial course policies at different institutions, resulting in zero reported enrollments at USM, UMPI, and UMF where developmental and co-enrollment models are in use in lieu of remedial courses. To the extent that high schools tend to have stronger enrollment patterns with campuses that are nearby, some high schools may have higher or lower

remedial rates as a result of their connections to colleges with different developmental course pathways. This would weaken the correlational relationship between English remedial rates and other factors.

The relationships between 11th grade test scores and remedial course rates are moderate. The Pearson correlations range from -0.4 to -0.5, indicating that as the proportion of students determined to be meeting or exceeding proficiency standards at the end their junior year increases, the proportion of students needing to enroll in remedial courses decreases. This is perhaps expected, as the 11th grade assessment in Maine includes the SAT exam that is used in initial screening for college course placements.

Conclusions & Recommendations

The results of these data analyses illustrate both the need for information related to college readiness and the challenges inherent in compiling it. Large numbers of students graduating from high school and entering directly into a Maine public post-secondary institution—almost one quarter of all those enrolling—are determined to be unready for introductory college courses and placed into non-credit remedial work. The true extent of the problem may be even greater than that reported number, as students who are placed into credit-bearing yet developmental prerequisite courses also face challenges. The reports initiated in 2012 were an attempt to gather information to gain a deeper understanding of college readiness.

However, this study highlights the insufficiency of these reports to add useful knowledge. Circumstances dictate that the majority of high schools are unable to receive detailed reports about their students' remedial course outcomes; the combined effects of prudent data suppression policies and small numbers of students entering either public system from any given high school preclude it.

Aggregate reports of remedial coursework by each post-secondary institution may be informative as a way to track institutional trends over time. However, the data by themselves do not provide insights into the reasons for differences across colleges, nor do they point to suggestions for improvement.

In addition, the required reporting of follow-up outcomes (reported in the 1 year persistence and graduation rates for both systems, and longitudinal data on all cohorts in

MCCS) also has limited utility. The rates by themselves paint a story about the number of students requiring remedial courses who drop out of college. But without comparative data on the outcomes for non-remedial students, the extent of the impact of remedial courses is not clear.

Given these results, it is recommended that the remedial course reporting requirement be allowed to lapse at the end of June 2016 as is established in statue. Continued reporting is not likely to yield additional insights.

However, the results of the correlational analysis suggest a possible alternate approach to providing schools with actionable information about their students' college readiness. The moderate relationship between remedial rates and 11th grade proficiency points to the potential to provide feedback as part of the high school assessment process rather than waiting until college enrollment. One way to potentially improve communication about college readiness would be to establish uniform SAT scores for pre-screening at all UMS and MCCS campuses, as the MCCS already does. These cut scores could then be included in 11th grade score reports and explain whether each student's results indicate that the student would be at risk of needing remedial coursework upon entry into the MCCS or UMS. This would provide a clear and consistent message to both students and high school leaders, and may create opportunities for new course approaches during the senior year to improve students' chances of testing out of remedial work. This change would be even more impactful if the scores used for pre-screening in UMS aligned more closely to the scores used to determine high school proficiency as that would eliminate a potential source of confusion.

However, this seemingly straightforward concept belies the complexity of the situation. Institutions have strong opinions about their course placement policies, which have evolved over years under much scrutiny and analysis. Differences in cut scores reflect institutional variation in pathway designs (i.e. remedial vs developmental coursework) as well as different levels of rigor and expectations for introductory college course content. Furthermore, the gap between high school proficiency determinations and college expectations reflects long-standing differences between K-12 and postsecondary cultures, which will not be bridged overnight. However, a development on the horizon gives reason to hope. The SAT exam is on the verge of major changes and a revised test will begin being

administered in March 2016. As part of the change, the new exam will have a different scoring system. At present, alignment of the two exams has not been analyzed as data is needed from the initial test administrations in order to create concordance tables comparing old and new exam scores. However, in the coming years the changes in the SAT will force institutions to revisit their course placement assessment policies. This creates a moment of change where it may be possible to establish more commonality within and across the systems.

In conclusion, additional work remains to be done to fully understand the causes, effects, and solutions for Maine's college readiness gap. However, it is not advisable to extend the current remedial course reporting requirements as they are not equipped to contribute to the effort.

References

Bahr, P. R. (2008). Does Mathematics Remediation Work? A Comparative Analysis of Academic Attainment among Community College Students. *Research in Higher Education*, 49(5), 420-450.

Balduf, M. (2009). Underachievement Among College Students. *Journal of Advanced Academics*, 20(2), 274-294.

Bettinger, E.P., and Long, B.T. (2005). Remediation at the Community College: Student Participation and Outcomes. *New Directions for Community Colleges*, 2005 (129), 17-26.

Connor, E. (2015, Publication Pending). Ready? The Experienced of Maine High School Graduates in Remedial College Classes (Doctoral Dissertation). ProQuest, accession number pending.

Levin, H.M. and Calcagno, J.C. (2008). Remediation in the Community College. *Community College Review*, 35(3), 181-207.

Martorell, P., McFarlin, I. (2010). Help or Hindrance? The Effects of College Remediation on Academic and Labor Market Outcomes. *Review of Economics and Statistics*, 93(2), 436-454.

Scott-Clayton, J. and Rodriguez, O. (2013). Development, Discouragement, or Diversion? New Evidence on the Effects of College Remediation. National Bureau of Economic Research. Doi: http://www.nber.org/papers/w18328.

STATE OF MAINE

IN THE YEAR OF OUR LORD

TWO THOUSAND AND TWELVE

S.P. 544 - L.D. 1645

An Act To Require the Maine Community College System, the University of Maine System and the Maine Maritime Academy To Report the Number of Students Enrolled in Remedial Courses

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 20-A MRSA §10012 is enacted to read:

§10012. High school graduates data; remedial courses

1. Remedial courses. Using information that is already collected by the Maine Community College System, the University of Maine System and the Maine Maritime Academy as part of the admissions and academic placement process, the President of the Maine Community College System, the Chancellor of the University of Maine System and the President of the Maine Maritime Academy shall annually compile the data so as to demonstrate:

A. The total number of traditional students who are enrolled in remedial courses in English language arts and mathematics, which must be disaggregated by campus and by subject area;

B. The name of each secondary school in the State from which a traditional student enrolled in a remedial course received a high school diploma and the number of those students from each of those schools; and

C. The retention and graduation rates for traditional students who were enrolled in remedial courses in English language arts and mathematics, which must be disaggregated by campus.

