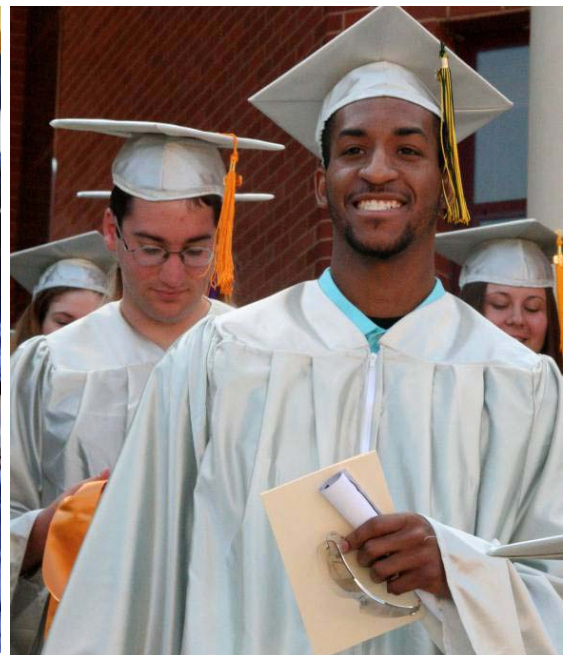


# Report of the Maryland P-20 COLLEGE SUCCESS TASK FORCE

Charged by Governor Martin O'Malley and the Governor's  
P-20 Leadership Council of Maryland



May 2010 -- FINAL



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## Executive Summary

Higher levels of education benefit the health and economic and social well-being of individuals and their communities, yet many students leave high school unprepared for college or careers. Many students who are academically prepared begin a degree at a two- or four-year college but fail to complete a credential either because they lack the financial resources to do so or encounter non-academic challenges that discourage them. Despite Maryland's successes in education, every year, thousands of students who enter a two- or four-year college must take at least one remedial course, at significant cost to the student, counties, and State. Gaps in achievement and educational attainment linked to race, income, and parental education are evident in secondary and postsecondary education. Maryland's high school population is now majority minority and has an increasing number of students from households in which there is no one with a college degree. If Maryland is to continue to have an internationally competitive workforce and to meet Governor O'Malley's goal of increasing its percentage of college degree holders to at least 55 percent by 2020, then the achievement gap throughout P-20 must be eliminated. Lifelong learning is increasingly important, but young people who earn a college degree are much more likely to be employed. To prepare more students to choose their postsecondary path with confidence, and to help those who choose college succeed once there, PreK-12 and postsecondary educators have to do more to prepare and support students for college and career success. Parents, communities, businesses, and the State must partner with educators if all students are truly going to be ready to be independent adults and informed citizens.

To address these interrelated challenges, the College Success Task Force was charged by Governor Martin O'Malley's P-20 Leadership Council of Maryland to examine current Maryland policies and practices related to the alignment of public secondary and postsecondary expectations, standards, and student learning outcomes. The task force was to identify gaps between standards for high school exit and college entrance, identify national benchmark educational achievement standards, and make recommendations for appropriate governing boards. The task force charge coincided with the work of the Common Core State Standards Initiative, and the task force used the Common Core work on benchmarked standards to guide some recommendations. The task force was also to identify strategies for college *success* and, in response to the Commission to Develop the Maryland Model for Funding Higher Education, to define "college readiness."

A few key themes emerged in the task force work. Repeatedly, it was clear that collaboration across the Pre-Kindergarten through graduate/professional school (P-20) educational system is needed to make real change. Using a data-driven approach is also prerequisite to implementing strategies to help students succeed. To help all students, not just those on certain career pathways, the task force focused on core academic skills—those required for entry into all two-year and four-year degrees, as well as for rigorous postsecondary training in the military or certificate programs. Academic skills are not the only core skills of readiness, which is why the task force also addressed building structures of support to help students succeed and emphasized that P-20 educational institutions have flexibility to work with individuals' needs. Academically and socially, some students will need extra support to meet their goals, such as through extended time in school, enrichment activities, and learning communities. Having such additional supports available in schools and colleges should not be seen as an anomaly but as a standard component of the education provided by all schools and colleges.

