How Do We Know That Massachusetts Early Colleges Are Doing Well?: Using Data to Track Outcomes

Early College High School: An Education Powerhouse

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Acknowledgments

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About the Massachusetts Early College High School Community of Practice

Massachusetts launched its Early College Initiative in 2017, encouraged by almost two decades of national research showing that early colleges have a track record of success in ensuring that young people from low-income households prepare for and earn college degrees. In 2019, the Richard and Susan Smith Family Foundation provided funding to JFF to lead a community of practice to support the growth and ensure the quality of six of the state's 43 early college partnerships. Early college high school programs enable students in grades 9 through 12 to earn at least 12 transferable college credits—and up to an associate's degree in a career pathway—by the time they graduate from high school. Early college accelerates college and career readiness for students from low-income households, English language learners, and those whose prior academic experiences may not have prepared them well for a collegiate path.

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Introduction

If you are an educator working to improve college and career outcomes for Massachusetts's young people who are underrepresented in higher education, these early college data points should be encouraging:

1. Early colleges equally benefited students from different backgrounds, including students who are traditionally underrepresented in higher education, closing the racial/ethnic achievement gap.[1]

2. Sixty-four percent of Massachusetts's early college students enrolled in two- and four-year colleges immediately after high school, compared with 38 percent of their peers.[2]

3. The MetroWest College Planning Collaborative (CPC) Scholars Early Start program in Framingham confirms that nearly half of the CPC scholars are young men of color earning college credits as early as grade 9.[3]

4. By the time of high school graduation, most of Lawrence's early college high school students will have completed around 30 early college credits or a full year of college. Ninety-four percent of Lawrence High School students are Latinx.[4]

What stories do these encouraging data points tell? Together they are signs that the Massachusetts Early College Initiative is achieving its goal of increasing the postsecondary success of students underrepresented in higher education. But the data points—three levels of data in the four statements—also have different origins and different purposes. The first statement is a finding from the American Institutes for Research (AIR), a national research organization that has conducted randomized controlled trial studies of a sample of early college students over a decade. Based on national concerns about inequality, AIR was particularly interested in whether early college closed achievement gaps—the differential in achievement between white students and Black and Latinx students. That there was no difference in the program's impact between the groups marks early college as one of only a handful of approaches at any scale that close the achievement gap. The second data point is aggregated Massachusetts state-level early college data—enrollment in college within six months of high school graduation—an evidence-based predictor of college success. On this benchmark, too, the state's early college initiative is achieving its goal.

The purpose of this brief is to provide school-level examples of how early college practitioners are collecting and using data to improve their practices. Examples three and four are school-level data from two early college partnerships: the MetroWest CPC (Framingham, Milford,

Waltham), and Lawrence. The brief begins, however, with the national context that tells researchers what to measure—that is, what outcomes are predictive of college and career success. More on the utility of such markers can be found below.

Predictors of College Success

Data that researchers have collected over two decades from across the United States confirm that early college high schools are an effective pathway to a college degree, especially for young people from populations that are underrepresented in higher education.[5] The evidence that early college is an effective pathway is based on years of longitudinal data collected and analyzed by organizations such as the federal government's National Center for Education Statistics, the National Student Clearinghouse Research Center, and Complete College America, and by researchers in academia. Commonly accepted benchmarks for predicting college degree completion include:

- Enrolling in college for the first fall semester (or six months) after high school graduation.
- Attending college full time.
- Starting college without the need for noncredit remedial or developmental coursework.
- Persisting in college through the first year.[6]

Uses of National Data

When pursuing equity of outcomes, benchmarks, including those above, almost always show a gap between white students and students of color, or affluent students and students from low-income backgrounds. That is why the first statement above is so important—that all students, whatever their race or family income, benefited equally from enrolling in early college high schools. These benchmarks also tell state and local early college leaders what milestones they should use to measure the success of their programs. For example, in the early stages of developing an early college, educators should monitor the number of students who, having earned college credits in high school, continue on immediately following high school graduation. In fact, advisors and counselors should be aware of this benchmark and discourage students from taking a gap year or time out between high school and college unless absolutely necessary. Following a cohort of early college students as they continue in college, educators will want to know whether college graduation rates for Black and Latinx students, for example, meet, exceed, or are lower than the national average. Early colleges in Massachusetts do not have a sample of college graduates big enough to provide the answer to that question. That will come in several more years. Finally, all interested parties will want to know how well graduates are doing in the labor market, which is also a good number of years off.

