

Stepping Up for Community Colleges

Building on the Momentum to Improve Student Success in Massachusetts

Prepared by
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Jobs for the Future

Prepared for
The Boston Foundation

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Preface

In November of 2011, the Boston Foundation published a report titled *The Case for Community Colleges: Aligning Higher Education and Workforce Needs in Massachusetts*. We commissioned the study because we and many of our colleagues in the business and civic communities are deeply concerned about the mismatch between the middle-skilled jobs that are going unfilled in Massachusetts and the opportunities that higher education holds—especially community colleges—for preparing workers for those jobs.

The report called for building a system that will leverage the capacity of community colleges to become true leaders in meeting the workforce needs of the Commonwealth. Its recommendations included clarifying the mission of community colleges, with a priority on preparing students to meet critical labor market needs; strengthening the system's governance and accountability; stabilizing state funding; and forming a community college coalition.

Many of the recommendations were embraced by Governor Patrick and included in his “State of the State” address in January of 2012. One week after his address, the Boston Foundation convened the Coalition FOR Community Colleges—a remarkably diverse group of 62 Massachusetts civic, community and business organizations that want to see community colleges live up to their potential for all students. And in July of 2012, the Governor signed a state budget that empowered the Commissioner of Higher Education to lead the development of a revamped funding formula for our state's 15 community colleges that takes performance into account. Among other advances, the budget also called for the establishment of a job-training clearinghouse and \$11 million in increased financial support for the entire system.

We are deeply gratified by all of the progress that has been made in little over a year—and are especially thankful for the leadership of community college presidents and the work they are doing together.

Now we are proud to publish this report, *Stepping Up for Community Colleges: Building on the Momentum to Improve Student Success in Massachusetts*. It was researched and written by Jobs for the Future, our longtime partner in Achieving the Dream, an initiative that focuses on helping students succeed in our country's community colleges. The authors, Richard Kazis and Lara Couturier, are national experts on college success and career readiness.

We asked them to focus on issues related to developmental programs and to explore promising models for transferring credits within state systems. The timing was just right. There is an emerging national consensus about the next steps community colleges can take to improve the experiences of new students, including an examination of the ways in which they are assessed and placed into remedial programs. And a number of innovative colleges, here and around the country, and even entire systems, are experimenting with new approaches to enhancing the student experience and improving college persistence and completion.

Many of the strategies you will read about here show tremendous promise for increasing outcomes for low-income and underprepared students who are seeking to improve their skills and, ultimately, their prospects for success in today's economy. The Boston Foundation believes that their future success means our future success, both as a caring community and as a Commonwealth.



Paul S. Grogan
President and CEO
The Boston Foundation

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Executive Summary

Efforts to improve outcomes for Massachusetts community college students have accelerated dramatically in recent years. An intensified sense of urgency has united the Governor, the Massachusetts Department of Higher Education, the Legislature, community college leaders, major employers and a number of other stakeholders. Institutions and state agencies have responded with significant innovation and reform. The student success and college completion agenda has begun to get traction as a way to address the pressing needs of both underprepared students and the state's employers and communities.

Urgency has been joined with opportunity. The Commonwealth is well positioned for the next round of reform and innovation, and the national student success movement has reached a new level of sophistication and built an experience base to inform specific, evidence-based recommendations.

Jobs for the Future prepared this report to inform and support that next phase of community college improvement in the Commonwealth. It is based on an appraisal of Massachusetts's accomplishments and progress as well as an honest assessment of remaining gaps and shortcomings. It looks at the strategies and priorities of some of the most innovative states, systems and colleges around the nation and suggests next steps for Massachusetts colleges and for state officials.

The Evolution of the Community College Reform Agenda in Massachusetts

In recent years, Massachusetts has mobilized around an increasingly ambitious agenda for more credential completion, smoother transfer and a greater contribution from community colleges to the state's economic well-being. In 2007, Massachusetts became one of 15 states to join Achieving the Dream, a national reform network that is helping community colleges around the country improve student success, using data on student performance to develop specific, targeted strategies that

improve persistence and completion. In January of 2009, Governor Deval Patrick appointed Richard Freeland as Commissioner of the Department of Higher Education, and several important changes followed: reports detailing the performance of public school graduates at Massachusetts colleges and universities; a comprehensive measure of community college success that was incorporated into annual performance reporting; and the creation of MassTransfer to help students navigate the complexities of transferring from two- to four-year institutions. In 2010, Massachusetts signed onto Complete College America's agenda for policy action to increase completion rates for two- and four-year public institutions.

That same year, the Board of Higher Education approved the Vision Project, a new public higher education agenda for Massachusetts. The declared goal is to produce the nation's best-educated citizenry and workforce in response to intensifying interstate economic competition and the growing importance of public education to the Commonwealth's future. The Vision Project has become the organizing umbrella for a set of high-leverage, state-wide improvement initiatives. Its metrics and public reporting of outcomes now guide the institutions.

In 2011, the reform agenda got more support. The Vision Project published baseline performance data on Massachusetts public higher education. A Boston Foundation report, *The Case for Community Colleges: Aligning Higher Education and Workforce Needs in Massachusetts*, called for action to address the "mismatch between middle-skilled jobs that are going unfilled in the Massachusetts economy and the opportunities offered by higher education to prepare workers to fill those needs—with a particular focus on community colleges." Governor Patrick proposed changes in governance, funding and accountability for the state's community colleges that were signed into law in the 2013 budget. The state's community colleges recently united to secure a highly competitive \$20 million grant from the U.S. Department of Labor to accelerate the attainment of degrees, certificates and industry credentials among low-income, low-

skill adults across all 15 community colleges, confirming their progress and commitment to continuous improvement and systemic change, a stronger relationship with regional economies and an increasingly unified vision for the future.

Where Does Massachusetts Stand in Community College Outcomes?

There was a time when the future health of the state's economy did not depend significantly upon the products of public higher education. Those days are over. Today, more than half of all Massachusetts undergraduates attend public two- and four-year institutions, compared to only 30 percent in 1967. And three out of four associate degree holders in the state earned their credentials from public community colleges.

But in terms of higher education results, Massachusetts typically sits in the middle of the pack on key performance metrics. When Massachusetts students arrive at community colleges, for example, 65 percent require remedial education in math or reading, around the national average. On the federal government's three-year IPEDS graduation rate for community college degree students, Massachusetts colleges place 30th in the nation. Massachusetts is also in the middle of the pack or lower when it comes to public funding, as measured in terms of state funds per full-time equivalent student or per \$1,000 of personal income.

In the coming years, demographic changes in the state will make it difficult to raise completion rates markedly, if at all, through incremental, modest improvements. Between 2000 and 2010, population growth in the Commonwealth was due solely to the growth of the Hispanic population. And the college-readiness gap between Massachusetts white and Hispanic 12th graders is about 28 to 29 percentage points, much higher than in many states. Community college graduation rates for white students are more than double those of Hispanics, only 8.6 percent of whom earn degrees, placing the state 35th on this metric among the 40 states in a comparison group.

Given the demographic and competitive challenges facing Massachusetts, implementing the reforms of recent years is both quite necessary and also insufficient. Our state's community colleges must leapfrog their

peers in other states to achieve much better outcomes for an increasingly diverse and at-risk population of students and an increasingly demanding and globally-competitive community of employers.

The Emerging National Consensus on Next Steps to Improve Student Outcomes

Across the country, innovative colleges and state higher education systems are testing new approaches to improving student persistence and attainment. There is a particular focus on affordable strategies that can increase outcomes for low-income and underprepared youth and adults seeking to improve their skills and economic prospects. Research and experience are yielding a broad consensus on priorities for the next phase of this needed national effort, a consensus that is consistent with lessons from and progress in Massachusetts.

This emerging consensus centers on three findings:

- Boutique programs and pilot projects that reach a small segment of an institution's or a state's community college students cannot generate large-scale improvement or dramatically different performance.
- The front end of the college experience—assessment and placement, orientation and advising, developmental education, initial course selection and success—is a critical area for improved processes, new approaches and innovation.
- Getting students over the initial hump, i.e., the first year and developmental education, is not enough. Institutional and program redesign must address the many ways and moments across the entire community college experience when students lose momentum and fall off track for completion and achievement of their educational goals.

A solid body of well-designed research has dramatically altered the national discussion about obstacles facing underprepared community college students and solutions that can dramatically increase completion and success rates. **Figure 1** briefly summarizes the most important recent research—and its implications for state and institutional reform efforts.

This rich body of research has led states and community colleges to focus on three interrelated obstacles to student success—and on innovative solutions and

FIGURE 1
Research Influencing the National Discussion

Research Finding	Strategies and Responses
Students who accumulate credits and enter a program of study early meet with better outcomes.	Move students into program streams and encourage them to declare majors early.
Students need more structure, fewer options and frequent feedback.	Streamline curricula; add mandatory orientation, proactive advising and educational planning.
The effectiveness of traditional developmental education is unclear.	Reduce, accelerate, and contextualize developmental education.
Not all academic programs and careers require the same skills.	Build multiple, differentiated pathways aligned with the requirements of academic programs and careers.
Assessment tests are high stakes, and they are not the best predictors of success in college.	Use multiple measures to place students, and change test conditions to increase awareness and allow preparation and retest.
Interventions are expensive, but there is evidence that they lower cost-per-completion.	Make the case for up-front investments that lead to higher completion.
Small college-level pilots are difficult to scale up.	Begin interventions at scale.
College programs should align with workforce needs, and students should understand career outcomes.	Use labor market information when designing programs and to improve career advising.
College programs should align with the requirements for transfer with junior standing, and students should take courses that count toward their major.	Faculty disciplinary teams build core curricula for program streams that introduce students to a field and lead students to the goal of choosing a major.

reforms designed to make a difference, at scale, to student completion and success:

- The weak performance of and high attrition rate from traditional developmental education courses and programs;
- Serious flaws in the way that students are assessed and placed into remediation or college-level courses; and
- The high cost of the current laissez-faire approach to structuring students' choices of program and plans for succeeding in and after college.

Strategies for Reducing High Attrition in Developmental Education: Reduce Time in Developmental Coursework and Strengthen Support in First College-level Courses

Research findings that only 25 percent of developmental students complete a credential within eight years have raised questions about the overall effectiveness of typical developmental education programming, which is characterized by a set of stand-alone sequential courses. The very structure of the program is too often an obstacle to success: In one national study, almost half of those who failed to complete their developmental sequences and move on to a college-level course did not fail individual courses, but failed to enroll in the next course after successfully passing a lower level developmental course.

In response, many college and state-level reforms focus on *time*—how long it takes students to get through the sequence—and *structure*—the ways that multiple, successive courses offer students too many opportunities to leave college before starting their program of choice. State systems and individual colleges, including many colleges in Massachusetts, are experimenting with innovations designed to move students through developmental education faster, reduce the number of exit points, embed basic skills instruction in college-level content and build student supports into those courses. In the body of the report, two noteworthy models are highlighted: the Accelerated Learning Program of the Community College of Baltimore County and the New Mathways Project created by the Charles A. Dana Center at the University of Texas at Austin.

Strategies for Improving the Placement/ Assessment Systems: Minimize Unnecessary Placement in Developmental Education

Recent research has cast serious doubt upon the accuracy and efficacy of the typical community college assessment and placement process. The tests, used alone as a one-size-fits-all approach to placement in developmental or college-level courses, appear to be poor predictors of how students will perform in college classes. In addition, the tendency for colleges to signal to students that placement tests are a low-stakes assessment does a real disservice. If a student does not take the test seriously, performs poorly and must take several semesters of developmental coursework, the stakes are quite high—as is the cost.

As research upends old assumptions, exciting approaches for placing students more effectively are emerging, including allowing students to prepare for and retake tests; rewriting and customizing tests to better align with local curricula; and “right-sizing” the power of the tests by combining them with other measures, such as high school grades and GPAs. Of particular interest are two large-scale efforts to improve placement and assessment, both of which are highlighted in the report: the placement redesign work of Long Beach (California) City College and of the North Carolina Community College System.

Strategies for Improving and Accelerating Program Choice and Completion: Promote More Structured Pathways to Credentials and Transfer

Emerging research has identified another key obstacle to student success that is part of the routine operation of most community colleges: that is the overwhelming complexity of choices that face students when they first enroll and the paucity of clear, efficient pathways to high-value credentials. According to this research, students need fewer choices, more structure, and much better guidance to enter a program of study early in their academic career.

Bold new approaches to introducing and guiding students to more structured pathways, with fewer electives and a more focused progression to completion, are being tested around the country. The eight campuses of Miami Dade College, which represent Florida in a national completion initiative called Completion By Design, are implementing an ambitious plan to put in place the building blocks for more structured pathways, including: a comprehensive intake process; accelerated and contextualized developmental education; curricular reviews by faculty in particular disciplines to streamline programs and smooth transfer; more proactive advising and academic planning for students; and the organization of broad student-centered “communities of interest” (e.g., business, health) designed to help students narrow their interests and select majors faster.

City University of New York’s Accelerated Study in Associates Programs (ASAP) is another large-scale effort to propel students from entry through completion by strengthening wrap-around academic and other support services, requiring full-time enrollment and rapid completion of developmental course requirements, offering majors with limited electives that students take with a cohort of other new students and meeting financial need. Promising models like these are building on the best research about what works in spurring student success and are designing comprehensive strategies to put students on structured pathways to credentials with clear value for the workforce or transfer—and to keep them there.

Recommendations: Sustaining the Momentum for Better Results

Massachusetts community colleges and higher education officials are part of the national movement for improved community college student outcomes and institutional performance. Last year, the Governor's budget and the legislative decisions on funding and other priorities for community colleges accelerated what had been a steady momentum for improvement. That momentum has not peaked.

The following recommendations, if implemented, would enable the state and its institutions to build on last year's actions and progress. Implementing them would greatly increase the likelihood of the state moving from the middle of the pack nationally in terms of community college outcomes and persistent achievement gaps to become the national leader that its residents and employers expect and need it to be.

At the core of these recommendations is the belief that siloed, incremental change is not enough. The key to better outcomes for Massachusetts students and regional economies is to redesign the community college experience so that every aspect of it is about helping students make informed choices about their educational program, make those choices early in their academic careers, and then do what needs to be done to earn credentials and further their education or career.

1. Fully and effectively implement two high-leverage reforms initiated in 2012—performance-based funding and developmental education redesign.

Performance funding: In the FY 2014 budget, the legislature should adopt the performance-based funding formula developed by the Board of Higher Education. Most states that are pursuing ambitious, large-scale higher education reform strategies are turning to performance funding to motivate and accelerate better educational and economic outcomes. To compete effectively under this new funding system, colleges should receive opportunities to learn about evidence-based strategies for improving their students' outcomes.

Redesign of developmental education: The Task Force on Transforming Developmental Math Education should advocate a bold plan to redesign developmental math so that many fewer students are placed in devel-

opmental courses as a default, remedial instruction is built into college-level courses for many more students and multiple rigorous math pathways are created to align with the math requirements of particular programs of study and majors. Developmental English should undergo a similar redesign.

As a part of developmental education reform, the Board of Higher Education should identify and implement changes to existing placement and assessment policies to reduce the number of students who are placed into developmental education unnecessarily. Recommended changes include using multiple measures to determine placement, including high school GPA for younger students, and clearer instructions to students about the test and the value of preparing for it.

2. Expand access to structured pathways to credentials and reduce the complexity of navigating program and course options.