For the purposes of this subsection and subsection 2, "traditional student" means a student who has attended any accredited public school or private school in the State and received a high school diploma from a secondary school in the State or who has participated in a home instruction program pursuant to section 5001-A, subsection 3, paragraph A and who in the following academic year matriculates in the Maine Community College System, in the University of Maine System or at the Maine Maritime Academy.

2. Personally identifiable information. In reporting pursuant to subsection 3 the information compiled under subsection 1, the Maine Community College System, the

University of Maine System and the Maine Maritime Academy shall manage education records in compliance with the federal Family Educational Rights and Privacy Act of 1974, 20 United States Code, Section 1232g. Those public institutions of higher education may not make public any information that could identify an individual student and shall ensure that the purpose of reporting disaggregated data for students enrolled in remedial courses is to conduct research for the purpose of evaluating and improving education programs. To ensure that personally identifiable information that would make a student's identity easily traceable is not disclosed, the public institutions of higher education may not report disaggregated information compiled under subsection 1 if the total number of traditional students who received high school diplomas from the same secondary school and enrolled in the same remedial course at the same campus is 5 or fewer.

3. Report. Beginning with the 2012-2013 academic year, the President of the Maine Community College System, the Chancellor of the University of Maine System and the President of the Maine Maritime Academy shall each report the information compiled under subsection 1, including recommendations for strategies that may result in fewer students enrolling in remedial courses at postsecondary educational institutions and strategies for improving the retention and graduation rates for students who were enrolled in remedial courses. The reports must be submitted by January 1st of each year to the Commissioner of Education and to the joint standing committee of the Legislature having jurisdiction over education and cultural affairs. The Maine Community College System, the University of Maine System and the Maine Maritime Academy shall publish the annual reports on their publicly accessible websites.

4. Contingent repeal. This section is repealed July 1, 2016 unless the Commissioner of Education certifies to the Secretary of State, the Secretary of the Senate, the Clerk of the House of Representatives and the Revisor of Statutes before that date that the United States Congress has enacted legislation requiring public institutions of higher education to compile and report substantially the same data.

	UMS, 3-Year Average Results					MCCS, 3-Year Aveage Results					Total Grads per Year, 3yr avg	Approx. % of All Grads in Maine Publics	Overall remedial rate, Maine publics
	# UMS Reports	Total Enroll. Per Yr.	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate	# MCCS Reports	Total Enroll. Per Year	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate			
Arthur R Gould School	0	*	*	*	*	0	*	*	*	*	*	*	*
Ashland Community High School	1	6.0	0%	0%	0%	0	6.0	*	*	*	19.7	61%	*
Bangor High School	1	78.0	7%	*	*	2	24.7	42%	37%	25%	269.3	38%	15%
Belfast Area High School	1	18.7	36%	32%	*	3	16.3	57%	53%	37%	127.7	27%	46%
Biddeford High School	0	29.7	*	*	*	3	33.0	65%	59%	36%	191.3	33%	*
Bonny Eagle High School	3	42.7	25%	25%	0%	3	39.0	68%	63%	23%	248.3	33%	45%
Boothbay Region High School	1	10.0	0%	0%	0%	0	8.5	*	*	*	50.3	37%	*
Brewer High School	0	41.7	*	*	*	3	20.3	54%	54%	30%	161.0	39%	*
Brunswick High School	0	27.0	*	*	*	2	25.7	63%	61%	21%	201.3	26%	*
Buckfield Jr-sr High School	2	11.0	0%	0%	0%	0	10.0	*	*	*	41.0	51%	*
Bucksport High School	0	19.7	*	*	*	0	9.3	*	*	*	80.0	36%	*
Calais High School	1	13.7	0%	0%	0%	2	13.7	79%	73%	42%	58.7	47%	39%
Camden Hills Regional HS	0	25.7	*	*	*	1	10.5	62%	46%	*	152.7	24%	*
Cape Elizabeth High School	0	14.7	*	*	*	2	7.3	93%	86%	*	126.7	17%	*
Caribou High School	1	39.0	14%	*	*	1	24.0	27%	*	*	108.3	58%	19%
Carrabec High School	1	9.7	0%	0%	0%	0	9.0	*	*	*	60.7	31%	*
Casco Bay High School	0	10.5	*	*	*	1	9.0	67%	67%	*	53.0	37%	*
Central Aroostook Jr-Sr High	0	10.0	*	*	*	0	7.0	*	*	*	28.0	61%	*
Central High School	0	14.3	*	*	*	2	12.7	66%	69%	48%	73.3	37%	*
Cony High School	2	40.0	17%	18%	*	2	20.3	51%	45%	33%	182.3	33%	28%
Deer Isle-Stonington HS	2	6.5	0%	0%	0%	0	7.0	*	*	*	33.0	41%	*
Deering High School	2	34.0	17%	15%	0%	3	37.7	73%	64%	42%	209.0	34%	46%
Dexter Regional High School	0	12.0	*	*	*	1	9.0	64%	*	*	58.3	36%	*
Dirigo High School	0	16.7	*	*	*	3	13.0	51%	50%	*	73.0	41%	*
East Grand High School	1	*	0%	0%	0%	0	*	*	*	*	14.0	*	*
Easton Junior-Senior High	1	7.3	0%	0%	0%	0	*	*	*	*	15.7	*	*
Edward Little High School	1	23.0	0%	0%	0%	3	52.3	55%	34%	38%	207.7	36%	38%
Ellsworth High School	0	18.3	*	*	*	3	17.7	53%	53%	*	118.0	31%	*
Falmouth High School	0	24.7	*	*	*	3	9.0	70%	67%	*	178.7	19%	*
Forest Hills Consolidated Sch	1	*	0%	0%	0%	0	*	*	*	*	10.0	*	*
Fort Fairfield Middle HS	1	11.3	46%	*	*	0	9.0	*	*	*	32.0	64%	*
Fort Kent Community High Sch	0	24.0	*	*	*	0	*	*	*	*	70.7	*	*