An additional use of national data on early colleges across the United States is to advocate for the further scaling of this model. Many years of collecting data from across the United States has encouraged governors, policymakers, philanthropists, and educators to begin early college initiatives, as was the case in Massachusetts several years ago. Today, Massachusetts's early college advocates are seeking additional funds and policy support for early college expansion based on early evidence of success that meets and, in some cases, improves upon national data.

Uses of State, School, and College-Level Data.

A second level of data is aggregated to provide the big picture about how the Massachusetts Early College Initiative is doing on the whole. All too frequently, education projects of the scope and scale of the Massachusetts Early College Initiative don't have the funds or the expertise to collect and analyze data, but Massachusetts has a culture of evidence-based decision making. The Data Fellow at the Department of Elementary and Secondary Education provides data to each school's college partnership about how their students are doing on a common set of measures. They tell us, for example, that early college students are more likely to graduate from high school and are more college- and career-ready than peers; that the number of students from low-income backgrounds enrolled doubled from year to year; and that the number of Black and Latinx students enrolled increased by 73 percent from year to year. These are extraordinary data points showing that the investment of the state's tax dollars and philanthropy are achieving their goals.

However reassuring the data above might be, college deans, school leaders, and instructors who do the early college work on the ground need a different kind of data to monitor student progress, spot problems, make adjustments, and prioritize successful strategies. For example, student attendance data can help program leaders follow up with students who miss class; data on credit accumulation can help programs assess the number of college credits a cohort of students is on track to earn, and who is ahead and who is lagging.

Some, but not all, early college programs have committed financial resources to collecting and using data. The statements at the start of this brief from the MetroWest CPC and Lawrence represent thousands of hours of work by the person who asked students about their post-early college plan, the person who downloaded student records from a database matching high school and college records, the person who "cleaned" the data—that is, removed duplicates and checked for anomalies—the people at the end of the chain who analyzed data, and finally the person who told the story. And that doesn't count the hours, cost, and expertise it took to set up the data-collection system or ensure that all data privacy requirements are observed.

Data Privacy

Since 1974, federal law has protected the privacy of K-12 personally identifiable student data through the Family Educational Rights and Privacy Act, or FERPA. The law applies to all schools that receive funds from the U.S. Department of Education and requires parental permission in most cases for any third party to access their child's data. At the age of 18, permission passes to the student. As data collection and tracking technologies have grown more sophisticated and extensive, schools have become increasingly aware of the privacy risks. While researchers can collect and analyze de-identified or "cleaned" data so that no student is identified by name, parental permission is required if student names are used. Early college partners comply with the law, but getting clear from the start about what data can be collected with and without permission builds trust between families, students, and high school and college partners. To bridge this divide, many early college partners sign a data-sharing agreement that details the types of data that the two institutions will communicate to each other as a part of their commitment to building a strong program for students.

Academic researchers must also gain permission to conduct direct interviews and surveys of students, faculty, parents, and other human subjects. Signed into law in 1972, the National Research Act created the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The vehicle for such permission is the institutional review board (IRB), which typically comprises faculty members, administrators, and other relevant parties. The purpose is to protect the privacy, rights, and welfare of human participants in research conducted by employees of an institution. Researchers must submit their research proposals for review before beginning their work.

Strategies for Using Data to Drive Improvement

Data-Sharing Agreements: Salem High School and Salem State University

Salem High School has partnered with Salem State University (SSU) to provide early college programming for students over the past four years. The two institutions recognized the importance of building clear lines of communication on a variety of issues, including data sharing, to fully support student success.

A memorandum of understanding (MOU) is the foundational document of any partnership between a high school and a postsecondary institution. The Salem early college MOU includes agreements on such key issues as governance, instruction (co-teaching arrangements), academic calendar, grading, and assessment and performance metrics. This last item formalizes the responsibilities of each party to provide data about a range of metrics that are important to monitor. The MOU is reviewed every year by the partners to the agreement so that timely updates and changes can be incorporated. The MOU is signed by the college provost and the superintendent of the school district.

Below is a sample of the data the Salem team agreed to collect and share. Equity of outcomes is a through line, with the collection of demographic data called out as being of critical importance. The program team is particularly attentive to the goal of early college—to promote the achievement of students underrepresented in higher education, including English language learners and males of color, a group severely underrepresented among college graduates.

The agreement includes both quantitative and qualitative data. Quantitative data provide information about "how many" or "what percentage"—how many students enrolled in college immediately after high school, how many credits were earned, or what percent were retained in the first year of college. Researchers know to ask these questions based on national research benchmarks. While such data provide a check on progress, they do not tell *why* a particular pattern has emerged. To answer such questions, qualitative data are needed. For example, national data tell us that males of color have lower college-going and completion rates than young women of color, so early colleges are monitoring their participation. Most importantly, early college teams are figuring out strategies to improve participation.