More useful information, better advising: Significant improvement in student progress and completion will require reducing the complexity of navigating the community college experience. Too many options, too little advice and guidance, too little attention to process improvements—these obstacles need to be tackled through the promotion of efficient, structured program options and high-quality information for incoming students about their options. To promote and drive this kind of reengineering, the Massachusetts Department of Higher Education (MDHE) and the state's community colleges could start by providing students with far better information and advice about programs, their requirements, and the labor market outcomes students can expect upon completion.

Incentives for quicker decisions and routes to completion: Colleges and the Department should also reduce the number of poorly aligned and bewildering program and course options students face and help students make choices that move them more quickly to coherent programs of study. Some schools and state systems are narrowing options and electives within programs, reducing the number of program options available, and grouping majors in ways that align courses more efficiently. The state could also take steps to require students to choose a broad program of study early, and then a major at the end of the first year.

Clearer transfer pathways: In recent years, the MDHE has laid the groundwork for significant improvements in the transfer process that should be continued. An important next step is for the MDHE to incent collaboration between faculty from two-year and four-year institutions to define streamlined general education cores mapped to particular program areas, such as liberal arts, business, or health sciences. The goal is to offer a more directed experience for students, eliminate the confusion created by too many choices and too little guidance, and ensure courses will be accepted for transfer and—importantly—count toward a student’s major at their four-year institution.

Shorter-term, stackable career and technical credentials with clear links to jobs: Massachusetts community colleges should create and align a more transparent set of pathways to credentials that are tied to both student demand and employer needs, and reflect the best research on student needs for structure, support and streamlined programs. The Commonwealth’s community colleges will soon benefit from a workforce-focused fund created with part of the initial licensing fees for the state’s new casino gambling venues. These new resources should be used to promote more diverse, efficient pathways to high-demand occupations.

3. Identify and remove barriers to innovation and pursuit of the completion agenda.

Comprehensive policy audit: The MDHE should conduct or commission a careful review of existing state laws and policies that shape community college institutional incentives and actions. A comprehensive policy audit would help spark discussion of key obstacles to dramatic improvement—and of strategies to remove or reduce these obstacles. If well designed, it could generate a consensus on how certain laws and rules should be changed to promote more and larger-scale innovation.

4. Support sustained advocacy for community college student success.

New statewide cross-college voice for improving student outcomes: Massachusetts should support consistent, focused cross-college collaboration to accelerate and strengthen innovative approaches to improving student outcomes. Several states, particularly those that, like Massachusetts, have relatively decentralized governance of their community colleges, have found it advantageous to create Centers for Student Success, relatively

autonomous from the state authorities and the colleges’ lobbying efforts, and charged by college leaders to accelerate cross-institution learning about evidence-based practices, advocate for long-term support for the success agenda and align diverse innovations to maximize their statewide impact.

Institutionalized stakeholders’ advocacy coalition:

The Coalition FOR Community Colleges, with members representing a broad set of statewide advocates and stakeholders focused on education and employment, should be sustained as a statewide voice, independent yet supportive of the colleges and their efforts to improve student outcomes.

Conclusion

The recognition that Massachusetts and its residents need the state’s community colleges to produce many more well-prepared graduates is now widespread and the appetite for innovation and improvement is growing. Recent actions taken by the Governor, the Legislature, the Department of Higher Education and the state’s 15 community colleges have laid the groundwork for innovation.

The time to step up and lead is now. State officials and key advocates for Massachusetts’s economic vitality should pursue and encourage four priorities: 1) ensure that performance funding and developmental education reform are fully and effectively implemented; 2) take action to improve students’ ability to choose, navigate, enter and complete structured community college pathways to high-value credentials; 3) undertake a careful review of policies that hinder this agenda; and 4) support and sustain a strong statewide voice in support of community college improvement and innovation.

The opportunity for progress is clear and compelling—and the potential rewards to students, employers and Massachusetts communities call for continued bold and creative leadership going forward.

Introduction

The past few years have been a period of dramatic acceleration in Massachusetts's efforts to improve community college student outcomes. An intensified sense of urgency has united the Governor, the Legislature, the Massachusetts Department of Higher Education, lead employers, individual college leaders and numerous other stakeholders.

Both institutions and state agencies have responded to this sense of urgency with significant innovation and reform. The student success and college completion agenda has begun to gain real traction in Massachusetts, particularly as it relates to the challenge of underprepared students and the economic needs of the state, its employers and communities.

Importantly, the momentum for reform has not peaked. If anything, urgency has been joined with a sense of opportunity. The Commonwealth, its political and civic leaders and its community colleges, are well positioned for a next round of reform and innovation. The timing is right, for the national student success movement has simultaneously reached a new level of sophistication and experience to inform specific, evidence-based recommendations. This round of reform is likely to be less contentious than the 2012 battle over governance, funding formulas and other changes. And, if it goes well, it could be a potent driver for dramatically improved institutional practice and performance.

This paper is written to inform and support this next phase of community college improvement in the Commonwealth. It is based on an appraisal of Massachusetts's accomplishments and progress to date, but also an honest assessment of the gaps and shortcomings that remain. The authors look at the strategies and priorities of the most innovative states, systems and colleges around the nation and suggest next steps for Massachusetts colleges and for state officials.

This report:

- Frames the challenge and the way forward for Massachusetts community colleges, based on the latest and most authoritative national research;
- Highlights and describes evidence-based solutions being implemented by innovative colleges and states; and
- Suggests priority next steps for the Commonwealth in driving and supporting improved completion and student success outcomes across all 15 Massachusetts community colleges.

CHAPTER ONE

The Current Moment in Community College Reform in Massachusetts

The Evolution of the Community College Reform Agenda in Massachusetts

During the past six or seven years, Massachusetts and its community colleges have embarked on a journey to improve the performance of the state's community colleges for its students and the businesses and organizations that employ them. The state has mobilized around an ambitious agenda for increased credential completion and smoother transfer for community college students—and a greater contribution from the community colleges to the state's economic well-being and future.

It hasn't been a straight line. There have been disagreements and false starts, but the commitment and progress have accelerated. The story is instructive: effective change takes time; a foundation of trust and working relationships among potential allies must be built over time; incentives and rewards for innovation must be established. Then, there have to be people in positions of influence who have a deep understanding of specific, evidence-based solutions or promising innovations that can be implemented efficiently and at large scale across the state. For years, it can look as if little is happening and progress is stalled, but when the conditions necessary for reform fall into place, the speed of innovation and change can be surprisingly quick.

In 2007, Massachusetts applied for and became one of 15 states participating in Achieving the Dream, an ambitious national effort to help community colleges improve student success and use data on student performance to develop specific, targeted strategies to improve persistence and completion. Four colleges in the state were selected to participate, and the state created a policy team led by the Massachusetts Department of Higher Education and supported by Jobs for the Future to develop and share strategies with other states for accelerating improvement across all its community colleges.¹

That same year, the Boston Foundation raised the visibility of the community colleges in Massachusetts with a report describing their importance to the state, its residents and businesses—and the need for serious improvement if their potential was to be realized.² *The Boston Globe* raised the stakes with a front-page article publicizing the low completion rates of the state's community colleges.

Momentum for significant change was beginning to take shape. The four Achieving the Dream colleges began collecting, reporting publicly and comparing data on student progression and completion. They identified innovations they would test, most of them having to do with developmental education or first year courses.

In January of 2009, Governor Deval Patrick appointed Richard Freeland to be the Commissioner of the Department of Higher Education. The Department created a School-to-College Database from which reports were generated that detailed how public school graduates performed at Massachusetts's college campuses. The Department developed a comprehensive community college success measure and incorporated it into community college annual performance reporting. It also launched the MassTransfer policy effort to help students navigate the complexities of transfer from two- to four-year institutions.

The Achieving the Dream colleges' pilot projects began to demonstrate improved outcomes, and the Department of Higher Education and the Massachusetts Community College Executive Office (MCCEO) took steps to help innovative approaches spread to other colleges. In 2009, MCCEO completed an exhaustive 15-month audit of developmental education policies and practices across the state's community colleges, the first such attempt to look at the system as a whole and to identify promising practices at the state's campuses.³

The deep recession of the next few years resulted in great challenges and some setbacks. Funding for the database project and an innovative K-12/higher educa-

tion dual enrollment program was dropped from the budget. Community college enrollments shot up as adults who were underemployed or unemployed decided to gain new education and skills, while state investments did not keep pace. Institutions struggled to adjust to new realities.

But the seeds had been sown for a concerted effort to drive the student success and completion agenda. In early 2010, Massachusetts joined Complete College America (CCA) and signed on to its agenda for policy action to increase completion rates for two- and four-year public institutions.⁴ The Department of Higher Education, the lead agency for both Achieving the Dream and CCA, drew resources and support from both initiatives and used them as the foundation for the launch of a high visibility campaign to improve the quality and outcomes of public higher education.

In the fall of 2010, the Board of Higher Education approved a new public higher education agenda for Massachusetts: the Vision Project. Its declared goal is to produce the best educated citizenry and workforce in the nation, in response to the intensifying interstate competition for jobs and skills and the growing importance of public education to the Commonwealth's future. Seeking to raise both expectations and accountability for Massachusetts public higher education, the Vision Project is focused on:

- Improving college readiness, student learning and completion rates;
- Increasing alignment between academic programs and labor demands; and
- Reducing achievement gaps among different demographic groups.

Led by Commissioner Freeland and the Department of Higher Education, the Vision Project has become the state's organizing umbrella for a set of high-leverage statewide student success initiatives, coordinating and maximizing the energy stemming from efforts such as Achieving the Dream. Its metrics and public reporting of outcomes now guide the institutions.⁵ A Performance Incentive Fund managed by the Department has seeded innovations at campuses around the state, involving faculty and leadership in approaches to meeting the state's goals and benchmarks and working to ensure that policy changes gain traction at the institution level.

Since 2010, momentum has accelerated further. In November of 2011, the Boston Foundation commissioned and released a second *Understanding Boston* report highlighting community colleges—*The Case for Community Colleges: Aligning Higher Education and Workforce Needs in Massachusetts*. It called for a more aggressive and unified approach to addressing the “mismatch between the middle-skilled jobs that are going unfilled in the Massachusetts economy and the opportunities offered by higher education to prepare workers to fill these needs—with a particular focus on community colleges.”⁶

The report stimulated debates over community college governance, accountability, funding incentives and formulas, and the importance of workforce credentials as well as transfer policy. In his 2012 State of the State address, Governor Deval Patrick proposed a set of reforms that aligned well with the report, among them changes in governance meant to unify the state's community colleges into a more coherent and focused system. Just one week after the Governor spoke, the Boston Foundation convened the Coalition FOR Community Colleges, a diverse group of 62 Massachusetts civic, community and business organizations that want to see community colleges live up to their potential.

The Governor's reform package was signed into law in the 2013 budget.

Together, these varied efforts have contributed to the current, significant momentum in Massachusetts to adopt new approaches to dramatically improve community college performance and student outcomes. At present:

- Metrics for assessing and publicly reporting progress across the state's colleges are in place;
- Governance changes give the Governor and the Commissioner of Higher Education more influence over community college priorities and strategies;
- Employers encouraged by the state's emphasis on expanding the production of credentials with value in the labor market are establishing closer ties with colleges in their region;
- The Department of Higher Education is proceeding quickly to address weak outcomes of academically underprepared students through a system-wide redesign of developmental math curricula and programming;

- A performance-based funding system required in last year's legislative package is being finalized for inclusion in the 2014 budget, replacing enrollment-driven funding incentives with a creative approach to rewarding the completion of individual courses and credential programs;
- A \$5 million/year Performance Incentive Fund is targeted for spurring innovative institutional strategies to raise persistence and completion rates; and
- A database of common course equivalencies is being created by the Department of Higher Education, building on work begun by the colleges—an important step toward a much more transparent and simplified transfer system for community college students.

Last year, the state's 15 community colleges banded together in a successful application for a \$20 million federal grant from the U.S. Department of Labor designed to accelerate the attainment of degrees, certificates and industry-credentials among low-income, low-skill adults across all 15 schools—an initiative titled the Massachusetts Community Colleges and Workforce Development Transformation Agenda.⁷ That the state's colleges competed successfully is itself confirmation that a new era is upon the Commonwealth—one focused on better outcomes, the relationship between higher education and the economy, transformation rather than small pilot projects, and an increasingly unified vision for the future across institutions, systems and sectors. It is this new era that the next phase of community college reform must promote and accelerate across Massachusetts.

Where Does Massachusetts Stand in Community College Outcomes?

Massachusetts is frequently touted as a high-flying education state, a national leader. That is more true in K-12 than in public higher education. In the 2011 *Trends in International Mathematics and Science Study* (TIMSS), Massachusetts eighth graders not only scored best in the U.S. but also among the best when compared with students from other countries. In the National Assessment of Educational Progress given to U.S. students in 4th and 8th grades, Massachusetts students regularly outperform their peers from other states (though serious achievement gaps exist in Massachusetts between white and Asian students and their Black and Hispanic peers).⁸

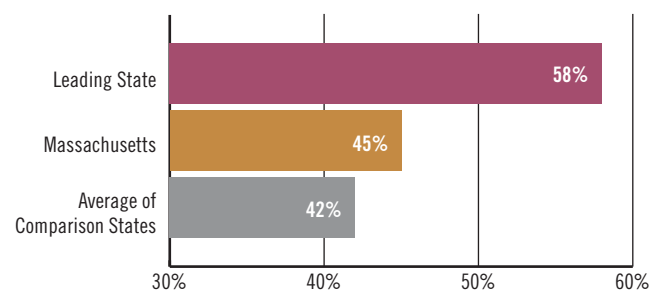
However, when it comes to metrics related to community college enrollment, persistence and completion, Massachusetts sits squarely in the middle of the pack. According to the Vision Project, while Massachusetts is a leader nationally in college readiness, the disparity in college enrollment rates between whites and both African Americans and Hispanics is close to the national average: a 10 percent African-American/white enrollment differential and a 21 percent Hispanic/white gap. When Massachusetts students get to community college, 65 percent require remedial education in either math or reading, a figure that is right around the national average.⁹

For the federal government's three-year IPEDS graduation rate for community college degree students, Massachusetts institutions place 30th in the nation.¹⁰ In a study of nine Achieving the Dream states that submitted statewide information on six-year success rates for community college students (i.e., the percent of students who, six years after initial enrollment, had completed a degree or certificate, transferred with or without a credential, or are still enrolled with 30 or more credits earned), Massachusetts students' success rate was 45 percent, just above the comparative average of 42 percent, but far below the leading state's 58 percent rate.¹¹

In the coming years, demographic changes in Massachusetts will make it difficult to raise completion rates markedly through incremental, modest improvements. Between 2000 and 2010, all population growth in the Commonwealth was due solely to the growth of the Hispanic population, a 46 percent increase over

FIGURE 2

"Achieving the Dream" Six-Year Success Rate for Community Colleges



Cohort: First-time degree-seeking students entering in Fall 2003; measure examines their rate of success by September 2009.