Although it is just one element of success after high school, a key step is to ensure that high school graduates have the reading, writing, and mathematics skills needed to place them in credit-bearing college courses. This point has implications for the non-college-bound, too. Achieve, the National Skills Coalition, and other policy organizations argue that these core skills are also key to entering training for middle-skill jobs, which require more preparation than a high school degree and less than a bachelor's, wherever that instruction takes place. (While most careers that pay a family-sustaining wage require at least an associate degree, some may require only a certificate; all require strong core skills.) Because these core academic skills are necessary for all students' success, the task force made recommendations focused on aligning expectations for high school graduation with expectations for entry into higher education, with close attention to language arts and mathematics. Because of the importance of science, technology, engineering, and mathematics (STEM) education to the state's economy, and because many students with an initial interest in STEM do not complete a STEM degree, the task force has also called for content experts to identify what specific skills are needed to prepare for a STEM major in a two-year or four-year degree program. This does not mean that non-STEM majors are any less important, but non-STEM majors generally do not require as much specific preparation to enter introductory courses.

Economics majors, for example, will need calculus, but they may not need it in the very first year of college; engineering majors do, if they are to graduate in four years with a bachelor's degree.

While it is the expectation that all students should be prepared for college and the workforce, it is important the performance level expected for college readiness be high enough to meaningfully predict success in most introductory general education college courses. The task force wants there to be a realistic understanding of college readiness and strategies in place to encourage more students to meet that standard, but recognizes that not all students will do so. Currently, many students who are not college-ready enter college—and supports of different kinds help many succeed. Students in Maryland community colleges who complete recommended remediation graduate or transfer at slightly higher rates than students who did not need remediation, so leaving high school not college-ready does not mean college is out of reach. The task force wants all students to aspire to and plan for college and does not wish to discourage students who are not college-ready from embarking on a college path. There is a communications challenge to wrestle with here: How can we let all students clearly know if they are college-ready without discouraging those who need to do more work to be fully ready? Several of the recommendations address themselves directly or indirectly to this challenge.

Helping students identify their career interests early and making it clear how to achieve career goals are important parts of engaging students and their families in aiming at and above college-readiness benchmarks throughout PreK-12. Career planning remains important throughout a college education as well so that students leave college with direction and know how to make the most of their interests and skills. Various kinds of student supports are needed, including career exploration, to strengthen our system of education. Academic supports are not the only elements of college success. Other supports include helping students and families identify student financial assistance, building student communities to create peer supports, structured work experiences, and raising awareness of the variety of student services available. Teachers need support, too, if they are to prepare all students well, including strong content preparation, training to work with diverse students, and ongoing professional development to deliver a college-readiness curriculum to all students.

To deliver a college-readiness curriculum, it must be clear what college-ready means. Ready for one college major may not mean ready for another; ready to enter a credit-bearing course may not mean ready to *succeed* in such a course; and intellectually ready does not mean socially, emotionally, and financially ready. Since most career-training requires at least an associate degree or a postsecondary certificate program, there is a clear connection between being college-ready and career-ready: the same core academic skills in reading, writing, and mathematics are needed. **A career-ready student must be college-ready, even if the student chooses a pathway other than college. The task force believes ongoing communication efforts will be needed to refine the definition of college readiness to include performance levels and other specific indicators, but that a college-ready student has these characteristics:**

- Prepared to succeed in credit-bearing introductory general education college courses or in an industry certification program without needing remediation;
- Competent in the Skills for Success, which are a component of the Core Learning Goals identified in the late 1990s by the Maryland Business Roundtable for Education and educators as identifying skills for workplace readiness; these skills include learning skills, thinking skills, communication skills, technology skills, and interpersonal skills. While the particular technologies that students need will change, the general skills remain the same. Skills for Success is a Maryland model that resembles significant portions of the more recently developed Partnership for 21<sup>st</sup> Century Skills, which also includes these skill sets to prepare students to work in a diverse, innovation-driven economy;
- Has identified career goals and understands the steps to achieve them; and
- Mature enough and skilled enough in communication to seek assistance as needed, including student financial assistance.

In addition, the task force distinguishes between general college readiness, which includes the characteristics above, and **STEM-readiness**. For a student to be prepared to succeed in science, technology, engineering, and mathematics (STEM) programs without needing additional time or help, specific training in mathematics and science courses is essential.

The task force recommendations in this report are sometimes technical or highly specific in the language they use. To provide a summary of the recommendations for a general audience, they are summarized below in the

“recommendations at a glance.” The extent to which these recommendations can be implemented depends on the resources, will, and collaboration of the State, school districts, and colleges.