	UMS, 3-Year Average Results					MCCS, 3-Year Aveage Results					Total Grads per Year, 3yr avg	Approx. % of All Grads in Maine Publics	Overall remedial rate, Maine publics
	# UMS Reports	Total Enroll. Per Yr.	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate	# MCCS Reports	Total Enroll. Per Year	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate			
Freeport High School	0	24.7	*	*	*	2	16.7	59%	49%	38%	118.0	35%	*
Gardiner Area High School	1	28.7	24%	*	*	2	14.3	52%	55%	*	125.7	34%	33%
Georges Valley High School	0	*	*	*	*	0	*	*	*	*	*	*	*
Gorham High School	0	41.0	*	*	*	3	24.3	60%	53%	39%	199.0	33%	*
Gray-New Gloucester HS	0	23.3	*	*	*	3	21.7	58%	48%	46%	118.3	38%	*
Greely High School	0	22.0	*	*	*	3	18.7	54%	46%	32%	164.0	25%	*
Greenville Consolidated School	1	7.5	0%	0%	0%	0	*	*	*	*	17.3	*	*
Hall-Dale High School	1	18.3	38%	*	*	1	7.0	100%	100%	*	64.3	39%	55%
Hampden Academy	0	47.7	*	*	*	3	25.0	57%	53%	36%	166.3	44%	*
Hermon High School	1	25.3	21%	*	*	3	18.0	46%	42%	*	117.0	37%	32%
Hodgdon High School	0	12.7	*	*	*	0	6.0	*	*	*	35.0	53%	*
Houlton High School	0	21.3	*	*	*	0	13.0	*	*	*	73.7	47%	*
Isleboro Central School	0	*	*	*	*	0	*	*	*	*	*	*	*
Jonesport-Beals High School	1	*	0%	0%	0%	0	*	*	*	*	13.0	*	*
Katahdin High School	2	10.0	0%	0%	0%	0	6.0	*	*	*	28.7	56%	*
Kennebunk High School	1	23.7	0%	0%	0%	3	27.0	51%	46%	*	165.0	31%	27%
Lake Region High School	0	20.0	*	*	*	3	20.7	53%	40%	39%	128.3	32%	*
Lawrence High School	0	29.0	*	*	*	1	33.7	16%	16%	*	166.0	38%	*
Leavitt Area High School	0	29.0	*	*	*	3	31.7	46%	35%	34%	137.0	44%	*
Lewiston High School	2	42.5	9%	0%	0%	3	57.7	47%	27%	34%	242.7	41%	31%
Limestone Community School	1	8.0	0%	0%	0%	0	*	*	*	*	21.3	*	*
Lisbon High School	0	17.5	*	*	*	3	20.0	48%	48%	38%	94.7	40%	*
Machias Memorial High School	1	10.7	75%	58%	*	1	12.0	58%	50%	*	30.0	76%	66%
Madawaska High School	0	22.0	*	*	*	0	6.0	*	*	*	48.7	58%	*
Madison Area Memorial HS	1	9.0	0%	0%	0%	0	*	*	*	*	61.3	*	*
Maine Academy of Natural Sci	1	*	0%	0%	0%	0	*	*	*	*	16.0	*	*
Maine Connections Academy	0	*				0	*				*	*	*
Maine School Science & Math	1	*	0%	0%	0%	0	*	*	*	*	28.7	*	*
Maranacook Comm High Schl	0	23.7	*	*	*	1	10.3	43%	*	*	96.7	35%	*
Marshwood High School	1	30.3	0%	0%	0%	3	27.7	28%	25%	25%	160.3	36%	13%
Massabesic High School	0	27.3	*	*	*	3	35.7	48%	44%	20%	222.3	28%	*
Mattanawcook Academy	1	14.7	0%	0%	0%	2	11.7	55%	62%	*	74.3	35%	24%