Source: Massachusetts Department of Higher Education 2012.¹²

the course of the decade. This pattern is expected to continue for the foreseeable future.¹³ Given the relative youthfulness of the Hispanic population, the impacts are particularly pronounced in the education system: while Hispanics comprise just under 10 percent of the state's population, they make up almost 15 percent of public K-12 students in the state. And they make up an increasingly important segment of the college-going population across the state. Further, the concentration of Hispanics in certain metro areas (close to 40 percent in Lawrence and Springfield; more than 20 percent in Worcester, Chelsea-Revere and Holyoke-Chicopee) means that the higher education institutions that serve this population disproportionately—the non-selective institutions and particularly the community colleges—can only succeed if their Hispanic students succeed.¹⁴

Unfortunately, if nothing changes in Massachusetts community colleges except the demographics of their students, overall persistence and completion rates will likely drop rather than rise. Achievement gaps between Hispanic and other populations in Massachusetts colleges—in terms of the academic proficiency of high school seniors and progression and on-time completion of college—are quite high and are higher than in many states. The college readiness gap is about 28-29 percentage points between white and Hispanic twelfth graders. White students' community college graduation rates are more than double those of Hispanics; Massachusetts Hispanics graduate at a rate of only 8.6 percent, 35th among the 40 states in a comparison group.¹⁵

For many years, public higher education in Massachusetts was not seen as especially critical to the state's economic prospects, given the concentration of private institutions in the state. But that has changed dramatically. In 1967, only three out of 10 Massachusetts undergraduates attended public rather than private colleges or universities. That proportion has almost doubled: Today, more than half of all Massachusetts undergraduates attend public two- and four-year institutions in this state. Among associate degree holders, three out of four earned their credentials in-state.¹⁶

Thus, the reform progress of the past few years is increasingly necessary but also insufficient. Our institutions must leapfrog their peers to achieve much better outcomes for an increasingly diverse and at-risk population of students and an increasingly demanding community of employers. Bold action is needed: If the performance of our community colleges remains only average and uneven, it will become increasingly difficult for Massachusetts to compete in the global economy.

CHAPTER TWO

Emerging National Consensus on Next Steps to Improve Student Outcomes

As Massachusetts has pursued community college reform, it has had some good company. Across the country, innovative colleges and state higher education systems have been testing different approaches to improving student persistence and attainment, with a particular focus on affordable strategies to increase the skills and economic prospects of low-income and under-prepared youth and adults.

It is still early in this movement to improve community college outcomes. As a nation, we don't yet have all the answers when we ask what a high performing community college system will look like—and, in particular, how a more efficient, effective system will be structured and will operate. However, research and experience with strategies to improve community college performance and reduce achievement gaps are already yielding a broad consensus on priorities for the next phase of this crucial national effort.

Fortunately, this consensus is consistent with lessons learned and progress made in Massachusetts to date. The core of this emerging consensus is this:

1. Small boutique programs and pilot projects that reach a small segment of an institution's or a state's community college students cannot generate large-scale improvement. This is the overall lesson from the first phase of Achieving the Dream nationally, among other reform initiatives.¹⁷ Dramatically improved results require strategies that are built into the fabric and the general operations of an institution, reaching the typical student, not the exceptional one. Examples include changes in the orientation or advising system for all incoming students or the redesign of the general education core curriculum to make transfer of credits easier for most students. Small pilots may be necessary to test particular innovations, but large-scale reform rarely proceeds from the expansion of pilots. Real depth in improvement requires broad, ambitious changes in policies and practices that break with business as usual and

are built from the outset to reach large numbers of students.

2. The front end of the college experience—assessment and placement, orientation and advising, developmental education, initial course selection and success—is a critical area for improvement.

Too many community college students enroll under-prepared for college success, both academically and in terms of college navigation and study skills. Another large group of students that may or may not be academically unprepared for college-level work enroll with little or no direction or sense of what they want to accomplish in or after college.¹⁸

Any successful redesign must address both these challenges head-on. Redesign of students' early experiences, including basic skills mastery, needs to decrease the unstructured confusion of options available to students, accelerate student enrollment and success in credit courses that are gateways to college majors, and incentivize choices and behaviors that maximize early momentum and success. These redesign principles draw from behavioral economics lessons about human reactions to too much choice, and from the reality that "Students don't do optional," as the Director of the Community College Survey of Student Engagement Kay McClenney puts it. For students with little confidence in their ability to succeed in college—which may be the majority of community college students, given their past experiences in school—success breeds success. Colleges need to put this lesson at the core of the ways in which they organize the first year experience for students.

3. At the same time, getting students over the initial hump is not sufficient. Redesign of the community college experience must address "loss points" across the entire college experience. Students who don't earn a credential or transfer to another college drop out at many different points along the way, not just in response to their early experiences. The longer

students take to find their way and plan for success, the more likely they are to give up at some point—before they meet their goals. As Uri Treisman of the University of Texas at Austin puts it, the danger of focusing only on reforming developmental education or the first year without attention to the redesign of college programs and pathways can be like “building a six-lane highway into a swamp.”

The growing national consensus is that college offerings and student decisions need to be reverse-engineered from the ultimate goal students have for themselves: employment that leads to a sustainable career or transfer to further education for a credential that will open up additional career opportunities. What do employers in particular fields want from entry-level skilled employees? How can colleges revise curricula, program sequences and student experiences to be more relevant and attractive to employers in high demand fields? Attention to the endpoint of, not just the entry into, community college provides important common ground for educational leaders, business interests and state officials.

This emerging national consensus (see sidebar) has been greatly influenced by a steady stream of recent research, much of it generated by the Community College Research Center at Teachers College, Columbia University, as well as MDRC in New York and the Insti-

tute for Higher Education Leadership and Policy in California. Carefully designed and creatively executed, this research has been instrumental in helping practitioners and policymakers coalesce around the assertions summarized above. In particular, this emerging body of research has highlighted three interrelated challenges and obstacles to student success:

- The weak performance of—and high attrition rate from—traditional developmental education courses and programs;
- Serious flaws in the way that students are assessed and placed into remediation or college-level courses; and
- The high cost of the current laissez-faire approach to structuring students’ choices of program and plans for succeeding in and after college.

Leading edge colleges and states around the country are creating and adopting solutions to these three challenges that can be implemented on a large scale.

High Attrition in Developmental Education Sequence

In recent years, research on the progress and completion rates of entering community college students who are not ready for college-level work has forced colleges and policymakers alike to take a hard look at the efficacy of traditional remedial programming. This emerging body of research, based on careful longitudinal studies of students as they move through postsecondary institutions, identifies a serious attrition problem: too few students who start in developmental education courses ever finish their sequences, go on to take the first credit courses in math or English, or complete a degree or certificate.

The numbers are sobering. Studies estimate that between 60 and 70 percent of community college students take at least one remedial math or English course. Of these students, only about one in four graduate within eight years.¹⁹ The majority of students who are referred to remedial education do not even complete the remedial sequence, never mind continue on to earn a credential. A recent study from the Community College Research Center found that 46 percent of students completed their remedial sequence in reading and only 33 percent completed it in math.²⁰

An Emerging Consensus

- Boutique programs and pilot projects that reach a small segment of an institution’s or a state’s community college students cannot generate large-scale improvement or dramatically different performance.
- The front end of the college experience is a critical area for improved processes, new approaches and innovation.
- Getting students over the initial hump, i.e., the first year and developmental education, is not enough. Institutional and program redesign must address the entire community college experience.

Low Completion Rates for Developmental Education Students

Just **25 percent** of developmental education students in America's community colleges complete a credential within eight years of enrollment.

The traditional way that colleges help academically underprepared students get ready to succeed in college-level programs is to require the completion of a sequence of stand-alone *pre-requisite* developmental courses. These sequences, which can require students to pass three or more courses sequentially, create many opportunities for students to drop out. A student may pass one developmental course but fail to enroll in the next. Many who complete their remedial sequence never enroll in the first credit math or English courses they need to progress to a credential. Complete College America found that in its participating states only 22 percent of community college students who were placed into remedial math or English courses completed a gateway class (i.e., introductory credit-bearing class, often

100-level) in their designated subject area within two years.²¹

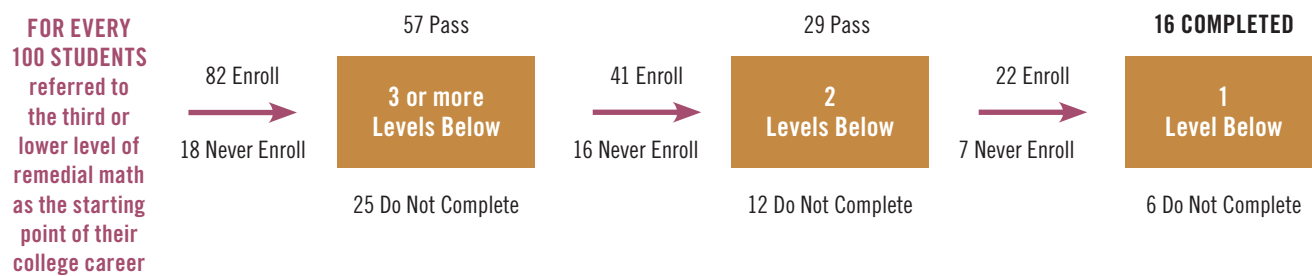
Not surprisingly, students placed in a sequence of three (or more) remedial courses have the hardest time staying with it. Using data reported by Achieving the Dream colleges, the Community College Research Center followed the trajectory of students who were referred to the third and lowest level of remedial math as the starting point of their college career (see **Figure 3**). The findings confirmed what many feared but had not seen portrayed so starkly. Only 16 percent of these students ever completed their remedial sequence and were declared ready for college math (typically assumed to be college algebra). A similar study of those requiring three or more developmental English courses was only slightly less troubling: 22 percent of those students reached college-readiness. Of course, only a subset of those continued on to pass credit math and English courses—and a smaller group yet earned a degree.²²

For these students, developmental education was the end of college, not the launch pad to it. Almost one in five never enrolled in a single developmental course; more than 40 percent never enrolled or never completed a first course. Tellingly, almost as many students successfully completed a course and then never came back for the next one as failed a given course.

While this research highlights the difficulties facing the hardest-to-serve population—lowest level math remediation students—its basic findings have been confirmed in research on those placed only one or two levels down in remedial courses. The long sequence of stand-alone courses, disconnected from the math and English required for particular programs of study and majors,

FIGURE 3

Course Completion/Enrollment for Students Referred to Lower Level Remedial Math



Source: Community College Research Center

results in high attrition at multiple “loss points.” As life intervenes, the developmental sequence itself becomes a serious obstacle to completion. This evidence-based recognition has led the field to look less to the quality of instruction in particular remedial courses and more to the overall *structure* of developmental education delivery.

Deep Flaws in the Assessment/ Placement System

Colleges generally place students into remedial classes on the basis of a single score on a standardized test. Yet the evidence on the predictive validity of these tests is not as strong as many assume. It is also clear that the conditions under which students take the placement tests are usually problematic: students are not apprised of the high stakes nature of the test nor are they encouraged or helped to review for the test. Most important, though, a growing body of research fails to find evidence that the resulting placements into remediation actually improve student outcomes.

Research is limited on the predictive value of the tests used by community colleges to assess college readiness and for placing students into remedial versus college-level courses. Most available studies have been conducted by the test makers themselves. However, a recent independent study by CCRC’s Judith Scott-Clayton of 42,000 students in a large urban community college system has greatly increased our understanding of how well the placement tests predict correctly both those students who will succeed in college-level courses and those who will fail.²³

While placement exams have much more predictive power in math than in English, overall placement accuracy is limited in both: 58 percent of those taking the math placement were accurately placed versus 43 percent in English (given this particular system’s cut scores and its success target of a C or better in a college course). The rate of severe errors—students overplaced into college courses or underplaced into remediation—was significant in both subjects. Between 40 and 50 percent of students placed in remedial math could have earned a C or better in a gateway math course without prior remediation; between 40 and 65 percent of students placed into remedial English could have earned a C or better in a gateway English course.

Some of the poor predictive value of these tests may be a function both of the limited information about students provided by the short, multiple choice exams and students’s limited understanding of the exams’s high stakes nature. Scott-Clayton estimated that including high school GPA and other background information in the placement decision could reduce severe placement errors and reduce the remediation rate by 8-12 percentage points while—critically—maintaining or increasing success rates in college-level courses.²⁴

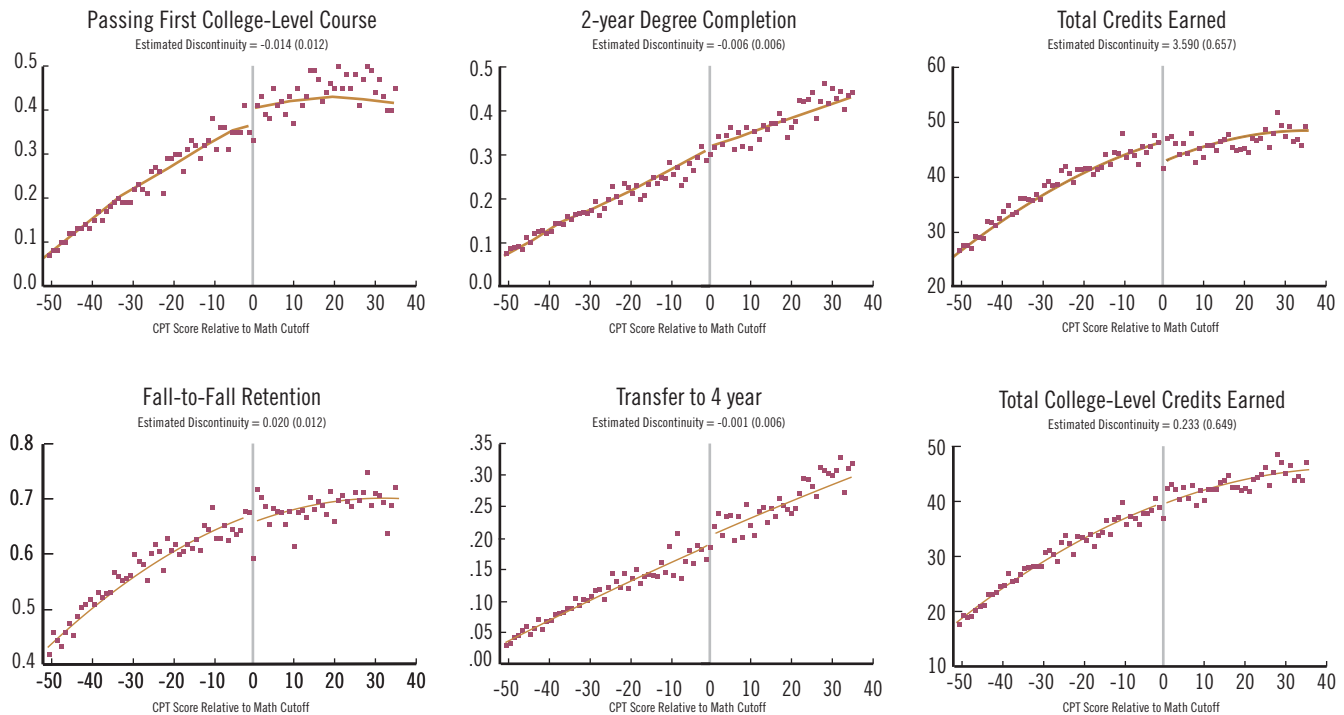
The high proportion of severe errors using current assessment tools is not the only problem with the placement process that assigns well over half of all incoming students into at least one remedial course. The other huge problem is that remediation does not appear, on average, to accomplish its primary goal: to overcome student weaknesses in reading, writing and math so they can catch up academically to their college-ready peers. If remediation as traditionally organized and delivered were broadly effective, it should result in improved outcomes for students who complete remedial classes compared to peers who do not avail themselves of this academic “booster shot”: they should be more likely to take first-level gateway credit courses, get better grades, complete more credits, persist in college and ultimately earn a credential. However, an increasingly robust body of rigorous research finds that, on average, taking developmental classes has little or no positive effect on later college performance.