Years of national research have established that interviewing or surveying students themselves about these questions can provide insights that lead to modifications in program design, support services, appreciation of cultural differences, and the like. It is also important to note that permission to study why males of color may not enroll or, if enrolled, may not persist requires permission from the SSU IRB.

Excerpt from MOU

Program Performance Measure Goals will include both quantitative and qualitative components as indicated below.

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Quantitative

> ***Variables of interest:*** *Gender, race/ethnicity, socioeconomic status, native language, disability, and internship or work experience when available*

Recruitment and participant demographics

Student success indicators:

> 1. Number of college credits earned and percent of students earning college credits
>
> 2. GPA by course (supplied by university)
>
> 3. Retention through the program (semester-to-semester tracking) (supplied by university)

Student outcome indicators:

> 1. Program completion rate (supplied by university)
>
> 2. High school graduation rate (supplied by school district)
>
> 3. Admission to college (supplied by school district)

College outcomes:

> 1. Enrollment year immediately following high school graduation (supplied by school district and university)
>
> 2. Retention both from the fall to spring semesters and year to year (supplied by university)
>
> 3. GPA after first term (for those at SSU) (supplied by university)
>
> 4. Percent of students who achieve an associate's or bachelor's degree within three or six years post-graduation (supplied by university)

Qualitative *(subject to University IRB approval and consent of participants—gathered by assessment coordinator)*

> Students' perception of themselves as "college students"
>
> Students' perception of "belonging" to college community

Once the MOU was in place, the Salem partnership faced a pressing data challenge—one often experienced by early college programs. Data collection and analysis are time-consuming and expensive, but the Salem team knew that if they were to take steps to improve their program, the data were critical. Using SSU funds, the team hired an external evaluator to collect quantitative data and to conduct interviews and focus groups with teachers and students to obtain qualitative data. The end goal of the evaluator's work was to enable the early college high school team to look regularly at data in their routine early college check-ins.

Data-Driven Responsive Programming: MetroWest College Planning Collaborative

In 2014, Mass Bay Community College and Framingham State University started the MetroWest College Planning Collaborative (CPC). Located on the Framingham State University campus, the CPC provides a range of college access and success programs for students in the area, including the CPC Scholars Early Start program, an open-access early college program serving high school students in Framingham, Milford, and Waltham.

When the COVID-19 pandemic struck, plans for the 2019-20 school year were turned on their heads across the country. As a result, the CPC saw that much of the budget for the two early college programs was going unspent because of the limit on in-person activities and could be repurposed. The team invested the unspent money in purchasing a tool that would help them effectively track the progress and outcomes of their students. The CPC staff had been collecting student data using Google Forms and Excel—which were low-cost but slow and clumsy, given the questions the team wanted to answer. The team bought a Salesforce platform that would allow them to enter and track data so that they could get answers to questions about each student as well as aggregate data quickly and accurately. The platform also makes it easy to run reports that pull data from across the entire set of student profiles, allowing staff members the opportunity to both see a bird's-eye view of the student body and dive into the details of how a particular student or group of students compares with their peers.

The CPC team can upload individual student profiles including factors from age to gender to current status in the program. Once all student profiles are uploaded, the platform provides a range of reports across the student body and gives staff members the option of creating their own report based on a unique question. For example, it takes the CPC data coordinator about 30 seconds to pull up a breakdown of the student population by race and ethnicity and cross that information with gender. The program now serves about 89 percent students of color; of those, 69 percent are Latinx and 11 percent Black.

Because early college leaders are particularly concerned about students underrepresented in higher education, the CPC team ran data on the participation of males of color in their early

college program. When they saw their data and compared them with those of other programs, the CPC realized its program was doing much better than most, although there was not yet parity in male and female participation. The CPC then needed to understand why its results were so strong and how it could sustain and even grow the participation of young men. What was the MetroWest CPC doing that encouraged young men of color to enroll and be retained at higher rates than other early college high schools?

(While not the subject of this brief, the answer is that the CPC, more than most other programs, has gone out of its way to create family and student activities that build community and are fun and engaging. The CPC organizes art projects to tap into young people's creativity and inventiveness; it hosts field trips, spur-of-the-moment pizza parties, and the like. These initiatives signal to students and their families that the CPC team cares about them as whole people, not just about their educational achievements.)

This example is one of many ways that collecting and analyzing data can have an outsize impact on student success in early college programs. (More information on how to support young men of color in early college high schools through best practices from the CPC and other campuses can be found in this report.)