***Recommendations at a glance:***

1. **Change curricula and high school graduation requirements to meet higher standards:** Adopt the Common Core Standards and create P-20 discipline-based groups to back-map PreK-12 curricula from college-ready standards; change high school graduation requirements so students must earn at least one credit of math in each year of high school, to include study at least through Algebra 2; regularly convene P-20 State and local alignment groups; increase the number of career and technology education program completers who are also college-ready.  
*Responsibility: MSBE, local school boards and districts, MSDE, MHEC, colleges, governing boards*
2. **Identify and adopt college/career-readiness assessments to be used statewide:** Use Maryland P-20 discipline-based groups to identify assessments and college-readiness performance levels for language arts and mathematics. Administer benchmark assessments throughout students’ school careers, and administer college-readiness tests to all students no later than 11<sup>th</sup> grade as part of that coherent sequence of measures to keep students on track for graduating from high school ready for college and career training.  
*Responsibility: MSBE, MSDE, MHEC, General Assembly, Governor, colleges and their governing boards*
3. **Adopt diploma endorsements for college/career-readiness:** Identify on their diplomas students who achieve basic college readiness (reading, writing, mathematics) and those who are college-ready for STEM majors; work on a communications strategy that (1) describes the rationale for endorsements; (2) provides guidance to students seeking endorsements; and (3) honors other choices.  
*Responsibility: MSBE, MSDE, MHEC, local school districts, institutions of higher education*
4. **Rethink how schools and colleges deliver education:** Prioritize and expand supplemental education, including such efforts as transition courses, bridge programs, and learning communities; provide more flexibility to differentiate instruction and pathways; explore ways to reshape or extend school calendars; expand access to early college options (e.g., dual or parallel enrollment, AP, IB); redesign courses; strengthen early childhood learning; use technology more effectively.  
*Responsibility: MSDE, MSBE, MHEC, institutions of higher education and their governing boards, local school boards and school districts, Governor’s Office, General Assembly, MD Lumina State Grant Leadership Team*
5. **Develop a statewide system of support to increase college and career success:** PreK-12 schools and colleges need more systemic supports so all students receive needed guidance; ensure each student has an individual plan for pathways/completion in PreK-12 and higher education; expand programs for diversity and for first-generation and low-income college students; communicate to all students and families about available supports.  
*Responsibility: MHEC, MSDE, higher education institutions and their governing boards, local school systems and schools, PTA, MBRT*
6. **Make changes to teacher preparation and professional development:** Adapt teacher preparation and professional development so, as support to higher education allows, P-20 partnerships can expand professional development networks and involve higher education in teacher development to the Advanced Professional Certificate. Have a statewide professional development plan to support a college/career-ready curriculum.  
*Responsibility: MSDE, MHEC, institutions of higher education, local school systems*
7. **Communicate more effectively about college-readiness and financial assistance for college:** Greatly enhance statewide efforts to inform low-income and first-generation-college families of what students need to do to be college-ready and how to apply for financial aid; expand communications about saving for college and about how much aid can be provided by the State’s Rawlings Educational Excellence Awards (FARMS-eligible students are entitled to an award that covers expenses at a public two- or four-year college); expand guidance and mentoring; colleges should clearly post minimum admission requirements and information about students accepted.  
*Responsibility: General Assembly, Governor, MHEC, MSDE, MPT, higher education institutions, local school systems, PTA, MBRT, community organizations*
8. **Make high schools and colleges accountable for college/career-ready graduates:** Make high schools accountable for graduating more students prepared for college and careers, and hold colleges accountable for students succeeding in gateway courses. Develop an accountability model with a growth component so improvement is rewarded.  
*Responsibility: MSDE, MHEC, institutions of higher education and their governing boards*

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## Acronyms & Abbreviations in this Report