One creative research strategy is to compare the outcomes of students who score just below the remediation cutoff score to those who score just above it. Alike in many ways and placed into either remediation or college-level courses by virtue of only a few points’s variation on a standardized exam, these two groups provide an excellent test of whether remediation provides significant benefit. Those who scored slightly lower than the cutoff but then took developmental courses should see their outcomes improve compared to those who scored just above the cutoff but did not take remedial courses. On a graph plotting outcomes for the two groups, one would expect to see a discontinuity—a break at the cut score with those who took remediation showing better results than would otherwise be expected.

But this expectation rarely materializes, as **Figure 4**, summarizing recent research of this type, demonstrates. On a range of outcomes—from passing a first college-

FIGURE 4

Educational Outcome by Math College Placement Test Score and Estimated Discontinuity



Source: Community College Research Center

level course to coming back for a second year to eventually earning a degree—similar community college students who took developmental math courses did not appear to derive significant benefits.

The mounting evidence against remediation as currently organized has led institutional leaders and policymakers to look for two kinds of alternatives to current practice. One direction is to try to help more students avoid placement in developmental education, by adding additional measures to placement decisions and by making it clearer to students that they should take the tests seriously, prepare for them and try hard to raise their scores. The second direction is a call for more dramatic change, evidenced by increasingly frequent proposals to move as many students as possible directly into college-level gateway courses (with academic and other supports provided “just-in-time”) and to replace sequential remediation with approaches that provide basic skills instruction alongside, rather than as a prerequisite, to college-level work.

It Takes Too Long to Choose a Program and It's Too Hard to Stay on Track

The new consensus contends that community college students face too many bewildering choices—and receive too little support in making decisions that enable them to select, enter, progress through and complete a credential program successfully and efficiently. The typical community college course catalog is huge: Bunker Hill Community College, for example, offers more than 100 degree and credential programs and roughly 6,000 credit courses. At each step along the way, a student can fall off track: the decision about where to enroll; how many courses to sign up for; what credential to pursue; how to meet program requirements; what other courses to take and when; how to respond to bureaucratic obstacles that complicate placement testing, course registration and financial aid. As Judith Scott-Clayton poignantly puts it, “For many students at community colleges, finding a path to a degree is the equivalent of navigating a shapeless river on a dark night.”²⁵

“For many students at community colleges, finding a path to a degree is the equivalent of navigating a shapeless river on a dark night.”

—Judith Scott-Clayton

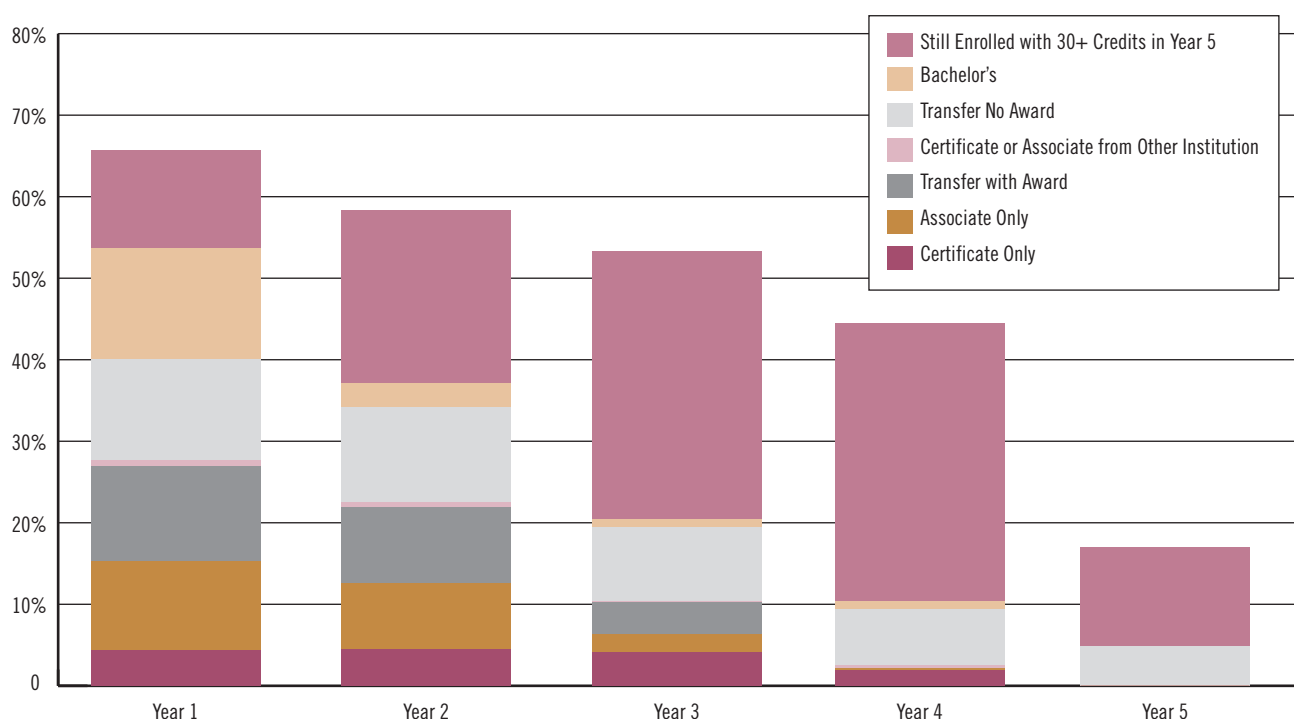
The more false starts, missteps, or delays, the more likely it is that a student’s momentum falters. Not surprisingly, staying on track to completion by earning sufficient credits each year has long been seen as an important determinant of community college success. Longitudinal research by Clifford Adelman suggests that accumulating 24 credits in one’s first year greatly increases the odds of completion (which is one reason why part-time students and those with multiple required remedial courses have lower success rates).²⁶ Jobs for the Future research on student outcomes in six Achieving the Dream states found a similar first-year threshold for success.²⁷

According to recent research, though, being motivated and efficient in earning credits is only part of the solution. Using data from one mid-sized state, the

Community College Research Center found that declaring a program of study or major early is itself related to improved odds of completion. Students entering a program of study within a year of enrollment are far more likely to earn a credential than their peers who do not.²⁸ (See **Figure 5**.) The later in one’s college experience one selects a program or major, the lower the odds of ever earning a credential. Of students who entered a program of study in their first year, upwards of 50 percent either earned a certificate, associate’s degree, transferred to a baccalaureate institution, or earned a bachelor’s degree within five years. For the students entering a program in their second year, that number dropped all the way to 37 percent.

For community college students, getting to the point of successfully choosing and enrolling in a desired credential program is more difficult—and less universal—than one would think. According to the Institute for Higher Education Policy and Leadership in California, about half of community college enrollees in that state never enter a program of study, dropping out before they decide on their pathway to completion.²⁹ Just as taking

FIGURE 5
Highest Educational Outcome Achieved Within Five Years by Year Student First Entered Concentration



Source: Community College Research Center

Joint Statement on Transforming Remedial Education: Seven Principles for Reform

In December 2012, Jobs for the Future and three other organizations—the Charles A. Dana Center, Complete College America and the Education Commission of the States—issued *Core Principles for Transforming Remedial Education*, a joint statement on how states can promote more rapid and successful improvement of outcomes for community college developmental education students.³⁰ This statement both reflects and advances the emerging national consensus on the community college reform agenda. It suggests seven principles to guide action by state policymakers and institutional leaders. As the statement puts it:

We provide the following principles for creating a fundamentally new approach for ensuring that all students are ready for and can successfully complete college-level work that leads to a postsecondary credential of value. These principles provide a clear direction on how institutions and states should act in light of groundbreaking research, the heroic efforts of state and campus innovators, and the collective experience of our organizations.

Principle 1 Completion of a set of gateway courses for a program of study is a critical measure of success toward college completion.

Principle 2 The content in required gateway courses should align with a student's academic program of study—particularly in math.

Principle 3 Enrollment in a gateway college-level course should be the default placement for many more students.

Principle 4 Additional academic support should be integrated with gateway college-level course content—as a co-requisite, not a pre-requisite.

Principle 5 Students who are significantly underprepared for college-level academic work need accelerated routes into programs of study.

Principle 6 Multiple measures should be used to provide guidance in the placement of students in gateway courses and programs of study.

Principle 7 Students should start a meta-major when they enroll in college and start a program of study in their first year, in order to maximize their prospects of earning a college degree.

a long time to enroll and succeed in college-level gateway courses increases the odds of dropping out and decreases the likelihood of completion, delayed enrollment in a program of study has a similar cost, reducing significantly the likelihood of either completing a credential or transferring with or without a credential. Failure to choose a clear pathway to a credential early in one's college experience is a major contributor to the failure to persist and complete.

The emerging consensus from this and other research emphasizes the need to provide more—and more useful—information to students, reduce bureaucratic obstacles to timely choices and program decisions, and

make available more effective advising and support for students' career and educational decisions. There is broad recognition, though, that simply making more information available is not sufficient. Many colleges and state systems are experimenting with more intrusive advising that drives students to make academic decisions and choose programs of study more quickly. More generally, there is growing agreement that the "shapeless river" that community college students travel needs much more shape if students are to navigate it successfully.

New program designs that provide clearer, structured pathways to credentials, with more required courses,

fewer electives and greater focus on efficient progression to completion, are demonstrating early results that reinforce this approach. City University of New York's Accelerated Study in Associate Programs (ASAP) is a good example of a program that provides far greater structure and support for its students. ASAP reports a 56 percent three-year graduation rate for its students, far above the 23 percent three-year graduation rate for a constructed comparison group (see pp. 29-30 for more on ASAP). A range of strategies that bring greater structure to community college students' experience—so that they make better choices, choose programs earlier and stay on track to complete or to transfer with the right courses—are getting more attention from college leaders and state policymakers alike.

A Short Guide to Research Informing an Emerging National Consensus

As noted, well-designed new research findings have dramatically altered the discussion about obstacles facing underprepared community college students and solutions that can result in dramatically increased completion and success rates. A consensus is emerging on high leverage strategies for change, centering on the best ways to promote and support more efficient mastery of basic skills and the expansion of accelerated, structured pathways to college credentials and transfer. **Figure 6** notes the most influential recent studies and briefly describes how their findings have shaped the national consensus on emerging priorities for the community college completion and student success agenda.

FIGURE 6
Research Influencing the National Discussion

Research Finding	Structured Pathways Strategies / Responses
Students who accumulate credits and enter a program of study early meet with better outcomes. ³¹	Move students into program streams and encourage them to declare majors early.
Students need more structure, fewer options and frequent feedback. ³²	Streamline curricula; add mandatory orientation, proactive advising, and educational planning.
The effectiveness of traditional developmental education is unclear. ³³	Reduce, accelerate and contextualize developmental education.
Not all academic programs and careers require the same skills. ³⁴	Build multiple, differentiated pathways aligned with the requirements of academic programs and careers.
Assessment tests are high stakes, and they are not the best predictors of success in college. ³⁵	Use multiple measures to place students, and change test conditions to increase awareness and allow preparation and retest.
Interventions are expensive, but there is evidence that they lower cost-per-completion. ³⁶	Make the case for up-front investments that lead to higher completion.
Small college-level pilots are difficult to scale up. ³⁷	Begin interventions at scale.
College programs should align with workforce needs, and students should understand career outcomes. ³⁸	Use labor market information when designing programs and to improve career advising.
College programs should align with the requirements for transfer with junior standing, and students should take courses that count toward their major. ³⁹	Faculty disciplinary teams build core curricula for program streams that introduce students to a field and lead students to the goal of choosing a major.

CHAPTER THREE

State Strategies to Promote Better Outcomes

The remainder of this paper is divided into two sections designed to inform next steps in Massachusetts's efforts to improve community college student success and to tie that success more closely to the state's economic development and well-being.

- In this chapter, we describe innovations that address the key completion challenges outlined in the previous chapter that have been tested and implemented at colleges and in state systems around the country. We emphasize efforts that are evidence-based, have influenced the field and point the way toward models and approaches that can be implemented at scale through identifiable changes in policy and practice.
- In the final chapter, we turn to recommendations for Massachusetts, given our assessment of both the opportunities and challenges facing the state and its community colleges today and the lessons summarized here from national research and experience.

Strategies for Reducing High Attrition in Developmental Education: Reduce Time in Developmental Coursework and Strengthen Support in First College-Level Courses

As noted earlier, evidence that only a quarter of developmental students complete a credential within eight years has forced many to question the effectiveness of developmental coursework. Further research on when and why students drop out has concluded that the very structure of typical developmental education as a set of stand-alone sequential courses is a serious obstacle to success. Students assigned to take multiple developmental education courses before reaching credit-bearing courses often did not enroll in successive courses, even when they received passing grades.

In response to this research, reformers have zeroed in on changes that tackle *time*—how long it takes students to get through the sequence—and structure—the ways that multiple, successive courses offer students too many opportunities to exit their pathway. States and

colleges—including many colleges in Massachusetts—are experimenting with course innovations designed to move students through developmental education faster, offer students fewer exit points, embed basic skills instruction in college-level content and build student supports into those courses. Two promising models, detailed descriptions of which follow, are the Accelerated Learning Program, developed by the Community College of Baltimore County, and the New Mathways Project, an ambitious new venture launched by the Charles A. Dana Center at the University of Texas at Austin. Both reflect the new focus on dramatic changes in structure and expectations about time for basic skills instruction.

The Accelerated Learning Program at the Community College of Baltimore County has emerged as a leading model for accelerated developmental education. ALP targets students who enroll in upper-level developmental writing. If those students choose to enroll in ALP, they are “mainstreamed” into introductory college-level English 101, but also meet immediately after for a companion course designed to help them succeed in English 101. The ALP companion course is a three-credit course, taught by the same professor as English 101, with only eight students per section. ALP is often referred to as a “co-requisite” program because it places students who would otherwise be placed into a pre-requisite developmental course into college-level English composition, while providing extra supports through the companion support course.⁴⁰

Results from a 2010 quasi-experimental study found that 82 percent of ALP students passed the introductory college-level course (English 101) within one year, compared with 69 percent of non-ALP students who started in the traditional upper-level developmental writing course (English 052).⁴¹ The study, conducted by Community College Research Center, also found substantially improved completion of the subsequent English course (English 102). A 2012 follow-up study corroborated the 2010 analysis and also found that ALP

students were more likely to persist to the next year and attempt and complete more college-level courses.⁴² CCRC's cost-benefit analysis concluded that ALP is a more cost-effective pathway to passing English 101 and 102 than the traditional route.

ALP has gained such recognition that CCBC expanded the model to developmental math. As of spring 2013, almost 100 colleges across the nation have adopted the model, and Arkansas, Indiana and Michigan have launched statewide implementations.

