Emerging early college models are providing opportunities for high school students to accrue college credits and experience themselves as successful college students. The states of Michigan and New York are at the forefront of state-level efforts to offer early college models to a wider range of high school students. This chapter features early college models and describes the variety of programmatic designs and student experiences.

Emerging Early College Models for Traditionally Underserved Students

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Engaging in dual enrollment courses has been found to improve educational outcomes for students, in particular low-income and minority students (An, 2013; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Speroni, 2011). Participating students are more likely to graduate high school, enroll and persist in college, accrue college credits, and complete college than students who do not participate in dual enrollment. However, there are still many barriers to both participation and success. For the most part, students are only able to take dual enrollment courses if they meet the standard requirements to enter college-level work at the participating institution, most commonly by passing college placement tests (Barnett & Stamm, 2010). What is more, students do not have access to dual enrollment if enrolled in high schools with low or no involvement in dual enrollment (Pretlow & Wathington, 2014; Taylor & Lichtenberger, 2013), and there may be uneven information available to students and families about dual enrollment options (Zinth, 2014).

Early and middle college high schools (E-MCHSs) are explicitly designed to provide dual enrollment opportunities to students who may not have had access to college in the past. Targeted to students from groups traditionally underrepresented in college, they are structured to offer a suite of experiences and supports that lead to success in both high school and college courses. The “classic” E-MCHS is a small high school located on a college campus that offers a curriculum blending high school and college coursework. The school’s small, personalized environment complements
the collegiate surroundings, thereby encouraging students to tackle and succeed in college coursework. Students begin taking college classes as early as 9th grade at no cost to them or their parents, and many of the credits earned count toward high school graduation as well as toward a college degree. While middle college high schools offer an opportunity to take college classes, early college high schools create academic plans that allow students to earn at least a year’s worth of college credit and even an associate’s degree by the time they graduate high school. Because they are very similar, we refer to early and middle colleges as E-MCHSs in this chapter. An experimental evaluation of classic E-MCHSs found that participating students were considerably more likely than students in traditional high schools to graduate high school, enroll in college, and earn college degrees (Berger, Turk-Bicakci, Garet, Knudson, & Hoshen, 2014).

Although the number of these schools is growing, there are still only about 280 in the United States for a number of reasons (Jobs for the Future, 2014a). Colleges cannot accommodate unlimited numbers of high school students on their campuses, and not all students want to engage in a curriculum as challenging as that offered in the E-MCHS. By design, the schools are small, limiting the number of students who can attend. In addition, starting and sustaining an E-MCHS can be a challenging enterprise.

However, a number of schools and districts are conceptualizing and implementing models that offer supported dual enrollment in comprehensive high schools. Through programs sometimes called Early College Designs (Jobs for the Future, 2014b), Smart Scholars (Frey, 2011), or Enhanced Dual Enrollment Systems (Middle College National Consortium, 2014), students take selected college courses while in high school, with carefully structured supports used to facilitate their success. This experience is designed to allow a smooth transition to college attendance after graduation from high school. Models have been developed through local school–college partnerships as well as through state initiatives or sponsorship from intermediary organizations.

The states of Michigan and New York are at the forefront of state-level efforts to expand access to college-course-taking opportunities to a wider range of high school students based on the belief that this may encourage postsecondary enrollment and success. Although both states are using the national E-MCHS models as inspiration, each has allowed for the creation of a wide range of programmatic designs and student experiences. In Michigan, three early college design models are utilized: fifth year programs; enhanced dual enrollment system (EDES) programs; and science, technology, engineering, and math (STEM) early college programs. In New York, a number of programmatic variations have developed including Smart Scholars cohort programs within schools and P-TECH schools.

The participating high schools include many that serve low-income, urban, and rural communities with large numbers of students who would be the first in their family to attend college. It should be noted that despite
the diversity of models, all are taking into account research-based design considerations (see Barnett, Bucceri, Hindo, & Kim, 2011) including: (a) attention to strong high school–college partnerships; (b) careful sequencing of courses and supports that allow students to progress toward greater independence; (c) built-in opportunities to gain college knowledge, that is, the knowledge needed to navigate formal and informal college systems; (d) measures to ensure the authenticity of college courses; and (e) a focus on key relationships that help students to believe that they can succeed in challenging college courses.