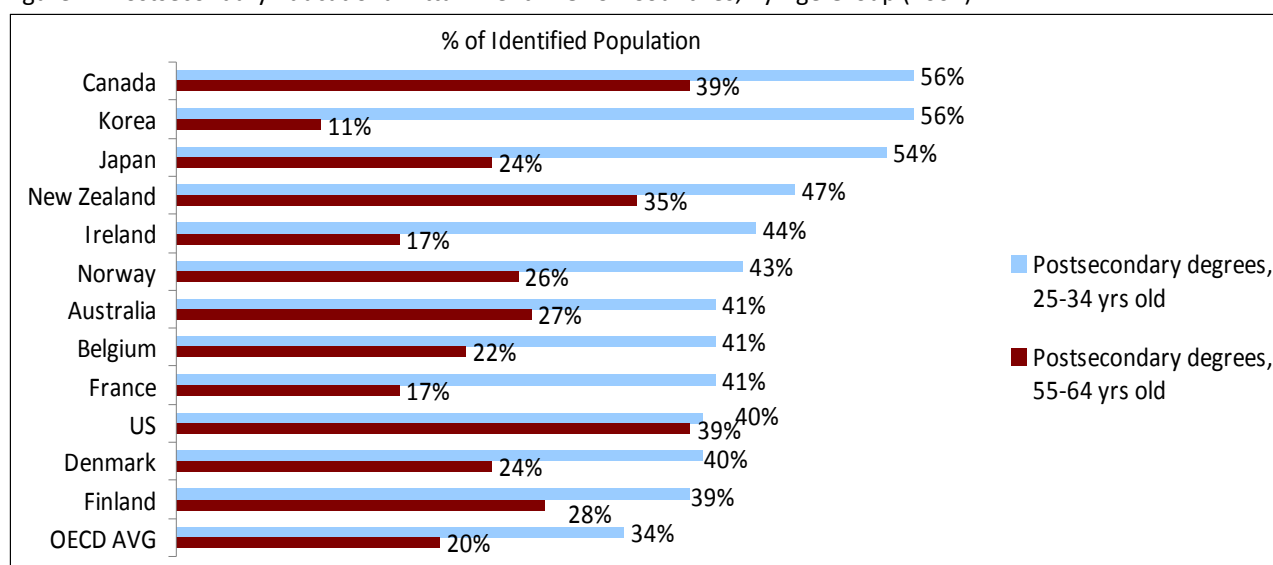
ACT	No longer an abbreviation (formerly American College Testing); national test of basic content developed by ACT, Inc. used by some colleges to estimate possibility of first-year college success
ADP	American Diploma Project; high school reform led by Achieve, Inc. to raise standards
GPA	Grade point average
K-12	Kindergarten through 12 <sup>th</sup> grade
KIPP	Knowledge is Power Program, a national network of public (and free), open-enrollment, college-preparatory schools focused on serving educationally underserved communities
MBRT	Maryland Business Roundtable for Education, a nonprofit organization
MSBE	Maryland State Board of Education, a governing board
MSDE	Maryland State Department of Education, the State agency overseeing PreK-12 education
MHEC	Maryland Higher Education Commission, the State coordinating board for postsecondary education
MPT	Maryland Public Television
OECD	Organisation of Economic Co-operation and Development; 30 member nations, based in Paris
P-20	Pre-Kindergarten through graduate/professional school
PreK-12	Pre-Kindergarten through 12 <sup>th</sup> grade
SAT	No longer an abbreviation (was Scholastic Aptitude Test); national test of verbal and mathematics aptitudes developed by the College Board and used by some colleges to estimate possibility of first-year college success
SREB	Southern Regional Education Board, a consortium of 16 states focused on helping the Southeastern US lead the nation in educational achievement
STEM	Science, Technology, Engineering, and Mathematics
USM	University System of Maryland; includes 11 public degree-granting institutions of higher education

## INTRODUCTION

### Background

People with more education enjoy higher salaries and better health than those with less education,<sup>1</sup> education has been linked to civic participation,<sup>2</sup> and 90 percent of the fastest-growing occupations in the U. S. require at least two years of postsecondary education.<sup>3</sup> Yet even though the personal and public benefits of higher education are undisputed, there is evidence that the U. S. has not been progressing as fast as other developed nations in ensuring that its young adults complete high school and a postsecondary credential.<sup>4</sup> According to data published by the Organisation for Economic Co-operation and Development (OECD) in 2009, the U.S. ranks 18<sup>th</sup> in secondary education attainment and 10<sup>th</sup> in “tertiary” attainment (a certificate or degree after secondary school) for people aged 25-34. By contrast, for adults 55-64, the U. S. ranks first in tertiary education.