A second reform model that several states are adopting or considering is the **New Mathways Project** of the Charles A. Dana Center at the University of Texas in Austin. The Center is redesigning college math courses and sequences, based on the argument that fixing developmental math education is necessary but not sufficient, since a high percentage of students—both those who are considered in need of remediation and those who test as college-ready—fail their first college-level math course.⁴³

The New Mathways Project seeks to guide students through both developmental and college-level math in one year (or less). New Mathways Project pathways are designed for students who have completed Arithmetic or who are placed at a Beginning Algebra level. Students start with a quantitative literacy-based introductory course that prepares them for college-level math. Students also take a co-requisite, research-validated student success course designed to promote mastery of the skills they need to succeed in college, such as self-regulated learning.⁴⁴ In the second semester, students move into one of the three college-level math pathways that are aligned to the math requirements of specific academic programs and careers:

- **Statistics** relevant to the education and career goals of students in the humanities or social sciences;
- **Quantitative Literacy** for students looking to build their quantitative literacy skills in ways that will support their professional, civic and personal lives; and
- **STEM** for students pursuing degrees and careers in science, technology, engineering, and mathematics.

In a rather astonishing move, in May 2012 all 50 community college districts in Texas agreed to implement the entirety of the New Mathways Project. Moreover, the colleges have taxed themselves to support the initiative by raising their dues to the Texas Association of

Community Colleges. Development of the Texas New Mathways curricula and course outcomes began in the 2012-2013 academic year.

The New Mathways Project is a long-term effort. Good evidence of the impact will not emerge for some time. But New Mathways stems from a collaboration in 2010-2011 between the Dana Center and the Carnegie Foundation for the Advancement of Teaching to develop the Statway™ and Quantway™ Networked Improvement Communities. New Mathways builds upon the design principles of Statway and Quantway, which also align the curriculum to program requirements and offer students a one-year pathway through both developmental and college-level introductory math. Early results suggest that those redesigns are having positive impacts. For example, in 2012 Statway reported that data from the first year of implementation exceeded expectations: 88 percent of students who passed the first term with a C or higher subsequently enrolled in the second term at its 19 participating colleges. Only 25 percent of students with a C or better enrolled in a second term of college-level math before Statway was implemented at those colleges. In addition, surveys of students after three weeks in the pathways revealed that they were more enthusiastic and less anxious about math and more likely to have confidence in their ability to improve in the subject.

The New Mathways Project approach reinforces several key themes of the emerging research consensus, including: fixing developmental education is critical, but not enough, because community college students on both sides of the placement test cut score struggle in college-level courses; students who are near college-ready can succeed in college-level courses with effective and timely supports; colleges should offer differentiated pathways, particularly in math, that align required math mastery with a student's program choice; and student success supports should be embedded into the academic course experience.

Strategies for Improving the Placement / Assessment System: Minimize Unnecessary Placement in Developmental Education

Recent research has cast doubt upon the accuracy and efficacy of the typical assessment and placement process.⁴⁶ Many have come to believe that tests, used alone as a one-size-fits all approach to placement, are

not the best predictors of how students will perform in college classes. In addition, many have concluded that treating placement tests as a low-stakes effort for students is unfair, because the tests are not low-stakes. If a student does not take the test seriously, does not perform well, and winds up taking several semesters of developmental coursework, the tests are high-stakes indeed—and high cost. As one student who learned this the hard way put it, “[The woman at the test center] said, ‘It doesn’t matter how you place. It’s just to see where you are.’ Looking back, that’s not true. It’s really important.”⁴⁷

As states and colleges grapple with new research that is upending old assumptions, some innovative and exciting approaches for placing new students more effectively are emerging, including allowing students to prepare for and re-take tests; rewriting and customizing tests to better align with local curriculum; and right-sizing the power of the tests by combining them with other measures, such as high school grades and GPAs.

California’s Long Beach City College (LBCC) undertook a major study of its placement and assessment policies in reaction to some alarming data: more than 90 percent of LBCC students were placed into developmental education and, on average, students were taking about 5.6 semesters worth of remedial work.⁴⁸

Responding to this information, LBCC analyzed nine years worth of data on students coming from a large, local school district to examine the relationship between high school performance and placement and outcomes at LBCC. They learned that while high school GPA and grades were the strongest predictors of student performance in LBCC courses, GPA and grades were, in their words, “virtually unrelated” to placement.⁴⁹ Of the students the college placed into remedial English classes, 60 percent had earned an A or B in high school English, another 35 percent had earned a C or D, and some students being placed into college-level courses had in fact failed their high school classes.⁵⁰

LBCC faculty embraced this data. In fall 2012, the college launched a program to assess students’ needs more accurately and holistically. As part of a broader district/college collaborative to improve graduation rates for local students called Promise Pathways, the college will place new students using high school transcripts and grades rather than an assessment test.⁵¹

“I don’t think that tests are the evil here. The way we have used the tests are the problem. We have leaned on the placement tests almost totally to place students. I don’t think you can rely just on a test to judge a student’s capacity to succeed.”⁵²

—Long Beach City College President Eloy Oakley

The Long Beach experience has inspired others to follow suit. The California Community Colleges’ Chancellor’s Office is studying whether all 112 community colleges in the state ought to use GPA and high school transcripts for placement.⁵³ The North Carolina Community College System has made a similar policy change.

North Carolina is one of three states participating in Completion by Design, a national initiative designed to dramatically improve community college student completion rates, funded by the Bill & Melinda Gates Foundation. After a year of intensive data analysis and discussion, the community colleges participating in Completion by Design announced ambitious whole-college interventions designed to ensure that students receive the structure and supports they need to enter a high value program of study and graduate in a timely manner—what many now refer to as “structured pathways.” As a part of their Completion by Design work, the North Carolina colleges chose to test interventions that would allow them to co-enroll students into college-level courses while they complete developmental education, instead of automatically placing students into developmental education as a pre-requisite based upon placement test scores. Such a move required changes to the existing statewide placement and assessment policy.

The Completion by Design cadre’s work converged with research the **North Carolina Community College System** (NCCCS) was already undertaking through its work with the Developmental Education Initiative. Reacting to national research questioning the validity of high-stakes assessments as the sole measure for placement, NCCCS commissioned research by the Community College Research Center that found that high school GPA was more predictive of student success than placement test scores.

In response, NCCCS has proposed establishing a hierarchy of measures for colleges to use when determining placement. At the highest level, the system is proposing

that students graduating high school within the past five years with a GPA of 2.6 or above will be considered college-ready and exempt from placement testing. For students with a GPA below 2.6, colleges will next look at ACT or SAT subject-area scores to determine placement. Students who graduated high school more than five years ago, and students not meeting the college-ready thresholds for GPA and ACT/SAT, will take the placement test. Students who take the assessment and score near college-ready will be allowed to co-enroll in developmental and college-level courses. The full policy will be reviewed by the State Board of Community Colleges in winter 2013.⁵⁴

Strategies for Improving and Accelerating Program Choice and Completion: Promote More Structured Pathways to Credentials and Transfer

As the student success movement has matured, its expanding research and experience base has made possible more evidence-based recommendations about what works, and what doesn't. We have learned, for example, that pilots rarely scale, and that interventions that target only one narrow innovation do not move the needle on student completion. We have also learned that students need fewer choices, more structure and guidance to enter a program of study early in their academic careers.

Examples of Innovations in Assessment and Placement from Around the Country

Align High School and College Curricula: Four years ago, the English faculty of Grossmont-Cuyamaca Community College District in San Diego County began working with local high school teachers to align the curricula between high school and college. Under their agreement, students receiving an A or B in senior-year English are placed into college-level English.⁵⁵

Help Students to Prepare: Some technical colleges in Georgia require students to sign a form indicating they have been informed about the test, its objective, and how they might prepare; free tutoring is also available for students who want to prepare.⁵⁶

Allow Students to Re-Test: Miami Dade College has created “boot camps” for students coming directly from high school whose assessments suggest they need developmental education. Students undergo an intensive review and then re-take the tests.⁵⁷

Allow Students to Self-Place: An Oregon community college treats the placement exam as a “guideline.” Students review their scores in consultation with an advisor or faculty member, and make their own choices about placement.⁵⁸

Assess Non-Cognitive Skills: A Wisconsin technical college places students based upon a traditional placement exam, but supplements the student advising and counseling process with a non-cognitive assessment that looks at other student characteristics such as career choices, finances and confidence.⁵⁹

“Recent research by MDRC and others suggests that comprehensive, intensive, and extended interventions may be necessary to substantially improve achievement among community college students in the long run.”⁶⁰

—Scrivener, Weiss and Sommo

The evidence promotes the conclusion that student success strategies need to be more systemic and holistic. No longer content with boutique interventions that enroll a small number of students, the field is looking to implement structured pathways that pull all students from the moment of their connection to college through to completion of credentials and/or transfer. This wave of institutional innovation is still relatively new. However, a growing number of colleges are designing interventions to put more students on a pathway to a credential with clear value for employment or transfer—and then keep them there through systemic, deliberate supports. Two leading models, Miami Dade College and the City University of New York’s Accelerated Study in Associate Programs, are highlighted here.

The eight campuses of **Miami Dade College (MDC)**, which comprise the Florida Cadre of the Bill & Melinda Gates-funded Completion by Design initiative, are putting in place the following building blocks for structured pathways across the huge college:⁶¹

A comprehensive intake process Students arriving at MDC directly from high school received the following structured supports in the summer and fall of 2012:

- **Assessments of non-cognitive needs** to ensure that students receive the non-academic supports they need for college success;
- **Mandatory orientation**, including meetings with assigned advisors to select and register for courses; and
- **Boot camp** for students whose initial assessment scores indicated remedial need can enroll in a test prep boot camp and then retake the tests.

Contextualized, accelerated and modularized developmental education in keeping with the national focus on improving developmental education, to move students more quickly into college-level courses.

Faculty curricular review to build a more structured curriculum through which faculty are reviewing courses and course sequences in specific disciplines, with the goal of aligning curricular pathways with requirements for transfer with junior status and with MDC’s learning outcomes. A thorough faculty review is a critical component of structured pathways, for ideally it should lead to fewer uninformed choices for students, more guidance on course selection, and more assurance that courses will count toward majors and transfer.

Increased support through advising, monitoring and feedback, including heightened levels of advising, academic planning and progress monitoring designed to keep students enrolled and purposefully progressing toward a credential or transfer. Student services and faculty are sharing this responsibility.

Building communities of interest, which is a signature reform of MDC. Early in their academic careers, students will select from a number of broad program streams, or communities of interest, that inject them into a more targeted process of orientation, advising, and faculty interaction that is unified by common career interests. Communities of interest will be broad—the first to roll out in fall 2013 will be business and health—but will be designed to help students narrow their interests and choose more specific majors over time.

Though Miami Dade and other Completion by Design colleges are just beginning their work, solid evaluation data from the **City University of New York’s (CUNY’s) Accelerated Study in Associate Programs (ASAP)** suggests that the Completion by Design colleges are on the right track. MDRC describes ASAP as “multi-faceted,” because (as in the case of structured pathways) the program is designed holistically, with a goal of meeting a variety of students’ needs over the long term—for up to three years.

ASAP is designed to propel students toward completion. It provides a comprehensive suite of wrap-around services that are based on research about what matters for student success. Students are encouraged to set a goal of graduating within three years and to complete their developmental requirements as early as possible. During the first year, students take courses with a cohort of other students grouped according to major. Courses are block scheduled to help students balance the demands of school, work and home, and students are required to enroll full time. ASAP offers tutoring,

career advice, job placement and a seminar that teaches student success skills. Students are required to meet with their advisors at least twice per month, and advisors' caseloads are intentionally small to provide a more individualized experience (60-80 students). ASAP also meets students' financial needs, waiving any difference between financial aid and tuition and fees, and providing free textbooks and public transportation.

MDRC's random assignment evaluation targeted low-income students at three CUNY colleges who needed one or two remedial courses and were willing to enroll full-time.⁶² MDRC found evidence of positive impacts on full-time enrollment and credits earned during the first semester, and on retention into the second semester. Perhaps most impressive is a 15 percentage point bump in the proportion of students completing their developmental courses in their first semester. MDRC concluded that the early effects they identified from ASAP are "larger than the effects of most of the community college programs MDRC has studied previously," a fact they attribute to ASAP's comprehensive nature.⁶³ CUNY's own internal, quasi-experimental study of ASAP found a 56 percent three-year graduation rate for ASAP students, compared to a 23 percent three-year graduation rate for a constructed comparison group.⁶⁴

Much like a structured pathway, ASAP is a long-term package of services, not a short-term intervention. But "long-term services" sound expensive, prompting a cost-benefit analysis of the program by the Center for Benefit-Cost Studies in Education. The researchers presented their conclusion in bold font for emphasis:

ASAP is so much more effective in producing additional graduates in a timely fashion and...the cost per graduate for ASAP is comparable to or less than that of the traditional approach. ASAP can increase considerably the number of CUNY community college graduates while actually reducing costs.⁶⁵

Perhaps not all colleges can replicate all of ASAP's elements, such as requiring full-time enrollment and providing extensive financial aid, but there is much to learn from ASAP's comprehensive approach. ASAP prioritizes evidence-based innovations, ranging from encouraging early accumulation of credit to investing in student success courses. ASAP recognizes and meets students' needs for regular advising that includes a strong career counseling focus. ASAP groups students by program interest, helping them to easily select their

courses and build a community. And ASAP has sought both internal and external evaluations, in order to understand and react to what is working.

There are similar, compelling examples emerging in community college career and technical education. In 2011, Ivy Tech Community College in Indiana opened the **Ivy Institute of Technology** to offer tightly structured programs that prepare students to enter high-demand jobs quickly. Students are grouped into cohorts that stay together throughout the program; they meet for roughly six to seven hours per day, five days a week, for 40 weeks, with small variations between programs. Students can enter at four points throughout the year. The programs are developed with industry input, and integrate math, reading and writing into the technical projects, exercises and labs. At the end of a program, students take industry certification exams and earn a technical certificate. Their certificates are also stackable, meaning they count as credit toward further credentials and degrees at Ivy Tech. Program offerings range from mechatronics/advanced manufacturing to HVAC and office administration.⁶⁶ The Ivy Institute offers fewer electives, a tightly planned experience with a visible goal, and a clear payoff in the job market.

The innovations described here offer great promise for our students and compelling options for Massachusetts community colleges. The evidence about what works for students is stronger than it has ever been, and colleges of all kinds and resource levels are implementing changes that are beginning to improve results for students of all backgrounds. Massachusetts community colleges are well poised to leverage the good work already under way in other states and in the Commonwealth. The next section presents recommendations for how Massachusetts can promote and accelerate the systemic spread of powerful reforms.

CHAPTER FOUR

Recommendations: Sustaining the Momentum for Better Results

The national community college reform movement has evolved quickly in the past few years, bolstered by an impatience with existing outcomes for too many students and a growing body of research about what does and does not work to move the needle on student success. Massachusetts community colleges and state higher education officials are part of this movement.

Last year, the Governor's budget and the final legislative decisions on funding and other priorities for the state's community colleges generated momentum for change that has not yet peaked. Concerted activity at both the state and institutional levels are targeting many of the most critical areas for improvement:

- Developmental education and its delivery;
- Persistence and completion to credentials with value;
- Greater attention to workforce needs and employer demand in two-year degree programs but also shorter, more structured certificate programs and credentials that employers value;
- Transfer between two- and four-year institutions and across two-year schools; and
- Incentives through funding and governance changes to encourage innovation, investment in retention and completion and a more central role in regional economic development.

The state's progress has been significant—but there is still much more to be done to promote the diffusion of innovation and the demonstration of better results for large numbers of students across all the state's community colleges.