The purpose of this chapter is to provide examples of new early college models in Michigan and New York that expand underserved students’ access to dual enrollment and provide a pathway to college. All involve high schools and colleges working together to create blended educational approaches. These new models are of particular interest because they offer images of evidence-based innovative ways to improve college access and success upon which others can build.

The Michigan Experience

Like many other states, Michigan has rates of high school graduation and college enrollment that are not sufficient to meet its educational and economic development goals. In 2009, the high school graduation rate was 71%, and, in 2010, the percent of students entering college after high school graduation was 62% (NCHEMS, 2014). These figures are below the national average of an 80% high school graduation rate (Stetser & Stillwell, 2014) and 66% of high school students who transition to college immediately after high school graduation (U.S. Department of Education, National Center for Education Statistics, 2013). In addition, the achievement gap among students in Michigan in terms of college readiness is considered among the widest in the country (Education Trust, 2012). A major motivation for expanding access to dual enrollment in Michigan comes from concerns about these data.

Emerging Models in Michigan. Currently, in the state of Michigan, there are more than 58 high school dual enrollment providers including stand-alone schools, charters, academies, schools within a school, and district programs. In the 2012–2013 school year, there were 72,718 college course enrollments by Michigan high school students compared to 13,952 in the 2001–2002 school year (B. Barber, Michigan Department of Education, personal communication, 2014). This growth was led and supported by various state governmental and educational policies, as well as by leadership from the Office of Career and Technical Education at the Michigan Department of Education, the Michigan Early Middle College Association, and the Mott Foundation. In addition, the state enacted changes in graduation requirements and policy reforms that supported the growth of dual enrollment and early college designs.
The Michigan E-MCHS reform movement began in 1991 with the opening of Mott Middle College High School (MMCHS) on the campus of Mott Community College in Flint, Michigan. This unique K–12/college partnership was designed to lower dropout rates and expand college enrollment and completion among high-potential, at-risk youth. MMCHS challenged prevailing beliefs about what at-risk youth could accomplish. They demonstrated that it was possible to create a positive and nurturing high school environment that fosters academic success in a higher education setting. Drawing on the experiences and principles of the Middle College National Consortium, MMCHS quickly became a model site for outreach, replication, and research of middle college concepts and models in Michigan and nationally.

In the 2002–2003 school year, MMCHS began its redesign into an E-MCHS in concert with the growing national Early College High School Initiative, supported by the Bill and Melinda Gates Foundation. The redesign involved a purposeful integration of dual enrollment courses with the courses included in the Michigan Merit Curriculum, specifically those required for high school graduation in the state. Since that time, MMCHS has offered students a wider range of dual enrollment courses, and the 2013 MMCHS graduating class left high school with an average of 30 college credits earned (NCREST, 2014).

Recognizing this success, in 2006, Governor Granholm redirected discretionary funds to establish a $2 million annual line item to support the start-up of new E-MCHSs. At the same time, the Mott Foundation allocated funds to support a partnership for technical assistance between Mott Community College and the Michigan Department of Education. These two actions, buoyed by a positive policy environment, resulted in the successful opening of eight Allied Health E-MCHSs by the 2009–2010 school year. This new wave sparked the creation and formalization of the Michigan Early-Middle College Association (MEMCA) as a forum for ongoing peer-to-peer coaching. Currently, more than 50 E-MCHSs, early college programs, and enhanced dual enrollment systems—in varying stages of development—meet under the MEMCA umbrella.

**E-MCHS Models in Michigan.** While the number of classic (full school) E-MCHSs continues to expand—there are 17 in the state as of 2014—a variety of other models have emerged in Michigan based on E-MCHS principles. Three models are especially noteworthy: (a) fifth year programs, (b) enhanced dual enrollment systems, and (c) the STEM Early College Expansion Project (SECEP) schools.