	UMS, 3-Year Average Results					MCCS, 3-Year Aveage Results					Total Grads per Year, 3yr avg	Approx. % of All Grads in Maine Publics	Overall remedial rate, Maine publics
	# UMS Reports	Total Enroll. Per Yr.	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate	# MCCS Reports	Total Enroll. Per Year	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate			
Medomak Valley High School	2	24.3	16%	16%	0%	3	14.3	56%	49%	49%	120.3	32%	31%
Messalonskee High School	1	40.3	14%	*	*	2	30.0	22%	21%	*	182.3	39%	18%
Monmouth Academy	0	12.3	*	*	*	0	8.3	*	*	*	51.0	41%	*
Morse High School	0	23.7	*	*	*	3	17.7	51%	54%	*	134.7	31%	*
Mount Abram Regional High Sch	1	16.0	0%	0%	0%	2	13.0	61%	52%	39%	55.7	52%	27%
Mount Ararat School	0	33.7	*	*	*	3	32.7	53%	46%	26%	188.3	35%	*
Mount Blue High School	1	38.0	14%	14%	*	3	18.3	75%	82%	63%	154.7	36%	33%
Mount Desert Island HS	0	23.3	*	*	*	2	7.7	81%	75%	*	104.7	30%	*
Mount View High School	0	16.7	*	*	*	1	15.0	38%	*	29%	100.7	31%	*
Mountain Valley High School	1	21.0	18%	*	*	2	13.0	79%	64%	50%	82.7	41%	41%
Mountain View Youth Dev Ctr	0	*	*	*	*	0	*	*	*	*	*	*	*
Narraguagas High School	1	14.3	43%	33%	*	1	10.0	90%	80%	*	47.7	51%	62%
Noble High School	0	21.7	*	*	*	3	39.0	43%	39%	18%	199.0	30%	*
Nokomis Regional High School	0	20.3	*	*	*	2	18.0	58%	50%	*	153.0	25%	*
North Haven Community School	0	*	*	*	*	0	*	*	*	*	*	*	*
Oak Hill High School	2	12.3	0%	0%	0%	3	21.0	52%	43%	33%	95.7	35%	33%
Oceanside High School - East	3	26.7	25%	26%	*	2	13.5	74%	70%	*	134.0	30%	41%
Old Orchard Beach High School	2	11.0	0%	0%	0%	3	13.7	54%	46%	44%	61.3	40%	30%
Old Town High School	0	35.7	*	*	*	2	20.0	55%	35%	50%	108.7	51%	*
Orono High School	2	19.7	0%	0%	0%	2	8.7	72%	67%	*	82.7	34%	22%
Oxford Hills High School	2	37.3	16%	16%	*	3	47.3	45%	35%	29%	226.3	37%	32%
Penobscot Valley High School	1	7.7	0%	0%	0%	0	6.5	*	*	*	38.0	37%	*
Penquis valley High School	0	10.5	*	*	*	1	8.0	67%	*	*	39.3	47%	*
Piscataquis Community High	0	10.0	*	*	*	1	9.0	78%	67%	*	45.3	42%	*
Poland Regional High School	0	22.7	*	*	*	3	16.7	50%	36%	42%	105.0	37%	*
Portland High School	1	26.7	22%	19%	*	3	34.7	64%	55%	32%	186.3	33%	46%
Presque Isle High School	0	44.7	*	*	*	2	24.7	36%	44%	*	125.0	55%	*
Rangeley Lakes Regional School	1	*	0%	0%	0%	0	*	*	*	*	13.5	*	*
Region 9 Sch of Applied Tech	0	*	*	*	*	0	*	*	*	*	*	*	*
Richmond Middle\High School	1	8.3	0%	0%	0%	1	7.3	90%	80%	*	29.3	53%	42%
Robert W Traip Academy	0	12.3	*	*	*	1	10.0	60%	*	*	59.3	38%	*
Saco Transition Program	0	*	*	*	*	0	*	*	*	*	*	*	*

	UMS, 3-Year Average Results					MCCS, 3-Year Aveage Results					Total Grads per Year, 3yr avg	Approx. % of All Grads in Maine Publics	Overall remedial rate, Maine publics
	# UMS Reports	Total Enroll. Per Yr.	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate	# MCCS Reports	Total Enroll. Per Year	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate			
Sacopee Valley High School	1	14.3	0%	0%	0%	3	18.7	59%	55%	*	86.7	38%	33%
SAD #53 Alternative Education	0	*	*	*	*	0	*	*	*	*	*	*	*
Sanford High School	0	31.3	*	*	*	3	59.0	41%	37%	17%	236.0	38%	*
Sanford Regional Vocational Tec	0	*	*	*	*	0	*	*	*	*	*	*	*
Scarborough High School	0	45.0	*	*	*	3	26.7	68%	59%	39%	256.3	28%	*
Schenck High School	0	10.3	*	*	*	0	*	*	*	*	35.7	*	*
Searsport District High School	1	8.0	0%	0%	0%	0	*	*	*	*	32.0	*	*
Shead High School	0	7.5	*	*	*	3	9.0	74%	67%	*	26.7	62%	*
Skowhegan Area High School	1	26.0	25%	*	*	2	25.3	31%	31%	*	164.7	31%	28%
South Portland High School	0	34.0	*	*	*	3	31.7	54%	49%	19%	186.0	35%	*
Southern Aroostook Cmty Sch	0	9.0	*	*	*	0	6.0	*	*	*	25.3	59%	*
Spruce Mountain High School	0	14.0	*	*	*	2	16.0	54%	49%	54%	122.5	24%	*
Spruce Mountain HS-North (Jay)	1	16.5	33%	*	*	1	14.0	57%	43%	43%	59.0	52%	44%
Spruce Mountain HS-South	1	13.5	0%	0%	0%	1	16.0	63%	44%	38%	63.5	46%	34%
Stearns High School	0	10.7	*	*	*	0	6.5	*	*	*	38.7	44%	*
Sumner Memorial High School	1	10.7	0%	0%	0%	0	9.0	*	*	*	48.7	40%	*
Telstar Regional High School	2	9.0	0%	0%	0%	3	13.7	51%	*	44%	56.0	40%	31%
Upper Kennebec Valley Mem.	1	6.0	0%	0%	0%	0	6.0	*	*	*	15.7	77%	*
Van Buren Dist Secondary Schl	0	11.0	*	*	*	0	*	*	*	*	25.3	*	*
Vinalhaven High School	2	*	0%	0%	0%	0	*	*	*	*	13.7	*	*
Washburn District High School	0	7.5	*	*	*	0	8.0	*	*	*	22.0	70%	*
Waterville Senior High School	1	18.7	0%	0%	0%	2	17.0	41%	39%	*	118.7	30%	20%
Wells High School	1	18.3	0%	0%	0%	3	19.3	38%	41%	*	107.0	35%	19%
Westbrook High School	0	24.7	*	*	*	3	30.7	73%	66%	35%	155.7	36%	*
Windham High School	1	35.3	20%	17%	*	3	36.3	53%	48%	29%	237.7	30%	37%
Winslow High School	0	19.7	*	*	*	1	21.7	33%	*	*	98.0	42%	*
Winthrop High School	0	14.3	*	*	*	1	14.0	50%	*	50%	46.7	61%	*
Wiscasset High School	1	6.0	0%	0%	0%	0	*	*	*	*	35.3	*	*
Wisdom Middle/High School	0	9.0	*	*	*	0	8.0	*	*	*	21.7	78%	*
Woodland High School	1	8.0	0%	0%	0%	2	14.0	60%	53%	53%	34.0	65%	38%
Yarmouth High School	1	12.0	0%	0%	0%	0	7.5	*	*	*	111.3	18%	*
York High School	1	20.0	0%	0%	0%	2	19.0	41%	37%	*	141.7	28%	20%