In this final section, we highlight a set of recommendations that, if implemented, would enable the state and its institutions to build on last year's actions and priorities. More important, implementing these recommendations would greatly increase the likelihood of Massachusetts moving from the middle of the pack nationally in terms of community college outcomes and persistent achieve-

ment gaps to become the national leader that the state's residents and employers expect and need it to be.

At the core of these recommendations is the belief that modest, siloed, incremental change is not enough. The key to better outcomes for Massachusetts students and our regional economies is to redesign the community college system so that institutions are organized to help students make informed choices about their educational program, make those choices early in their academic careers, and then do what needs to be done to earn a credential and move on to further education or a career. That means: take the right courses; spend only the minimum time necessary in stand-alone developmental courses; have access to the academic and other supports needed to persist, advance and complete; and make valuable connections to further education and/or employers in one's chosen field of study.

Our specific recommendations for state-level action are organized into four broad categories:

1. Fully and effectively implement two high-leverage reforms initiated in 2012— performance-based funding and developmental education redesign.
2. Expand access to structured pathways to credentials and reduce the complexity of navigating program and course options.
3. Identify and remove barriers to innovation and pursuit of the completion agenda.
4. Support sustained advocacy for community college student success.

Taken together, these recommendations reflect both the direction of current reform in the state and guidance from the best national research and experience. And they reflect a belief that now is the time to build on what has gone before and commit to an ambitious set of community college reform actions, in practice and policy.

1. Fully and effectively implement two high-leverage reforms initiated in 2012— performance-based funding and developmental education redesign.

Performance funding: In the FY 2014 budget, the legislature should adopt the performance-based funding formula developed by the Board of Higher Education. Colleges should be provided with opportunities for exposure to and learning about evidence-based strategies for improving their students' outcomes.

The FY 2013 General Appropriations Act tasked the Commissioner of the Department of Higher Education with developing a funding formula for the state's community colleges that is based in part upon institutional performance. The law required the Commissioner to consider three priorities in crafting the new formula:

- Operational goals and needs and enrollment data for each college;
- Institutional performance with respect to clearly defined goals and metrics; and
- How the allocation formula aligns with state and institutional innovations related to workforce development and partnerships with employers, universities and vocational-technical schools.

To develop a formula responsive to these priorities, Department officials convened an advisory group comprised of community college presidents and union representatives. That group met a number of times, ensuring that these key implementers were comfortable with the proposed revision. The Department also brought in a national expert to assist the Commissioner and his staff in designing a formula that would balance equity concerns within and across institutions and the mandate to shift institutional incentives away from enrollment and towards student outcomes.

The proposed formula begins by allocating \$4.5 million to each institution to cover the base costs of operation. Above that minimum, the proposed formula will shift 50 percent of community college funding from student enrollment in credit courses to student credit hours completed on an annual basis. This provision will allocate more resources to schools with higher enrollments, but based on course completion, not just enrollment at the beginning of the semester. The formula proposes allocating the other 50 percent of funding based on performance relative to a set of specific success metrics: certificate and associate degree completions, transfers,

30 credits achieved, first credit math and English courses completed and graduation rates. A range of adjustments and protections were included so that institutions would not experience large shifts in funding allocations right away and so that institutions would have incentives to serve more at-risk populations. The proposed formula also includes an annual incentive pool akin to the current Performance Incentive Fund to be used to provide grants to spur institutional innovation that could improve performance over time.

There is still limited data on the effects of performance funding formulas on institutions; and there is no doubt that the metrics to be rewarded matter greatly to ultimate impacts. However, institutions and individuals clearly respond to incentives—and performance funding is an incentive likely to encourage bolder action to move the needle on the measured outcomes. Most states that are pursuing ambitious, large-scale higher education reform strategies are turning to performance funding to motivate and accelerate better educational and economic outcomes.

At present, the Legislature has not yet agreed to incorporate the Board's proposed formula in the FY 2014 budget. It should do so.

The Legislature should also make sure that the annual Performance Incentive Fund is continued. Many states have found that an innovation fund, even a fairly modest one, can be a powerful incentive for change. The fund should align its priorities for competitive grants with the Vision Project—in terms of both improved outcomes in general and narrowed achievement gaps among different population groups, particularly Hispanics and African Americans. It should promote the state's interest in supporting the proliferation of more transparent and efficient structured pathways. The fund should also make sure that grant recipients share their successes and their models with other institutions in the state.

As performance funding is introduced, the Legislature should encourage the Board and the Department of Higher Education to support colleges' efforts to succeed under the new rules. That is, professional development and peer learning opportunities should be made available to faculty and leaders across the state's community colleges on the best practices and strategies around the nation for reducing attrition and increasing completion rates, particularly for low-income and underprepared

students. The MDHE has an important role to play in helping colleges understand the research on—and implement successfully—promising reforms emerging across the state and the nation.

Redesign of developmental education: Massachusetts should reduce student placement into typical developmental education programming, characterized by long sequences of pre-requisite, stand-alone math and English courses for the underprepared.

The Task Force on Transforming Developmental Math Education should advocate a bold plan to redesign developmental math so that many fewer students are placed in developmental courses as a default, remedial instruction is built into college-level courses for many more students, and multiple rigorous math pathways are created to align with the math requirements of particular programs of study and majors. Developmental English should undergo a similar redesign.

The Board of Higher Education should identify and implement changes to existing placement and assessment policies to reduce the number of students who are placed into developmental education unnecessarily. Recommended changes include: using multiple measures to determine placement, including high school GPA for younger students; and clearer instructions to students about the test and the value of preparing for it.

Redesigning developmental math: In March 2012, Commissioner Freeland charged the Task Force on Transforming Developmental Math Education with developing a strategic plan for scaling proven models for the effective delivery of developmental education. The goal of the Task Force is to increase the proportion of students who succeed in both developmental math and college-level math courses—helping students to move more efficiently and quickly onto effective pathways that lead them to complete programs of study.

The Task Force has been meeting regularly and consulting national experts and has also solicited feedback from faculty and administrators. It will release its recommendations in the late spring of 2013. That culmination of the review process is a pivotal moment for the state's community college reform agenda.

The Task Force should use its platform to advocate for a purposeful and bold redesign of developmental education, starting with developmental math, guided by

the growing body of research that underpins the New Mathways Project (see p. 26) and other innovative state-wide redesign efforts in states like Virginia and North Carolina.

Different programs and majors demand different kinds of math mastery: a social studies student may need to master statistics, a STEM program enrollee needs the traditional math curriculum, and still other programs may want their graduates to master quantitative reasoning. Research suggests that the long-standing algebra requirement is a significant academic obstacle for far too many students, and at the same time is no longer necessary for the majority of today's careers. If a student's career goal will not require college algebra, that does not need to be the goal of their developmental math. A few distinct, rigorous math pathways, differentiated by program and career requirements and incorporating remedial instruction and academic supports linked to the pathway content, would help many more students reach college-readiness in math sooner. A multiple pathways approach would enable students to move into college-level courses quickly and start earning credits in their chosen program and major.

The Task Force and the Department of Higher Education have reviewed and assessed the research on efficient and promising options. Critical next steps include committing to a set of differentiated developmental math courses, securing faculty agreement on the competencies required for each math pathway, developing guidance on how colleges can implement new course structures and student supports, and providing professional development to help the faculty teach the new pathways content.

Revising placement and assessment policies: Many states and colleges are experimenting with new assessment and placement policies designed to ensure that students are not placed into developmental education unnecessarily. As noted earlier in this report, a growing body of evidence suggests that current placement tests are weak predictors of student success. This, coupled with the high attrition rates and low success rates of students who are placed in developmental education compared to peers who start in college-level courses, makes minimizing unnecessary placement into developmental education critical.

One promising approach, being tested by colleges and states, is to use multiple measures to determine whether students are placed into developmental courses, such as a combination of GPA and assessment scores. The MDHE should provide colleges with guidance on what constitutes college readiness and how colleges should incorporate high school grades and transcripts in placement decision-making. The North Carolina Community College System, for example, created a thoughtful process engaging college and high school faculty and counselors that resulted in the recommendation that students entering college directly from high school with a GPA of 2.6 or above be considered college-ready.

The MDHE can also offer guidance to colleges on how to change testing conditions in order to better support students. For example, colleges can increase awareness of placement testing, help students understand the impact of low scores, allow and even encourage students to refresh their skills before testing, and allow students to re-take the test if they scored poorly and think they can do better.

Many colleges and states are moving toward placing an increasing proportion of students directly into college-level courses and providing supplemental developmental instruction and student supports (often either embedded in the course in a just-in-time format, or delivered via a companion course).⁶⁷ The New Mathways Project embraces this ethos, offering multiple pathways geared toward meeting students' developmental needs while propelling them toward completion of college-level math within a year. The Accelerated Learning Program at the Community College of Baltimore County is another tested model.

While existing placement tests used in community colleges nationally have serious flaws, we do not recommend developing a new placement test at this time. The new Partnership for Assessment of Readiness for Colleges and Careers (PARCC) test of college and career readiness, for which Massachusetts is a governing state, is expected to come online in 2014-2015. PARCC's assessment should be a far better tool for determining a student's college readiness. Until more is understood about PARCC and whether it will come to replace existing placement tests, new tests are unlikely to be a wise investment. Other changes to assessment and placement policy—such as student preparation, re-test policies and multiple measures—represent best practices and would

be beneficial, whichever test is in use. Indeed, test developers have consistently maintained that assessment scores should not be the only determinant of placement.

2. Expand access to structured pathways to credentials and reduce the complexity of navigating program and course options.

Significant improvement in student progress and completion in Massachusetts's community colleges will require a reduction of the complexity students face navigating the community college experience. Too many options, too little advice and guidance, too little attention to process improvements—these obstacles need to be tackled through the promotion of more efficient and structured program options and better information for incoming students about the options available to them.

The Department and the state's community colleges should promote and drive this kind of re-engineering for greater simplification of student choices. One place to start is by encouraging students to make good and early program choices through:

- **More useful information and better advising about programs, their requirements and labor market payoff; and**
- **Incentives for quicker decisions and routes to completion**

But access to better information and even better advising is not sufficient. Individual colleges and the Department of Higher Education should also reduce the number of poorly aligned and bewildering program and course options students face and help students make choices that move them more quickly to more coherent programs of study. This requires defining and mapping out streamlined and structured programs that give students clear direction about which courses to take and in what sequence, meeting students' needs for:

- **Clearer transfer pathways, and**
- **Shorter-term, stackable career and technical credentials with clear links to jobs.**

Encourage students to make good and early program choices

More useful information, better advising: Behavioral sciences emphasize the dangers consumers face when they are presented with too many choices and not enough information about the costs and benefits of making one choice over another. Community college students, many of whom have not performed well in school in the past and have limited experience in making decisions about educational alternatives, are often overwhelmed by the abundance of choices that confront them when they enroll in college. And they typically have access to only limited advising support.

Individual colleges can take important steps to reduce the confusion that bedevils students. They can streamline the registration and financial aid processes, implement more proactive and regular advising, reduce the number of lines students have to wait in, and do more to help students focus on key early decision points.

Colleges and the state's higher education agency need to work together, though, to help students access information they need to make reasoned decisions about possible programs of study and majors. This includes much better information on regional labor market dynamics, careers that are in high demand, and the credentials and skills needed to enter those careers. It includes a more routine process for helping students explore their college and career goals and understand both the requirements and outcomes of different programs of study. The Department can help individual colleges strengthen their student support services by disseminating research on innovations nationally, promoting new technology enhancements that improve advising and educational planning, and targeting professional development resources to advising and student supports.

Incentives for quicker decisions and routes to completion: Many colleges and states are experimenting with even bolder strategies for reducing student confusion and overload. These approaches embrace the insights of behavioral economics about “opt out” options and other ways to use program structure to promote better individual choices.⁶⁸ Some schools and state systems are narrowing options within programs (e.g., reducing the number of electives and increasing required foundation courses). Others are reducing the number of program options available and grouping majors in ways that

align courses more efficiently. The New Community College, launched in 2012 by CUNY, offers students a limited number of rigorous pathways to choose from—and within each program, a limited ability to customize one's schedule.

The strategy for driving students more pro-actively toward more structured program choices doesn't have to be as total as at CUNY's new college. A college could offer a number of more structured pathways in addition to the traditional programming, and students could be advised about their pros and cons and given the freedom to decide for themselves the college experience they want.⁶⁹

Finally, the state should take steps to require students to choose a broad program of study early, and then a major at the end of the first year. If students are required to pick a broad program of study right away—e.g., liberal arts, business, STEM, allied health, other career and technical program—they will understand from the outset the math and English remediation they will need, if any, and can plan accordingly. And an early choice of a broad program will enable students to have a much better understanding of possible majors within that program, so they can make a choice that better meets their interests and needs—whether their plans involve transfer to further education or entry into a high demand occupation upon completion.⁷⁰

As colleges expand the opportunities for students to choose programs with fewer electives and greater acceleration to completion, the state should assess the value of a complementary policy change. Some states are capping the number of earned credits that they will pay for, as an incentive to limit extra course-taking and keep students on track to graduate in a timely fashion. Others are offering or considering tuition or other cost-reducing incentives for completion within a shorter timeframe.

Define and map out streamlined and structured programs that give students clear direction

Clearer transfer pathways: One of the most costly and inefficient aspects of higher education today is the complexity of securing credits for courses taken at another institution: that is, transfer policy across education sectors and educational institutions. In recent years, MDHE has laid the groundwork for significant improvements. The *MassTransfer* policy and web site have

helped smooth the road for transfer students by increasing information about how to transfer, providing for full transfer of credits in linked *MassTransfer* programs, and building the *MassTransfer* Block of 34 credits that fully transfer and satisfy general education requirements (receiving institutions can add up to six additional credits). MDHE is also facilitating the creation of an accessible database of common course equivalencies.

It is critical, though, that the state go further in ensuring that students who intend to transfer to a four-year institution get into programs of study, begin accumulating valuable credits, and transfer with credits that apply to their major. In this way, transfer policy can be an important lever for accelerating the mapping of structured pathways. An important next step is for the MDHE to incent collaboration between faculty from two-year and four-year institutions to define streamlined general education cores for *particular program areas*. The faculty across the two higher education sectors should collaborate to agree upon general education cores for broad program streams—e.g., liberal arts, business, or health sciences—that offer a more directed experience for students, eliminate the confusion created by too many choices and too little guidance, and will be accepted for transfer and count toward a major at the four-year institution. A more streamlined core should help minimize course-taking that does not count toward graduation or transfer with junior standing and the postponing of important pre-requisites such as math.

It is critical for community college students to know not just that their credits will transfer, but that they will be accepted as recognized courses in their chosen major in their four-year program. This is where many students' plans can fall apart. The Department of Higher Education intends to tackle this problem, starting first with a few of the most in-demand transfer pathways—those in STEM fields such as engineering, biotechnology and life sciences. Convening two- and four-year faculty to agree to a transfer core and transferable courses within specific majors—that would be honored across Massachusetts public higher education institutions—would have huge benefits for students, in terms of time to completion and the cost of their college degree.

Shorter-term, stackable career and technical credentials with clear links to jobs.

Governor Deval Patrick's FY2013 budget recommendations stated, "Going forward, the mission of the Massachusetts community colleges will be to prepare students of all ages for the local job market by providing relevant, affordable education and training."⁷¹ One way that the state can act on this directive is for Massachusetts community colleges to create and align a more transparent set of tightly structured pathways to credentials that are tied to both student demand and employer needs.