**Fifth Year Programs.** E-MCHS fifth year programs are embedded within comprehensive high schools. They allow participating students to earn a high school diploma and a substantial number of college credits by graduating high school in five years instead of four. Schools and districts developing fifth year programs enter into a formal agreement with one or more postsecondary partners and must obtain authorization from the Michigan
Department of Education. Students in these programs have the opportunity to take free college courses while still receiving support from their home high school. Fifth year programs are of particular value for students who might not attend or succeed in college without a thoughtfully supported transition. School districts receive full funding for each participating student, a portion of which is distributed to the college to cover the cost of tuition.

Students must be appropriately flagged as participants in the program and placed in a five-year graduation cohort for state/school accountability purposes. Students in their fifth year must not yet be eligible for graduation and must take at least one high school course in addition to their college courses, which typically count for dual credit. College courses are taken on campus, online, or in co-horted sections at the home high school. According to the Michigan Department of Education, 17 high schools offer fifth year programs in the state of Michigan with about 3,700 students enrolled in the 2013–2014 academic year (B. Barber, personal communication, 2014).

While fifth year programs are likely to benefit many students, some questions have been raised about the trade-offs involved. For example, participants will have less time as independent college students, possibly limiting opportunities for personal growth, exploration of different majors and career directions, and participation in extracurricular activities. In addition, students may struggle in their college courses during the fifth year program, resulting in a less than ideal transcript and limiting opportunities for transfer and financial aid. Finally, students may not experience all of the important high school milestones with their high school class. Overall, however, we believe that evaluations will show that the benefits outweigh the costs.

Enhanced Dual Enrollment Systems. To offer more students the chance to take college courses, some Michigan school districts have established enhanced dual enrollment systems (EDES). Under this model, students who may not be ready to tackle dual enrollment independently are provided with supports that promote their success in college courses. EDES models vary but all are guided by a goal of “12×12” whereby students work to earn 12 college course credits by the end of their 12th grade year. Based on practices developed in E-MCHS, EDES programs are based on strong K–12/higher education partnerships and incorporate: (a) early assessment with guidance to ensure that students are provided the assistance that they need to prepare to take college courses; (b) sequenced, selected dual enrollment courses linked to the students’ academic plan; (c) support for college courses in the form of companion courses in the subject area or tutoring; (d) early warning systems that alert the high school when a student is struggling in college courses and allow for timely intervention; and (e) shared data collection and use to make sure that the program is on course. As of 2014, 27 high schools offer enhanced dual enrollment with approximately 1,300 students participating.
**STEM Early College Expansion Project (SECEP) Schools.** In January 2014, several Michigan independent school districts were awarded a US-DOE Investing in Innovation (I3) grant to replicate the early college high school model and also improve STEM education. The other organizations involved are the Michigan Early Middle College Association; the Middle College National Consortium; Jobs for the Future; and the National Center for Restructuring Education, Schools and Teaching at Teachers College, Columbia University.

Eleven high schools are working with colleges to structure pathways into STEM college majors and to help teachers improve their knowledge and skills related to teaching STEM subjects. Participating students will engage in the kinds of experiences and supports typically offered in an E-MCHS, including the chance to earn 12 or more college credits. In addition to improving STEM education overall, the project proposes to decrease dropout rates and boost college enrollment among underrepresented populations.

**The New York Experience**

Similar to Michigan, New York has a persistent achievement gap. In 2013, the statewide graduation rate for New York public school students who entered 9th grade in 2009 was 74.9% (New York State Education Department, 2014), below the national average of 80% (Stetser & Stillwell, 2014); underlying this figure at the state level was almost a 30 percentage point gap between the graduation rates of White students compared to Hispanic or African American students. The gap for students with disabilities (SWDs) and English language learners (ELLs) compared to the statewide rate was even greater: almost 30 percentage points for SWDs and over 40 percentage points for ELLs (New York State Education Department, 2014).

The state of New York is committed to the idea that dual enrollment and early college can help address the achievement gap and has a long history with this approach. In 1972, the state’s first dual enrollment program was initiated at Syracuse University and called Project Advance, a dual enrollment program in which college courses are taught by qualified high school teachers on the high school campus. In 2014, Project Advance offered 38 courses to 9,400 students in 184 high schools in five states and three continents. Another major dual enrollment program in New York State is the City University of New York’s (CUNY) College Now program, initiated in 1983, that includes all 18 CUNY two-year and four-year colleges and over 400 New York City high schools; it serves 20,000 students annually.