	UMS, 3-Year Average Results					MCCS, 3-Year Aveage Results					Total Grads per Year, 3yr avg	Approx. % of All Grads in Maine Publics	Overall remedial rate, Maine publics
	# UMS Reports	Total Enroll. Per Yr.	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate	# MCCS Reports	Total Enroll. Per Year	Overall Remed. Rate	Remed. Math Rate	Remed. ELA Rate			
Private Schools, 60% Publicly Funded													
Blue Hill Harbor School	0	*	*	*	*	0	*	*	*	*	*	*	*
Erskine Academy	0	48.7	*	*	*	2	23.0	35%	33%	*	148.0	48%	*
Foxcroft Academy	1	13.3	0%	0%	0%	1	11.0	67%	*	*	76.0	32%	30%
Fryeburg Academy	1	*	0%	0%	0%	3	12.7	61%	55%	47%	114.0	*	*
George Stevens Academy	0	10.0	*	*	*	0	7.0	*	*	*	52.3	32%	*
John Bapst Memorial HS	2	38.0	0%	0%	0%	0	7.0	*	*	*	102.3	44%	*
Lee Academy	0	10.5	*	*	*	2	9.7	65%	61%	*	38.7	52%	*
Lincoln Academy	1	19.0	0%	0%	0%	1	10.5	54%	46%	*	115.7	26%	19%
Maine Central Institute	0	15.0	*	*	*	0	9.7	*	*	*	64.3	38%	*
Thornton Academy	2	55.0	10%	10%	0%	3	48.7	67%	60%	30%	327.7	32%	37%
Washington Academy	2	20.7	32%	29%	0%	2	15.0	58%	50%	39%	84.0	42%	43%
Adult Ed/GED	NR	--	--	--	--	3	35.7	57%	52%	18%	*	*	*

	UMS Overall Remed. Rate	MCCS Overall Remed. Rate	Remed. Rate UMS & MCCS	9-12 Enrollmt (2013-14)	Grad. Rate (2013-14)	% College-going (Fall 2014 Cohort)	Writing profic'y rate (2011-12)	Reading profic'y rate (2011-12)	Math profic'y rate (2011-12)	Attend. Rate (2012-13)	Dropout Rate (%) (2013-14)	Percent Economic Disadv. (2013-14)
Arthur R Gould School	*	*	*	28	*	*	*	*	*	*	*	*
Ashland Community High School	0%	*	*	92	91.3	75	*	*	*	90.3	*	59.4
Bangor High School	7%	42%	15%	1181	87.7	70	60.0	58.9	63.2	94.0	2.5	40.3
Belfast Area High School	36%	57%	46%	549	80.6	47	32.6	32.6	28.0	92.4	3.3	50.8
Biddeford High School	*	65%	*	798	87.6	55	42.3	35.4	46.0	92.9	2.8	48.4
Bonny Eagle High School	25%	68%	45%	1164	84.1	54	39.2	35.4	37.2	92.3	4.3	28.4
Boothbay Region High School	0%	*	*	216	90.9	65	46.0	51.0	49.0	90.5	*	46.8
Brewer High School	*	54%	*	709	85.6	61	52.5	48.1	40.2	93.0	2.5	31.2
Brunswick High School	*	63%	*	850	89.1	63	64.8	64.8	55.6	100.0	2.0	25.3
Buckfield Jr-sr High School	0%	*	*	176	84.0	59	46.2	41.0	35.9	91.8	*	62.9
Bucksport High School	*	*	*	306	89.6	61	38.7	39.2	37.2	93.8	*	31.4
Calais High School	0%	79%	39%	218	81.8	60	47.7	36.9	52.3	92.5	*	51.8
Camden Hills Regional HS	*	62%	*	686	92.2	60	62.5	60.3	62.5	94.6	*	29.3
Cape Elizabeth High School	*	93%	*	555	97.5	85	86.7	83.0	83.0	95.3	*	7.0
Caribou High School	14%	27%	19%	464	82.1	63	37.1	35.5	49.2	90.2	3.4	44.4
Carrabec High School	0%	*	*	228	89.1	45	29.5	26.9	33.2	91.6	*	62.3
Casco Bay High School	*	67%	*	335	86.4	60	69.5	66.0	53.6	97.2	*	44.5
Central Aroostook Jr-Sr High	*	*	*	128	85.2	56	33.2	42.4	30.3	92.5	*	42.9
Central High School	*	66%	*	385	77.0	46	33.7	35.1	33.7	91.7	3.4	48.8
Cony High School	17%	51%	28%	713	83.7	62	36.2	39.7	39.7	91.6	3.5	42.9
Deer Isle-Stonington HS	0%	*	*	109	91.4	61	44.7	42.1	42.1	92.6	*	24.8
Deering High School	17%	73%	46%	931	78.7	67	42.0	41.1	29.7	94.3	4.2	55.4
Dexter Regional High School	*	64%	*	317	86.1	48	43.5	40.2	46.8	93.9	3.8	60.6
Dirigo High School	*	51%	*	319	88.2	59	38.9	37.5	33.2	92.1	*	51.7
East Grand High School	0%	*	*	50	*	38	*	*	*	92.0	*	76.8
Easton Junior-Senior High	0%	*	*	66	100.0	77	*	71.4	71.4	96.7	*	41.0
Edward Little High School	0%	55%	38%	1000	77.3	59	34.4	36.7	42.7	92.3	5.3	44.5
Ellsworth High School	*	53%	*	474	80.6	58	42.2	45.5	42.9	90.4	4.4	40.7
Falmouth High School	*	70%	*	712	97.5	81	82.7	82.1	85.0	95.0	*	4.6
Forest Hills Consolidated Sch	0%	*	*	63	90.9	64	*	*	*	91.7	*	41.3
Fort Fairfield Middle HS	46%	*	*	147	84.2	78	36.7	40.0	40.0	93.9	*	51.8
Fort Kent Community High Sch	*	*	*	301	86.1	49	38.9	37.5	38.9	95.2	3.7	49.8
Freeport High School	*	59%	*	519	92.5	60	54.2	57.5	46.7	94.8	*	17.7