A recent \$20 million, three-year grant from the U.S. Department of Labor to the state's 15 community colleges provides a strong foundation for this strategy. The colleges collaborated and won a highly competitive grant to assist trade impacted and other eligible residents of the Commonwealth to attain degrees, certificates and industry recognized credentials in two years or less.

The state's community colleges recognize the power of this investment. Coordinated by the Massachusetts Community Colleges Executive Office and lead campus Quinsigamond Community College, the colleges are using this grant to fundamentally change how they work with each other in the design and delivery of technical programs of study and how they work with regional agencies of the workforce development system, government leaders and private sector employers. It is no accident that they have labeled this initiative the Massachusetts Community Colleges and Workforce Development Transformation Agenda.

The Board of Higher Education should make sure that the lessons from implementation of this federal investment inform what becomes the typical process for designing new programs that meet employer and economic development needs across the Commonwealth. To facilitate this work, the Board should support creation of a longitudinal data system that links data from the Department of Higher Education to the Unemployment Insurance (UI) database, which contains wage records for the majority of workers in the state. Such a data system would enable the colleges to track and evaluate their students' employment and earnings over time.

Under this grant, each community college will offer new or redesigned certificate and degree programs in one or more of six targeted industry sectors: health care;

biotechnology and life sciences; advanced manufacturing; clean energy/sustainability; information technology; and financial services. The goal is to create new credential options that better serve more than 4,000 adult workers in the state. The initiative's primary strategies align well with the recommendations in this report for the redesign of community college programs to: integrate basic skills into credit coursework; develop structured pathways that move students more quickly to completion of one-two year certificates or degrees; and guide students more proactively to programs and course selection that maximizes their likelihood of completion and employment in high demand fields. Innovations include:

- **College and career navigators** at all campuses to assist the target population to enroll in community college programs and access college and One-Stop Career Center services;
- **Contextualized adult basic education and developmental education curriculum** collaboratively developed by faculty system-wide to accelerate the progress of students who are building basic math and literacy skills to successfully complete a certificate or degree; and
- **Industry teams** linking administrators and faculty across the system with employer partners, sharing best practices and jointly designing industry-responsive programs.

In the years ahead, the Commonwealth's community colleges will benefit from a fund created with part of the initial licensing fees for the state's new casino gambling venues. An advisory committee established by the Legislature representing a broad set of stakeholders will be presenting recommendations to the Board of Higher Education for guidelines and policies to govern the disbursement of those workforce development-targeted funds to the state's colleges. These funds provide a rare opportunity to incent colleges toward a common set of improvement strategies. They should be used to promote systemic reforms that align with the state's completion strategy and that extend the transformation supported by the Department of Labor grant: in this regard, competitive grants whose priorities reinforce state goals related to the design and implementation of structured technical pathways would be preferable to allocation by formula.

3. Identify and remove barriers to innovation and pursuit of the completion agenda

The Department of Higher Education or an independent organization should conduct a careful review of existing state laws and policies that shape community college institutional incentives and actions. A comprehensive policy audit would help spark discussion of key obstacles to dramatic improvement—and of strategies to remove or reduce these obstacles and their impact on performance. An audit process could generate a broad consensus on how certain laws and rules should be changed to promote more and larger-scale innovation.

In any state, laws and policies need to be updated as realities and conditions that led to their creation change. In Massachusetts, as in other states, many laws and policies that shape the incentives and the priorities of individual community colleges were created in an era when public higher education was a smaller enterprise in the state and when a much larger percentage of students were traditional students who attended more or less full-time between September and June.

Some of these laws unintentionally constrain creativity and change. Here are two examples:

Massachusetts public law prohibits any state spending on summer sessions or evening classes. Colleges can offer programming and credit courses in the summer and the evening, but it must be "at no expense to the Commonwealth." Thus, in an era that is moving to "anytime, anywhere" education, and where the need to keep students moving quickly toward their goals is paramount to improved performance, our community colleges face disincentives to offering more courses at flexible times and to making it easier for students to accelerate their progress to degrees.

State law includes another disincentive to flexibility and responsiveness to student needs. Tuition for courses taught during the day by full-time faculty is remitted to the Commonwealth. This creates an incentive to use adjuncts to teach both day and evening courses and drives scheduling decisions according to a calculus that does not always put students' needs and circumstances first.

These are only two examples. A full and careful review—through a student success lens—of the policy manual and the legal framework that guides commu-

nity colleges in the Commonwealth is overdue. And such a review, whether conducted by the Department of Higher Education or an independent organization, could identify significant obstacles to change and innovation, particularly obstacles that keep innovation small and marginal rather than large-scale. Various states have implemented this kind of policy review. When coupled with a vetting and discussion process engaging key stakeholders (e.g., institutional leaders, faculty and their representatives, state officials, local Board members), the outcome can be a powerful consensus on priority changes in policy that can reduce persistent obstacles. Creating a consensus among key decision-makers increases the odds of rapid changes in policy while reducing the risk of deleterious unintended consequences.

4. Support sustained advocacy for community college student success

Create a statewide cross-college voice for student success: Massachusetts should follow the lead of other states by supporting more consistent and focused cross-college collaboration to accelerate and strengthen innovative approaches to improve student outcomes. Several states, particularly some like Massachusetts that have relatively decentralized governance of their community colleges, have found it advantageous to create an entity with relative autonomy from both the state agency and the colleges' lobbying organization to accelerate learning across the state about evidence-based practices, advocate for long-term support for the success agenda and align diverse innovations to maximize statewide impact.

Scaling innovative reforms across a decentralized state like Massachusetts requires a cohort of ambassadors who appreciate the need for change, understand evidence-based models of reform and are willing to commit to change.

In recent years, several decentralized states have created and funded statewide Centers for Student Success that serve to encourage cross-college collaboration, convening and data sharing. Massachusetts could benefit from such a center, empowered to coordinate student success efforts in the common interests of the community colleges in the state.

The MDHE can use its professional development authority to develop an institute for campus-based teams of faculty and student services staff. Participants in the institute would be selected through a competitive application, expected to participate as a cohort for a set number of years, and expected to facilitate the spread of their learning at their campuses. Institute content would be designed to support ongoing college innovations and spread the principles of structured pathways.

Institutionalize the stakeholders' advocacy coalition: The Coalition FOR Community Colleges, representing a broad set of statewide education- and employment-focused advocates and stakeholders, should be sustained as a statewide voice, independent yet supportive of the colleges and their efforts to improve student outcomes.

In 2011, in preparation for a statewide push to tackle the challenges facing the state's community colleges, the Boston Foundation, the Massachusetts Competitiveness Partnership and other organizations banded together. They created an advocacy voice that both challenged the colleges and demanded state action. Engaging civic, business and labor leaders, as well as advocacy organizations, a strong and visible watchdog was created that had an impact in last year's budgetary and policy debates. As the contentious debates of 2012 recede, this coalition has an opportunity to become a critical friend to the state's community colleges—committed to their students' success, but also to pushing hard against the status quo for continued improvement and innovation.

Conclusion

A powerful sense of urgency and opportunity have come together in the Commonwealth. The recognition that Massachusetts and its residents need the state's community colleges to produce many more well-prepared graduates is now widespread and the appetite for innovation and improvement is growing.

Recent actions by the Governor, the Legislature, the Department of Higher Education and the state's 15 community colleges have laid the groundwork for innovation. This momentum comes at an opportune time. National research and experience point the way toward a set of evidence-based reforms that can help colleges build more efficient pathways for students—including those who enter college underprepared—to transfer and earn credentials that have real value in the workforce.

Building on progress to date, state officials and key advocates for Massachusetts's economic vitality should pursue and encourage four priorities: 1) ensure that two efforts set in motion last year—performance funding and developmental education reform—are fully and effectively implemented; 2) take action to improve students' ability to choose, navigate, enter and complete structured community college pathways to high-value credentials; 3) undertake a careful review of policies that hinder this agenda; and 4) nurture and sustain a strong statewide voice in support of community college improvement and innovation.

The opportunity for progress is clear and compelling—and the potential rewards to students, employers and Massachusetts communities call for continued bold and creative leadership going forward.

Resources

- Adelman, Clifford. 1999. *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*. Washington, DC: U.S. Department of Education.
- Adelman, Clifford. 2006. *The Toolbox Revisited: Paths to Degree Completion from High School through College*. Washington, DC: U.S. Department of Education.
- Alssid, Julian L., Melissa Goldberg and John Schneider. 2011. *The Case for Community Colleges: Aligning Higher Education and Workforce Needs in Massachusetts*. Prepared for the Boston Foundation, "Understanding Boston" Series. Boston, MA: Boston Foundation.
- Altstadt, David. 2011. *Aligning Community Colleges to Their Local Labor Markets: The Emerging Role of Online Job Ads for Providing Real-time Intelligence about Occupations and Skills in Demand*. Boston, MA: Jobs for the Future.
- Aspen Institute College Excellence Program. 2013. *A Guide for Using Labor Market Data to Improve Student Success*. Washington, DC: Author.
- Bailey, Thomas. 2009. "Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College." *New Directions for Community Colleges*. No. 145.
- Bailey, Thomas. 2009. "Rethinking Developmental Education in Community College." CCRC Brief 40, Community College Research Center, Teachers College, Columbia University
- Belfield, Clive & Peter Crosta. 2012. *Predicting Success in College: The Importance of Placement Tests and High School Transcripts*. CCRC Working Paper No. 42. New York, NY: Community College Research Center, Teachers College, Columbia University.
- Bradley, Paul. "Making the Cut: Colleges, State Re-Examine Placement Tests." *Community College Week*, September 3, 2012.
- Burdman, Pamela. 2012. *Where to Begin? The Evolving Role of Placement Exams for Students Starting College*. Boston, MA: Jobs for the Future.
- Carnegie Foundation for the Advancement of Teaching. May 2, 2012. "Early Results." Accessed February 2, 2013, <<http://pathways.carnegiefoundation.org/what-is-happening/2012/early-results/>>.
- Carnevale, Anthony P., Stephen J. Rose, & Andrew R. Hanson. 2012. *Certificates: Gateway to Gainful Employment and College Degrees*. Washington, DC: Georgetown University Center on Education and the Workforce.
- Center for Community College Student Engagement (CCCSE). 2012. *A Matter of Degrees: Promising Practices for Community College Student Success (A First Look)*. Austin, TX: The University of Texas at Austin, Community College Leadership Program.
- Charles A. Dana Center. 2012. *The New Mathways Project: Implementation Guide*. Version 1.2. University of Texas at Austin: Author.
- Charles A. Dana Center, Complete College America, Education Commission of the States, Jobs for the Future. 2012. *Core principles for Transforming Remedial Education: A Joint Statement*. Authors
- Cho, Sung-Woo, Beth Kopko, Davis Jenkins & Shanna Smith Jaggars. 2012. *New Evidence of Success for Community College Remedial English Students: Tracking the Outcomes of Students in the Accelerated Learning Program (ALP)*. CCRC Working Paper No. 53. New York, NY: Community College Research Center, Teachers College, Columbia University.
- City University of New York. 2012. *Significant Increases in Associate Degree Graduation Rates: Accelerated Study in Associate Programs (ASAP) at the City University of New York*. New York: Author.
- Complete College America. 2012. *Remediation: Higher Education's Bridge to Nowhere*. Washington, DC: Author.
- Dadgar, Mina, Andrea Venezia, Thad Nodine, & Kathy Reeves Bracco. 2013. *Providing Structured Pathways to Guide Students toward Completion*. San Francisco: WestEd.

Dorrer, John & Myriam Milfort. 2012. *Vendor Product Review: A Consumer's Guide to Real-time Labor Market Information*. Boston, MA: Jobs for the Future.

Granberry, Phillip and Maria Idali Torres. 2010. *The Growing Latino Population of Massachusetts: A Demographic and Economic Portrait*. Gaston Institute Publications, paper 156. Retrieved at http://scholarworks.umb.edu/gaston_pubs/156.

Hodara, Michelle, Shanna Smith Jaggars & Melinda Mechur Karp. 2012. *Improving Developmental Education Assessment and Placement: Lessons From Community Colleges Across the Country* (CCRC Working Paper No. 51). New York: Community College Research Center, Teachers College, Columbia University.

Hughes, Katherine L. & Judith Scott-Clayton. 2011. *Assessing Developmental Assessment in Community Colleges*. CCRC Working Paper No. 19, Assessment of Evidence Series. New York: Community College Research Center, Teachers College, Columbia University.

Jenkins, Davis, Cecilia Speroni, Clive Belfield, Shanna Smith Jaggars, & Nikki Edgecombe. 2010. *A Model for Accelerating Academic Success of Community College Remedial English Students: Is the Accelerated Learning Program (ALP) Effective and Affordable?* CCRC Working Paper No. 21. New York: Community College Research Center, Teachers College, Columbia University.

Jobs for the Future. 2008. *Test Drive: Six States Pilot Better Ways to Measure and Compare Community College Performance*. Boston, MA: Author.

Karp, Melinda Mechur. 2011. *Toward a New Understanding of Non-Academic Student Support: Four Mechanisms Encouraging Positive Student Outcomes in the Community College*. CCRC Working Paper No. 28, Assessment of Evidence Series. New York, NY: Columbia University, Teachers College, Community College Research Center.

Lassen, Mary M. 2007. *Massachusetts Community Colleges: The Potential for Improving College Attainment*. Boston: The Boston Foundation.

Levin, Henry M., & Emma Garcia. 2012. *Cost-Effectiveness of Accelerated Study in Associate Programs (ASAP) of the City University of New York (CUNY)*. New York: Center for Benefit-Cost Studies in Education, Teachers College, Columbia University.

Liu, Michelle Camacho. 2011. *Trends in Latino College Access and Success*. Denver, CO: National Conference of State Legislatures.

Massachusetts Department of Elementary & Secondary Education. 2011. "National Assessment of Educational Progress: NAEP Results." <http://www.doe.mass.edu/mcas/naep/results/default.html>. Accessed January 4, 2013.

Massachusetts Department of Higher Education. 2011. *Vision Project: Graduation and Student Success Working Group Segmental Goal Setting Baseline Data*. Boston, MA: Author.

Massachusetts Department of Higher Education. 2012. *Time to Lead: The Need for Excellence in Public Higher Education*. Boston, MA: Author.

Moore, Colleen & Nancy Shulock. 2011. *Sense of Direction: The Importance of Helping Community College Students Select and Enter a Program of Study*. Sacramento, CA: Institute for Higher Education Leadership & Policy.

Puente, Kelly. "LBCC's Promise of Better Placement." *Press-Telegram*, July 21, 2012.

Rivera, Carla. 2012. "Long Beach City College Tries an Alternative to Placement Tests." *Los Angeles Times*, June 25, 2012.

RP Group. 2012. "Excellence in Research—College/District Project: Promising Pathways—Placement, Performance, and Progress in Basic Skills and Transfer Level Courses in English and Mathematics." *Perspectives*. Berkeley, CA: The Research and Planning Group.

Rutschow, Elizabeth Zachry, Lashawn Richburg-Hayes, et al. 2011. *Turning the Tide: Five Years of Achieving the Dream in Community Colleges*. Oakland, CA: MDRC.

Schwartz, Barry. 2004. *The Paradox of Choice: Why More is Less*. New York, NY: HarperCollins Publishers, Inc.