The first E-MCHSs in the country are located in New York State and they have served as the models for all of the E-MCHSs that have followed. In 1974, the first Middle College High School opened on the campus of LaGuardia Community College, a CUNY college. In 2001, in partnership with the New York City Department of Education, Bard College opened its first High School Early College in Manhattan. In 2002, CUNY launched the
Early College Initiative (ECI) to redesign existing MCHSs and develop new schools as Early College High Schools (ECHSs). The CUNY ECI now has 17 schools in partnership with the New York City Department of Education, seven of which include middle school as well as high school grades.

**Emerging Models in New York.** Building on this rich history, the New York State Board of Regents launched the Smart Scholars ECHS program in 2009 to help address the state’s achievement gap. A combination of private and state funding supported the implementation of 23 Smart Scholars ECHS programs across the state. Whereas the original ECHS model included only stand-alone high schools, the Smart Scholars program funded both early college high schools and early college programs within schools in an effort to scale and adapt the model to a broader range of settings.

The Smart Scholars’ goal is to provide students the opportunity and support to earn at least 24 and up to 60 college credits prior to high school graduation. None of the Smart Scholars schools or programs is located on a college campus, and their proximity to the partner college campus varies. All schools and programs include student supports as well as activities that bring students onto the partner college's campus to strengthen the students' identity as future college students. There are seven stand-alone schools in the Smart Scholars network and 16 programs within schools.

Similar to many other E-MCHSs, the Smart Scholars schools and programs had the support of an intermediary organization during their initial four years of planning and implementation that helped ensure alignment with key early college design principles. The intermediary for the Smart Scholars program was SUNY/EDWorks, a partnership between SUNY's Office of the Education Pipeline and EDWorks, a national nonprofit based in Ohio that provides technical assistance to help public schools improve student achievement and access to postsecondary education.

A recent evaluation of the Smart Scholars ECHS program conducted by the National Center for Restructuring Education, Schools and Teaching at Teachers College, Columbia University, found that the average number of college courses offered in 2011–2012 was 8.8 for the schools and programs that opened in 2010 and 6.5 for those that opened in 2011 (Barnett, Kim, Zander, & Avilo, 2013). Eighty-three percent of the students earned a grade of “C” or higher in their college courses, while 92% passed with a grade of “D” or higher. The researchers praised the Smart Scholars program for its effectiveness in enrolling the target population (e.g., 71% were eligible for the free or reduced price lunch program, 84% were racial/ethnic minorities, and 51% were male), serving large numbers of students (over 4,800 in 2012–2013), high-quality implementation of whole-school and cohort-model programs, strong partnerships with postsecondary institutions, high college course enrollment and passing rates, evidence of authentic college courses being offered, and strong leadership by the state and intermediary.

In New York State, as in Michigan, a number of different models have evolved to address different needs and conditions. These include the
Smart Scholars cohort models within comprehensive high schools and the P-TECH schools.

Cohort Models. Ten of the 23 Smart Scholars grantees are cohort models, generally serving 25–50 students per grade level. Five are academies located in a distinct section of a school building with a dedicated teaching staff and principal or lead teacher. The rest are striving to approach this model by coordinating the students’ class schedules and identifying a team of teachers who will instruct as many of the students’ core high school courses as possible. All programs provide an array of support services to prepare the students for college-level work and support them when taking college courses via advisories, mentoring, tutoring, seminars, and test prep classes, for example. College courses are usually taught by qualified high school teachers; however, some programs move students to the college campus for courses during their junior and senior years for full or half days. In a few programs, all college courses are taught by college faculty.

In an effort to provide students with college campus experiences, the programs have developed a variety of special features and innovations. Most of the programs offer a campus-based summer program for incoming 9th grade students and returning students. For example, Schenectady County Community College’s program with Schenectady High School provides incoming 9th grade students with a summer course entitled Freshmen Success Seminar for which students can earn one college credit. The course focuses on goal setting, time management skills, and team building. The companion noncredit course is called Literacy for Social Action and focuses on improving reading and writing skills through a service learning curriculum.