	UMS Overall Remed. Rate	MCCS Overall Remed. Rate	Remed. Rate UMS & MCCS	9-12 Enrollmt (2013-14)	Grad. Rate (2013-14)	% College-going (Fall 2014 Cohort)	Writing profic'y rate (2011-12)	Reading profic'y rate (2011-12)	Math profic'y rate (2011-12)	Attend. Rate (2012-13)	Dropout Rate (%) (2013-14)	Percent Economic Disadv. (2013-14)
Gardiner Area High School	24%	52%	33%	616	85.1	51	40.6	44.4	45.9	94.0	4.1	47.2
Georges Valley High School	*	*	*	*	*	*	*	*	*	*	*	*
Gorham High School	*	60%	*	845	91.9	64	53.7	56.2	55.0	95.5	1.2	21.1
Gray-New Gloucester HS	*	58%	*	506	84.6	65	42.4	44.4	52.8	93.1	2.8	31.8
Greely High School	*	54%	*	673	98.1	78	74.0	69.5	71.8	96.1	*	7.7
Greenville Consolidated School	0%	*	*	*	91.7	75	47.6	*	*	*	*	*
Hall-Dale High School	38%	100%	55%	305	80.9	62	48.7	51.3	44.9	92.9	*	27.5
Hampden Academy	*	57%	*	692	90.1	71	58.5	62.5	61.7	93.8	1.7	23.7
Hermon High School	21%	46%	32%	495	84.9	62	49.2	42.7	54.0	88.9	2.8	24.0
Hodgdon High School	*	*	*	155	92.9	49	37.7	37.7	32.4	95.0	*	58.1
Houlton High School	*	*	*	346	89.5	67	40.9	53.4	44.3	88.4	*	51.4
Isleboro Central School	*	*	*	40	*	57	*	*	*	98.9	*	29.5
Jonesport-Beals High School	0%	*	*	61	92.3	42	*	*	*	88.6	*	67.2
Katahdin High School	0%	*	*	125	83.3	43	40.0	*	*	92.0	*	60.6
Kennebunk High School	0%	51%	27%	682	95.8	79	67.5	70.0	58.2	94.1	*	19.8
Lake Region High School	*	53%	*	537	87.0	53	40.0	49.3	44.4	92.1	3.5	48.6
Lawrence High School	*	16%	*	680	89.7	55	32.6	30.2	33.7	90.7	1.6	51.5
Leavitt Area High School	*	46%	*	624	91.4	61	38.4	37.5	39.2	92.4	1.6	35.7
Lewiston High School	9%	47%	31%	1360	69.9	55	36.6	35.1	37.2	91.3	5.3	64.0
Limestone Community School	0%	*	*	103	76.7	62	*	*	*	90.9	*	76.7
Lisbon High School	*	48%	*	392	91.2	57	44.3	36.7	43.0	92.7	2.6	47.4
Machias Memorial High School	75%	58%	66%	104	81.5	79	34.4	37.5	43.8	88.7	*	39.4
Madawaska High School	*	*	*	163	95.9	67	34.7	30.4	37.0	94.4	*	37.3
Madison Area Memorial HS	0%	*	*	266	83.6	55	35.2	38.0	36.6	93.1	3.8	60.9
Maine Academy of Natural Sci	0%	*	*	66	69.6	35	*	*	*	90.7	*	28.8
Maine Connections Academy		*	*	*	*	*	*	*	*	*	*	*
Maine School Science & Math	0%	*	*	129	89.5	83	94.4	100.0	100.0	99.6	*	*
Maranacook Comm High Schl	*	43%	*	426	86.6	71	56.0	56.0	51.2	95.0	3.5	32.2
Marshwood High School	0%	28%	13%	749	91.9	79	60.3	62.1	67.2	95.0	1.6	*
Massabesic High School	*	48%	*	1040	87.0	50	38.2	37.4	34.6	94.5	2.6	39.9
Mattanawcook Academy	0%	55%	24%	359	97.2	63	44.7	43.4	50.0	94.6	*	55.2