Scott-Clayton, Judith. 2011. *The Shapeless River: Does a Lack of Structure Inhibit Students' Progress at Community Colleges?* CCRC Working Paper No. 25, Assessment of Evidence Series. New York, NY: Columbia University, Teachers College, Community College Research Center.

-
- Scott-Clayton, Judith. 2012. *Do High-Stakes Placement Exams Predict College Success?* CCRC Working Paper No. 41. New York, NY: Community College Research Center, Teachers College, Columbia University.
- Scrivener, Susan, Michael J. Weiss & Colleen Sommo. 2012. *What Can a Multifaceted Program Do for Community College Students? Early Results from an Evaluation of Accelerated Study in Associate Programs (ASAP) for Developmental Education Students.* Oakland, CA: MDRC.
- Sperling, Charmain B. 2009. *The Massachusetts Community Colleges Developmental Education Best Policy and Practice Audit: Final Report.* Boston: Massachusetts Community Colleges Executive Office.
- Thaler, Richard & Cass Sunstein. 2008. *Nudge: Improving Decisions About Health, Wealth, and Happiness.* New Haven: Yale University Press.
- Venezia, Andrea, Kathy Reeves Bracco, & Thad Nodine. 2010. *One Shot Deal? Students' Perceptions of Assessment and Course Placement in California's Community Colleges.* San Francisco, CA: WestEd.
- Western Interstate Commission for Higher Education. 2010. *Promising Practices in Statewide Articulation and Transfer Systems.* Boulder, CO: Author.

Endnotes

1. See www.achievethegoal.org and http://www.achievethegoal.org/approach/policy_change
2. Mary M. Lassen, *Massachusetts Community Colleges: The Potential for Improving College Attainment*, Boston: The Boston Foundation, 2007.
3. Charmain B. Sperling, *The Massachusetts Community Colleges Developmental Education Best Policy and Practice Audit: Final Report*, Boston: Massachusetts Community Colleges Executive Office, 2009.
4. See www.completecollege.org
5. See <http://www.mass.edu/visionproject/>
6. Julian L. Alssid, Melissa Goldberg and John Schneider, *The Case for Community Colleges: Aligning Higher Education and Workforce Needs in Massachusetts*, Prepared for the Boston Foundation, “Understanding Boston” Series, Boston, MA: Boston Foundation, 2011.
7. See <http://www.mccwdta.org/>
8. Massachusetts Department of Elementary & Secondary Education, “National Assessment of Educational Progress: NAEP Results,” 2011, Accessed January 4, 2013, <http://www.doe.mass.edu/mcas/naep/results/default.html>.
9. Massachusetts Department of Higher Education, *Time to Lead: The Need for Excellence in Public Higher Education*, Boston, MA: Author, 2012; Thomas R. Bailey, “Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College,” *New Directions for Community Colleges* 145 (2009): 11–30.
10. Massachusetts Department of Higher Education, *Vision Project: Graduation and Student Success Working Group Segmental Goal Setting Baseline Data*, Boston, MA: Author, 2011.
11. Massachusetts Department of Higher Education, *Time to Lead*.
12. “The ‘Achieving the Dream’ indicator recognizes the complex multiple missions of the Community College segment by including both full- and part-time students and capturing students who, within six years of initial enrollment, earn an associate’s degree or certificate, transfer to a four-year institution, or are still enrolled with at least 30 credits earned. Data is only available for nine states—Connecticut, Florida, Massachusetts, North Carolina, Ohio, Oklahoma, Texas, Virginia, Washington. Because of the small comparison group, national leadership is equated with the performance of the top state, rather than the top 5 states.” Massachusetts Department of Higher Education, *Time to Lead*. *Time to Lead* cited the following data sources: Massachusetts Department of Higher Education / Higher Education Information Resource System, National Student Clearinghouse, and Jobs for the Future.
13. Michelle Camacho Lio, *Trends in Latino College Access and Success*, Denver, CO: National Conference of State Legislatures, 2011.
14. Phillip Granberry & Maria Idali Torres, *The Growing Latino Population of Massachusetts: A Demographic and Economic Portrait*, Gaston Institute Publications, Paper 156, 2010. Accessed February 8, 2013, <http://scholarworks.umb.edu/gaston_pubs/156>.
15. Massachusetts Department of Higher Education, *Vision Project: Graduation and Student Success Working Group Segmental Goal Setting Baseline Data*.
16. Massachusetts Department of Higher Education, *Time to Lead*.
17. Elizabeth Zachry Rutschow, Lashawn Richburg-Hayes, et al., *Turning the Tide: Five Years of Achieving the Dream in Community Colleges*, Oakland, CA: MDRC, 2011.
18. Mina Dadgar, Andrea Venezia, Thad Nodine, & Kathy Reeves Bracco, *Providing Structured Pathways to Guide Students toward Completion*, San Francisco: WestEd, 2013.

-
19. Thomas R. Bailey, "Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College."
 20. Thomas Bailey, Dong Wook Jeong, and Sung-Woo Cho, "Referral, Enrollment, and Completion in Developmental Education Sequences in Community Colleges," *Economics of Education Review* 29 (March 2012) 255–270.
 21. Complete College America, *Remediation: Higher Education's Bridge to Nowhere*, Washington, DC: Author, April 2012.
 22. Thomas R. Bailey, "Challenge and Opportunity."
 23. Judith Scott-Clayton, *Do High-Stakes Placement Exams Predict College Success?* CCRC Working Paper No. 41, New York, NY: Community College Research Center, Teachers College, Columbia University, 2012.
 24. *ibid.*
 25. Judith Scott-Clayton, *The Shapeless River: Does a Lack of Structure Inhibit Students' Progress at Community Colleges?* CCRC Working Paper No. 25, Assessment of Evidence Series, New York, NY: Columbia University, Teachers College, Community College Research Center, 2011.
 26. Clifford Adelman, *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*, Washington, DC: U.S. Department of Education, 1999; Clifford Adelman, *The Toolbox Revisited: Paths to Degree Completion from High School through College*, Washington, DC: U.S. Department of Education, 2006.
 27. Jobs for the Future, *Test Drive: Six States Pilot Better Ways to Measure and Compare Community College Performance*, Boston, MA: Author, 2008.
 28. Davis Jenkins & Sung-Woo Cho, *Get With the Program: Accelerating Community College Students' Entry into and Completion of Programs of Study*, CCRC Working Paper No. 32, New York: Columbia University, Teachers College, Community College Research Center, 2012.
 29. Colleen Moore & Nancy Shulock, *Sense of Direction: The Importance of Helping Community College Students Select and Enter a Program of Study*, Sacramento, CA: Institute for Higher Education Leadership & Policy, 2011.
 30. See <http://www.jff.org/publications/education/core-principles-transforming-remedial-ed/1494>
 31. Clifford Adelman, *The Toolbox Revisited*; Davis Jenkins & Sung-Woo Cho, *Get With the Program*.
 32. Judith Scott-Clayton, "The Dark Side of Choice in Higher Education," *New York Times*, March 25, 2011; Judith Scott-Clayton, *The Shapeless River*; Melinda Mechur Karp, *Toward a New Understanding of Non-Academic Student Support: Four Mechanisms Encouraging Positive Student Outcomes in the Community College*, CCRC Working Paper No. 28, Assessment of Evidence Series, New York, NY: Columbia University, Teachers College, Community College Research Center, 2011; Center for Community College Student Engagement (CCCSE), *A Matter of Degrees: Promising Practices for Community College Student Success (A First Look)*, Austin, TX: The University of Texas at Austin, Community College Leadership Program, 2012; Barry Schwartz, *The Paradox of Choice: Why More is Less*. New York, NY: HarperCollins Publishers, Inc., 2004.
 33. Thomas R. Bailey, "Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College"; Juan Carlos Calcagno & Bridget Terry Long, *The Impact of Postsecondary Remediation Using a Regression Discontinuity Approach: Addressing Endogenous Sorting and Noncompliance*, NCPR Working Paper. New York: National Center for Postsecondary Research, 2008; Judith Scott-Clayton & Olga Rodriguez, *Development, Discouragement, or Diversion? New Evidence on the Effects of College Remediation*. NBER Working Paper No. 18328, Cambridge, MA: National Bureau of Economic Research, 2012.
 34. Tony Bryk & Uri Treisman, "Make Math a Gateway, Not a Gatekeeper," *Chronicle of Higher Education*, April 18, 2010.
 35. Pamela Burdman, *Where to Begin? The Evolving Role of Placement Exams for Students Starting College*, Boston, MA: Jobs for the Future, 2012; Clive Belfield & Peter Crosta, *Predicting Success in College: The Importance of Placement Tests and High School Transcripts*. CCRC Working Paper No. 42, New York, NY: Community College Research Center, Teachers College, Columbia University, 2012; Katherine L. Hughes & Judith Scott-Clayton, *Assessing Developmental Assessment in Community Colleges*; Judith Scott-Clayton, *Do High-Stakes Placement Exams Predict College Success?*; Andrea Venezia, Kathy Reeves Bracco, & Thad Nodine, *One Shot Deal? Students' Perceptions of Assessment and Course Placement in California's Community Colleges*, San Francisco, CA: WestEd, 2010.

-
36. Davis Jenkins, Cecilia Speroni, et al., *A Model for Accelerating Academic Success of Community College Remedial English Students: Is the Accelerated Learning Program (ALP) Effective and Affordable?* CCRC Working Paper No. 21, New York: Community College Research Center, Teachers College, Columbia University, 2010; Henry M. Levin & Emma Garcia, *Cost-Effectiveness of Accelerated Study in Associate Programs (ASAP) of the City University of New York (CUNY)*, New York: Center for Benefit-Cost Studies in Education, Teachers College, Columbia University, 2012.
37. Elizabeth Zachry Rutschow, Lashawn Richburg-Hayes, et al. *Turning the Tide: Five Years of Achieving the Dream in Community Colleges*, Oakland, CA: MDRC, 2011.
38. David Altstadt, *Aligning Community Colleges to Their Local Labor Markets: The Emerging Role of Online Job Ads for Providing Real-time Intelligence about Occupations and Skills in Demand*, Boston, MA: Jobs for the Future, 2011; Aspen Institute College Excellence Program, *A Guide for Using Labor Market Data to Improve Student Success*, Washington, DC: Author, 2013; John Dorrer and Myriam Milfort, *Vendor Product Review: A Consumer's Guide to Real-time Labor Market Information*, Boston, MA: Jobs for the Future, 2012.
39. Western Interstate Commission for Higher Education, *Promising Practices in Statewide Articulation and Transfer Systems*, Boulder, CO: Author, 2010.
40. Sung-Woo Cho, Beth Kopko, et al., *New Evidence of Success for Community College Remedial English Students: Tracking the Outcomes of Students in the Accelerated Learning Program (ALP)*, CCRC Working Paper No. 53, New York, NY: Community College Research Center, Teachers College, Columbia University, 2012.
41. Davis Jenkins, Cecilia Speroni, et al., *A Model for Accelerating Academic Success of Community College Remedial English Students: Is the Accelerated Learning Program (ALP) Effective and Affordable?* CCRC Working Paper No. 21, New York: Community College Research Center, Teachers College, Columbia University, 2010.
42. Sung-Woo Cho, Beth Kopko, et al. op. cit.
43. See New Mathways Project, Charles A. Dana Center at the University of Texas at Austin, Accessed December 18, 2012, <<http://www.utdanacenter.org/mathways/index.php>>.
44. Charles A. Dana Center, *The New Mathways Project: Implementation Guide*, Version 1.2, University of Texas at Austin: Author, 2012.
45. See "Early Results," Accessed February 4, 2013, <<http://pathways.carnegiefoundation.org/what-is-happening/2012/early-results/>> and "Positive Changes on Productive Persistence Measures, Accessed February 4, 2013, <<http://pathways.carnegiefoundation.org/>>.
46. Pamela Burdman, *Where to Begin?*.
47. Andrea Venezia, Kathy Reeves Bracco, & Thad Nodine, *One Shot Deal?*.
48. RP Group, "Excellence in Research—College/District Project: Promising Pathways—Placement, Performance, and Progress in Basic Skills and Transfer Level Courses in English and Mathematics," Perspectives, Berkeley, CA: The Research and Planning Group, March 2012.
49. *ibid.*
50. Carla Rivera, "Long Beach City College Tries an Alternative to Placement Tests," *Los Angeles Times*, June 25, 2012.
51. Paul Bradley, op. cit.; Kelly Puente, "LBCC's Promise of Better Placement," *Press-Telegram*, July 21, 2012.
52. Paul Bradley, "Making the Cut: Colleges, State Re-Examine Placement Tests," *Community College Week*, September 3, 2012.
53. Carla Rivera, "Long Beach City College Tries an Alternative to Placement Tests."
54. See "State Board of Community Colleges Agendas and Attachments: PROG 2-Proposed Policy: Multiple Measures for Placement," Accessed February 1, 2013, <http://www.nccommunitycolleges.edu/state_board/Agenda%20and%20Board%20Items.htm>; Clive Belfield & Peter Crosta, op cit.
55. Carla Rivera, "Long Beach City College Tries an Alternative to Placement Tests."

-
56. Michelle Hodara, Shanna Smith Jaggars & Melinda Mechur Karp, *Improving Developmental Education Assessment and Placement: Lessons From Community Colleges Across the Country* (CCRC Working Paper No. 51), New York: Community College Research Center, Teachers College, Columbia University, 2012.
57. Completion by Design, "Florida Cadre," Accessed December 12, 2012, <http://www.completionbydesign.org/our-partners/florida-cadre>.
58. Michelle Hodara, Shanna Smith Jaggars & Melinda Mechur Karp, op. cit..
59. *ibid.*
60. Susan Scrivener, Michael J. Weiss & Colleen Sommo, *What Can a Multifaceted Program Do for Community College Students? Early Results from an Evaluation of Accelerated Study in Associate Programs (ASAP) for Developmental Education Students*, Oakland, CA: MDRC, 2012.
61. Completion by Design, "Florida Cadre," Accessed December 12, 2012, <http://www.completionbydesign.org/our-partners/florida-cadre>. The North Carolina and Ohio cadres' plans reflect local needs and priorities, but incorporate many of the same principles and goals. See <http://www.completionbydesign.org/our-partners/north-carolina-cadre> and <http://www.completionbydesign.org/our-partners/ohio-cadre>
62. Note that ASAP does enroll college-ready students as well, but the MDRC study targeted students in developmental education.
63. Susan Scrivener, Michael J. Weiss & Colleen Sommo, op. cit.
64. City University of New York, *Significant Increases in Associate Degree Graduation Rates: Accelerated Study in Associate Programs (ASAP) at the City University of New York*, New York: Author, 2012.
65. Henry M. Levin & Emma Garcia, op. cit.
66. See <http://www.insideindianabusiness.com/newsitem.asp?ID=49385> and <http://www.insideindianabusiness.com/newsitem.asp?id=55655>
67. See <http://alp-deved.org/>, <http://cap.3csn.org/developing-pilots/pre-statistics-courses/>, <http://www.utdanacenter.org/mathways/>
68. Richard Thaler and Cass Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness*, New Haven: Yale University Press, 2008.
69. Judith Scott-Clayton, *The Shapeless River*.
70. Davis Jenkins & Sung-Woo Cho, *Get With the Program*.
71. "Investing in Community Colleges: FY2013 Budget Recommendation: Issues in Brief," Accessed February 10, 2013, <http://www.mass.gov/bb/h1/fy13h1/exec_13/hbudbrief7.htm>.

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