Another example is SUNY Old Westbury’s partnership with Roosevelt High School that developed a program called Fridays on Campus that provides weekly lab classes on the SUNY Old Westbury campus to students taking college math and science classes at the high school. SUNY Old Westbury faculty and lab instructors partner with the qualified high school teachers to provide these classes. In addition to the academic experiences, students get the chance to experience life as a college student; for example, they often eat lunch on the college campus on the days they have classes there.

NYS P-TECH Schools and Program. In fall 2011, the Pathways in Technology Early College High School (P-TECH) opened its doors in New York City. Governed by CUNY, the New York City Department of Education, and IBM, P-TECH represents a new version of the E-MCHS model. This model addresses career readiness as well as college readiness by a partnership among an employer, high school, and college. While most E-MCHSs are four- or five-year schools and programs, the P-TECH model includes a sixth year to allow time for every student to complete an associate’s degree in a field aligned with the work of the employer partner and to integrate a workplace learning curriculum that includes setting individual career goals, project-based learning, guest speakers, mentoring, workplace visits, and internship experiences. IBM, the employer partner, has contributed
significantly to the planning as well as implementation of the school’s curriculum and will give the school’s students priority consideration for employment when they graduate. Students can graduate with an Associate of Applied Science in Computer Information Systems or Electromechanical Engineering Technology by the end of their sixth year. Similar to Michigan’s fifth year programs, the New York State accountability system allows for a sixth year graduation cohort and these students continue to generate state aid for their districts during all six years of enrollment.

New York Governor Andrew Cuomo has identified in the P-TECH model a strategy to address the academic achievement gap and also stimulate the state’s economy. In 2013, he announced the New York State Pathways in Technology Early College High School (NYS P-TECH) program, modeled after the original P-TECH. Sixteen NYS P-TECH projects opened as schools or programs in each of New York's ten economic regions in the fall of 2014. The projects will serve over 800 9th grade students with a plan to add a new 9th grade class each year. In 2014, the state awarded funding to a second cohort of 10 NYS P-TECHs that will open in the fall of 2015, and the P-TECH model is being replicated in other parts of the country (Forrohar, 2014). Whereas the original P-TECH has one employer partner, several of the NYS P-TECH partnerships include multiple employer partners, from a range of businesses and industries, such as advanced manufacturing, architecture, and healthcare.

**Final Thoughts**

What does this array of different models mean for the future of dual enrollment? Most importantly, the models are all intended to offer students collegiate experiences while still in high school so that the transition to college can be as smooth and effective as possible. In some ways, these models have an important advantage over traditional dual enrollment; they also have advantages over “classic” E-MCHS. Traditional dual enrollment works primarily for students who are well prepared—academically and personally—to undertake challenging courses with very little support. It generally does not serve students who are struggling or in the academic middle; sometimes it serves them poorly, providing too little support for them to achieve success (Barnett & Stamm, 2010). Because they offer academic and social supports, the Michigan and New York models make participation in dual enrollment a possibility for a wider range of students, including those who may need bolstering along the way.

Most of the models discussed also have an advantage over regular E-MCHSs in that they are embedded in a regular school environment and are largely funded using existing revenue streams once established. They do not necessarily require space allocation at a college, separate administration and teachers, or a separate legal status. What is more, they make dual enrollment opportunities available to students who were not prepared in 9th
grade to opt into a very different school model and challenging academic program.

In addition, some of the models discussed here allow for students with a career focus to pursue postsecondary studies that are well aligned with available jobs. They challenge the traditional division between career-technical or vocational education and academically focused education as students are engaging in rigorous college coursework while also preparing for careers. Through partnerships with business and industry as well as postsecondary institutions, they provide pathways to both college and career opportunities.

In sum, new types of dual enrollment in the form of E-MCHS models have the potential to increase opportunities for a wider range of students to start postsecondary studies early and achieve success in college and life. Partnering high school and college leaders are encouraged to look at the diverse models that currently exist and consider their fit with local priorities and environments. These, and new approaches that may yet emerge, have the potential to reduce time to degree, improve student opportunities, and provide cost-effective paths to higher education and employment.

References


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