	UMS Overall Remed. Rate	MCCS Overall Remed. Rate	Remed. Rate UMS & MCCS	9-12 Enrollmt (2013-14)	Grad. Rate (2013-14)	% College-going (Fall 2014 Cohort)	Writing profic'y rate (2011-12)	Reading profic'y rate (2011-12)	Math profic'y rate (2011-12)	Attend. Rate (2012-13)	Dropout Rate (%) (2013-14)	Percent Economic Disadv. (2013-14)
Medomak Valley High School	16%	56%	31%	551	91.6	38	45.1	43.4	46.7	95.9	3.1	53.4
Messalonskee High School	14%	22%	18%	801	87.5	66	40.0	45.3	49.4	90.9	2.0	34.2
Monmouth Academy	*	*	*	217	91.4	68	33.9	38.7	32.2	92.9	*	37.3
Morse High School	*	51%	*	628	79.9	57	39.1	37.0	38.4	93.3	5.6	32.3
Mount Abram Regional High Sch	0%	61%	27%	258	96.3	73	39.2	37.5	39.2	91.5	*	60.1
Mount Ararat School	*	53%	*	825	78.0	63	50.8	55.3	47.1	96.2	5.9	33.8
Mount Blue High School	14%	75%	33%	710	88.0	60	37.1	47.2	38.4	91.6	3.4	50.6
Mount Desert Island HS	*	81%	*	538	81.5	73	54.0	51.2	56.5	93.2	3.5	26.6
Mount View High School	*	38%	*	457	92.9	42	37.1	38.1	38.1	93.3	*	63.0
Mountain Valley High School	18%	79%	41%	420	84.4	50	46.2	36.6	38.7	88.6	2.6	70.7
Mountain View Youth Dev Ctr	*	*	*	43	*	*	*	*	*	*	*	100.0
Narraguagas High School	43%	90%	62%	206	94.0	55	23.9	*	*	91.7	*	51.5
Noble High School	*	43%	*	871	80.9	56	45.8	47.0	54.2	91.4	3.6	42.6
Nokomis Regional High School	*	58%	*	679	85.3	46	26.3	29.9	33.5	91.7	4.0	53.0
North Haven Community School	*	*	*	18	*	25	*	*	*	94.3	*	*
Oak Hill High School	0%	52%	33%	452	92.9	49	42.5	45.1	38.1	91.4	2.7	39.4
Oceanside High School - East	25%	74%	41%	466	77.9	53	35.1	41.9	38.5	93.9	6.0	52.4
Old Orchard Beach High School	0%	54%	30%	229	80.7	70	55.7	55.7	54.3	89.5	4.4	48.9
Old Town High School	*	55%	*	492	82.9	65	40.0	40.7	41.6	92.5	3.7	40.0
Orono High School	0%	72%	22%	354	89.3	64	46.3	53.7	55.2	93.7	*	29.1
Oxford Hills High School	16%	45%	32%	1098	83.9	61	37.0	35.4	34.6	95.7	3.6	59.2
Penobscot Valley High School	0%	*	*	165	81.3	45	35.7	*	*	84.0	*	61.2
Penquis valley High School	*	67%	*	197	71.4	50	*	20.8	28.3	89.3	5.1	73.3
Piscataquis Community High	*	78%	*	221	83.0	60	24.0	26.0	26.0	96.2	*	59.8
Poland Regional High School	*	50%	*	522	82.1	66	51.3	52.2	53.9	93.1	2.1	32.0
Portland High School	22%	64%	46%	874	77.7	68	42.4	43.9	37.2	94.3	3.0	53.7
Presque Isle High School	*	36%	*	554	92.0	74	48.7	53.0	49.1	93.7	2.5	41.2
Rangeley Lakes Regional School	0%	*	*	47	*	86	*	*	*	94.3	*	36.3
Region 9 Sch of Applied Tech	*	*	*	*	*	*	*	*	*	*	*	*
Richmond Middle\High School	0%	90%	42%	146	68.6	58	41.5	51.2	36.6	91.8	*	37.7
Robert W Traip Academy	*	60%	*	275	81.2	65	44.6	49.2	47.7	92.7	3.6	26.5
Saco Transition Program	*	*	*	20	*	*	*	*	*	67.9	*	40.0

	UMS Overall Remed. Rate	MCCS Overall Remed. Rate	Remed. Rate UMS & MCCS	9-12 Enrollmt (2013-14)	Grad. Rate (2013-14)	% College-going (Fall 2014 Cohort)	Writing profic'y rate (2011-12)	Reading profic'y rate (2011-12)	Math profic'y rate (2011-12)	Attend. Rate (2012-13)	Dropout Rate (%) (2013-14)	Percent Economic Disadv. (2013-14)
Sacopee Valley High School	0%	59%	33%	403	86.8	54	35.2	36.4	27.3	96.0	4.0	53.1
SAD #53 Alternative Education	*	*	*	14	*	25	*	*	*	96.3	*	13.3
Sanford High School	*	41%	*	1066	85.0	58	31.1	35.1	34.2	94.0	2.7	53.8
Sanford Regional Vocational Tec	*	*	*	*	*	*	*	*	*	*	*	*
Scarborough High School	*	68%	*	1038	95.1	77	63.6	60.9	65.8	94.2	*	15.0
Schenck High School	*	*	*	134	84.4	54	32.4	47.1	35.2	90.7	*	50.0
Searsport District High School	0%	*	*	156	78.4	48	42.1	39.5	34.2	91.8	*	63.5
Shead High School	*	74%	*	110	89.7	68	40.0	*	*	88.5	*	50.9
Skowhegan Area High School	25%	31%	28%	819	76.3	52	44.8	39.6	41.2	91.5	5.5	58.4
South Portland High School	*	54%	*	854	86.2	70	54.6	54.6	58.7	92.9	2.7	35.4
Southern Aroostook Cmty Sch	*	*	*	111	80.8	73	*	*	*	95.5	*	72.7
Spruce Mountain High School	*	54%	*	*	88.0	54	*	*	*	*	*	*
Spruce Mountain HS-North (Jay)	33%	57%	44%	*	*	*	41.2	41.2	31.4	85.1	*	*
Spruce Mountain HS-South	0%	63%	34%	*	*	*	33.2	29.1	23.1	84.5	*	*
Stearns High School	*	*	*	186	81.6	41	*	*	34.9	97.2	*	54.9
Sumner Memorial High School	0%	*	*	250	83.3	48	*	24.4	37.7	92.3	6.8	60.0
Telstar Regional High School	0%	51%	31%	246	87.3	69	25.9	31.0	22.4	94.1	*	53.7
Upper Kennebec Valley Mem.	0%	*	*	68	88.9	62	*	*	*	92.3	*	64.7
Van Buren Dist Secondary Schl	*	*	*	94	92.0	52	*	*	*	92.5	*	57.4
Vinalhaven High School	0%	*	*	67	100.0	50	*	*	*	93.7	*	50.0
Washburn District High School	*	*	*	126	84.4	67	57.9	52.6	52.6	94.2	*	49.2
Waterville Senior High School	0%	41%	20%	604	74.7	55	53.1	49.2	43.8	95.8	6.1	52.2
Wells High School	0%	38%	19%	448	100.0	66	56.7	57.7	60.6	95.1	*	21.2
Westbrook High School	*	73%	*	707	82.7	63	37.5	41.7	36.1	92.6	4.8	50.6
Windham High School	20%	53%	37%	1031	85.6	64	45.5	46.4	44.4	93.6	2.8	30.9
Winslow High School	*	33%	*	476	86.7	63	36.5	34.4	42.7	92.7	3.2	36.1
Winthrop High School	*	50%	*	233	83.7	68	50.0	55.0	48.3	90.5	*	27.5
Wiscasset High School	0%	*	*	208	73.5	44	51.1	44.7	38.2	89.1	5.8	48.1
Wisdom Middle/High School	*	*	*	104	95.8	83	*	*	*	93.3	*	42.4
Woodland High School	0%	60%	38%	146	90.3	61	*	*	*	93.4	*	53.1
Yarmouth High School	0%	*	*	500	97.5	70	82.0	81.0	82.8	95.5	*	9.2
York High School	0%	41%	20%	627	96.7	75	73.5	72.2	76.2	95.5	*	14.5