An Early Warning System With a Big Impact: Lawrence High School and Northern Essex Community College

Lawrence High School (LHS) partners with Merrimack College and Northern Essex Community College (NECC) to provide early college programming for about 300 students. (For more information on the Lawrence early college partnership, see *Early College High School Is Changing Students' Lives and Futures in Lawrence, Massachusetts*.) Using a data-driven approach to tracking the success of early college, Lawrence has developed a tool to solve a common problem afflicting all students starting college for the first time: the lack of daily individualized feedback about progress. In high school, students see their teachers every day, have their homework checked regularly, and get help in study halls or from tutors when their performance needs boosting. In college, students may not get any grades until mid-semester, and instructors rarely take attendance; thus, it is less likely that a professor will notice early in the semester that a student has fallen behind. The early college team quickly saw that early college students needed swift feedback to determine whether they were working up to the standard. Hence, with faculty cooperation, the NECC early college team instituted an early-warning system.

When a student falls off track in a college course, professors send an alert through an electronic platform managed by the NECC IT department. The system asks them why the student has moved to "at risk" status and requests information such as their attendance and current grade.

The alert populates in a spreadsheet reviewed daily by LHS and NECC staff members. The LHS early college team then follows up directly with the student to address the issue individually. NECC professors who teach early college students agree to participate when they sign on as early college professors, and the system is designed to make it easy and efficient to do so. This alert system eliminates the previous challenge of LHS staff having too little information on student progress or finding out too late in the semester that a student was failing or about to drop out. Employing this just-in-time strategy, the Lawrence team has helped students overcome a wide range of obstacles and, at the same time, has been able to reinforce an important lesson: Find out where you stand, and don't be embarrassed to ask for help.

The alert system is pre-populated with the names of the early college students in the faculty member's class, so all they have to do is select the student they are concerned about, mark whether the student is at risk of failing the class, and then select which of a prepopulated list of issues applies to the student. The alert form also gives professors the option of noting students' grades, absences, and any other comments that are relevant to the situation. Once the professor has submitted the alert, it is pulled from the database and input into a spreadsheet by the NECC LHS staff. The spreadsheet is consistently monitored on both the high school and college campuses. The appropriate staff member will respond to the alert by following up with students individually and providing daily updates to the alert in the spreadsheet until the issue is resolved.

Implementing this proactive, individualized approach has allowed the Lawrence early college program to identify targeted supports for struggling students as soon as they see warning signs rather than finding out halfway through a semester that a student is dropping out. The LHS staff is currently amplifying its data-collection efforts to track themes behind student challenges and create strategies to prevent common issues from popping up in the first place. This additional data collection aims to drill down past the symptoms of each issue and into the root cause of each recurrent problem or barrier to student success.

Conclusion

Data have the power to tell stories that transform systems. By putting in place strong data collection and analysis practices, early college programs can demonstrate their effectiveness on a state and national level, implement targeted solutions to common issues across their school populations, and identify strengths and weaknesses in individual students. As Massachusetts invests in systems that will build and scale early college programs across the state, it is important to ensure that data systems are built into programs from the start. Thoughtful and rigorous data analysis allows educators and legislators to support high school students to even greater levels of achievement in the years to come.

Endnotes

[1] *The Lasting Benefits of Early College High Schools: Considerations and Recommendations for Policymakers* (Washington, DC: American Institutes for Research, 2020), https://www.air.org/sites/default/files/downloads/report/Lasting-Benefits-Early-College-High-Schools-Brief-Feb-2020.pdf.

[2] Early College Joint Committee Meeting, April 11, 2022.

[3] Personal communication from Colleen Coffey, executive director of the MetroWest CPC, April 6, 2022.

[4] Nancy Hoffman, Joanna Mawhinney, and Anna O'Connor, *Early College High School Is Changing Students' Lives and Futures in Lawrence, Massachusetts* (Boston, Massachusetts: JFF, November 12, 2021), https://www.jff.org/what-we-do/impact-stories/massachusetts-early-college/series/early-college-changing-students-lives-futures-lawrence-ma/.

[5] American Institutes for Research, *The Lasting Benefits of Early College High Schools.*

[6] "Momentum Pathways Communication Plan," Complete College America, April 1, 2019, https://completecollege.org/article/momentum-pathways-communications-plan/; *High School Benchmarks: National College Progression Rates* (Herndon, Virginia: National Student Clearinghouse Research Center, 2020), https://nscresearchcenter.org/wp-content/uploads/2020_HSBenchmarksReport.pdf.