	UMS Overall Remed. Rate	MCCS Overall Remed. Rate	Remed. Rate UMS & MCCS	9-12 Enrollmt (2013-14)	Grad. Rate (2013-14)	% College-going (Fall 2014 Cohort)	Writing profic'y rate (2011-12)	Reading profic'y rate (2011-12)	Math profic'y rate (2011-12)	Attend. Rate (2012-13)	Dropout Rate (%) (2013-14)	Percent Economic Disadv. (2013-14)
Private Schools, 60% Publicly Funded												
Blue Hill Harbor School	*	*	*	18	*	*	*	*	*	*	*	*
Erskine Academy	*	35%	*	571	97.7	72	49.3	48.6	52.7	*	*	29.2
Foxcroft Academy	0%	67%	30%	367	89.0	50	48.7	51.3	44.9	*	3.3	84.2
Fryeburg Academy	0%	61%	*	427	93.9	54	40.2	48.2	45.0	*	*	30.4
George Stevens Academy	*	*	*	289	91.7	73	52.3	58.5	53.8	*	*	0.7
John Bapst Memorial HS	0%	*	*	415	99.0	85	78.8	82.8	86.9	*	*	*
Lee Academy	*	65%	*	164	90.7	54	*	38.7	*	*	*	65.2
Lincoln Academy	0%	54%	19%	483	91.2	36	52.1	51.2	46.3	*	*	33.3
Maine Central Institute	*	*	*	343	87.5	55	56.3	56.3	54.7	*	*	31.2
Thornton Academy	10%	67%	37%	1432	91.5	63	47.8	50.2	51.2	*	1.5	*
Washington Academy	32%	58%	43%	370	94.1	65	40.2	39.0	31.2	*	*	38.6

Appendix D: Variables and Abbreviations Used in the Report Tables

Variable Name	Description	Range	Source*
Variables in Appendix B, Columns for UMS and MCCS reports			
# Reports	Number of annual reports that included data on the overall remedial enrollments; only these reports were used in 3 year average remedial rates	0 to 3	Remedial reports
Total Enrollees per year	Number of Enrollees from the high school in the UMS or MCCS system per year, 3 year Average	0 to 51.8	Remedial reports
Overall Remedial Rate	Overall Remedial Rate in UMS or MCCS (Any Subject); Average overall remedial students divided by average total enrollees using all reports with useful data	0 to 81%	Remedial reports
Math Remedial Rate	Similar calculation to overall remedial rate, using average number of students enrolled in remedial math courses	0 to 74%	Remedial reports
English Remedial Rate	Similar calculation to overall remedial rate, using average number of students enrolled in remedial English courses	0 to 71%	Remedial reports
Other Variables in Appendix B			
Total Grads per Year, 3 Year Avg.	Average number of graduates per year in 2011-12, 2012-13, and 2013-14	10 to 269	Maine data warehouse
Approx. Percent of All Grads in Maine Publics	Proportion of the college-going students in 2011-12 through 2013-14 who entered the UMS or MCCS system (based on average graduation numbers, NSC college going rates in Fall 2014, and average enrollments per year into UMS and MCCS	17% to 78%	Calculated
Overall Remedial rate, Maine Publics	Aggregate overall remedial rate using combined data from UMS and MCCS averages. Calculated only if at least one usable report was generated in each system.	13% to 66%	Calculated

* Maine Data Warehouse:
http://dw.education.maine.gov/DirectoryManager/Web/Maine_report/MaineLanding.aspx

* Remedial Reports:
http://www.mccs.me.edu/about-mccs/system-info/mccs-reports/
http://www.maine.edu/about-the-system/ums-data-book/student-related-reports/

Appendix D (cont.): Variables and Abbreviations Used in the Report Tables

Variables in Appendix C			
Variable Name	Description	Range	Source
9-12 Enrollment (2013-14)	High school enrollment in Grades 9-12 in 2013-14	47 to 1360	Maine data warehouse
Grad. Rate (2013-14)	4-year Graduation Rate reported for 2013-14	68.6% to 100%	Maine data warehouse
% College-going	Percent of Spring 2014 graduates enrolling in college in Fall 2014 according to National Student Clearinghouse (NSC) data	25% to 86%	Maine data warehouse
Writing proficiency rate (2011-12)	Percent of 11th Graders Meeting or Exceeding Writing Proficiency Standards in 2011-12	23.9% to 94.4%	Maine data warehouse
Reading proficiency rate (2011-12)	Percent of 11th Graders Meeting or Exceeding Reading Proficiency Standards in 2011-12	20.8 to 100%	Maine data warehouse
Math proficiency rate (2011-12)	Percent of 11th Graders Meeting or Exceeding Math Proficiency Standards in 2011-12	22.4 to 100%	Maine data warehouse
Attend. Rate	Average daily student attendance rate reported for 2012-13	67.9% to 100%	Maine data warehouse
Dropout Rate	Annual dropout rate reported for 2013-14	1.2% to 6.8%	Maine data warehouse
Percent Economically Disadv.	% of Students Eligible for free or reduced-price lunch in 2013-14	0.7% to 100%	Maine data warehouse

Abbreviation	Full Name	Location
CMCC	Central Maine Community College	Auburn
EMCC	Eastern Maine Community College	Bangor
KVCC	Kennebec Valley Community College	Fairfield
NMCC	Northern Maine Community College	Presque Isle
SMCC	Southern Maine Community College	South Portland
WCCC	Washington County Community College	Calais
YCCC	York County Community College	Wells
UMaine	University of Maine	Orono
UMA	University of Maine at Augusta	Augusta
UMF	University of Maine at Farmington	Farmington
UMFK	University of Maine at Fort Kent	Fort Kent
UMM	University of Maine at Machias	Machias
UMPI	University of Maine at Presque Isle	Presque Isle
USM	University of Southern Maine	Portland, Gorham and Lewiston