Figure 1: Postsecondary Educational Attainment in OECD Countries, By Age Group (2007)

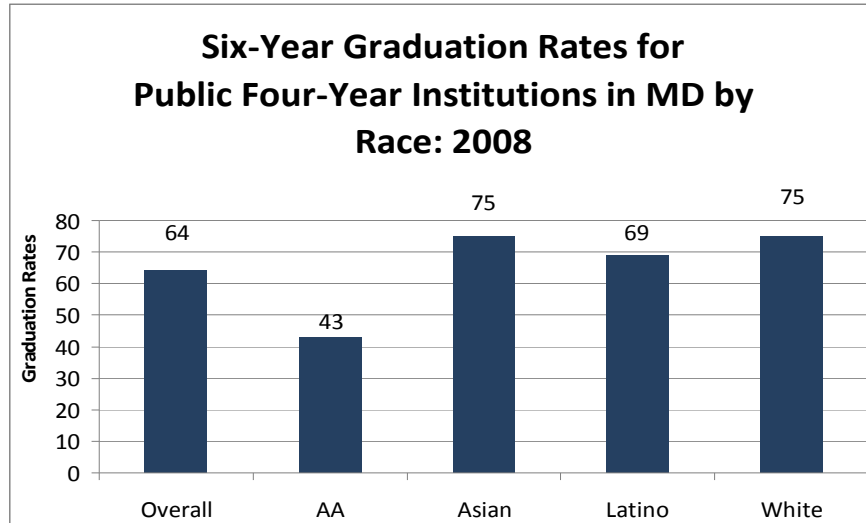


Source: Education at a Glance 2009: OECD Indicators (Table A1.3a)

This downward trend appears poised to continue as the demographic composition of the U.S. and Maryland is changing, with greater numbers of high school graduates coming from populations traditionally underrepresented among postsecondary degree holders.<sup>5</sup> As of 2005, 26 percent of Maryland African Americans held a bachelor’s degree, compared to 42 percent of whites.<sup>6</sup> For various reasons, including availability of financial assistance resources, Maryland college completion rates vary by race/ethnicity for both two- and four-year institutions. McKinsey & Company argue in a 2009 study that had the U. S. closed the achievement gap between low-income students and others, the 2008 gross domestic product (GDP) could have been 3 to 5 percent higher; between white students and students who are African American or Latino, 2 to 4 percent higher; and between the U. S. and the highest-achieving countries (Korea, Finland), 9 to 16 percent higher. (Maryland accounts for approximately 2 percent of U. S. GDP.<sup>7</sup>) McKinsey also identified wide variation in how students perform in different schools, indicating that these gaps can be closed. And they must be—for reasons of social justice as much as for economics.

Maryland’s public schools have been ranked first in the country for the past two years by *Education Week* and scored an A- for college preparation in *Measuring Up 2008*. Nonetheless, data collected from Maryland 2- and 4-year colleges show that thousands of high school graduates are placed into at least one developmental/ remedial<sup>8</sup> course in reading, English, or mathematics when they enter college the following

Figure 2:



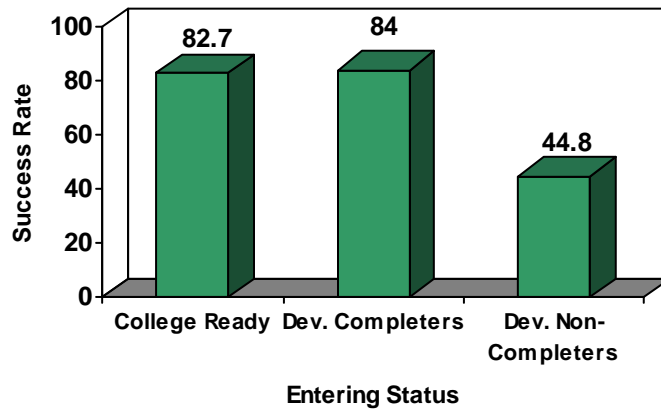
Source: MHEC Retention and Graduation Rates at Four-Year Institutions (2009)

year. Placement rates into developmental education in English and reading have been relatively stable over the past 10 years and are considerably lower than developmental mathematics rates (Gerald, pp. 8-9). On the other hand, developmental mathematics rates at community colleges have been increasing, and now more than half of all high school graduates entering community colleges are placed into at least one developmental math course (Gerald, p. 8). It should be kept in mind that there are more students attending college than before, and community colleges have open enrollment, so they accept many students who did not follow a college-ready curriculum and who consequently are much less likely to enter credit-bearing courses. Overall remediation rates are lower in 4-year schools, and vary considerably by institution. Nationally, 25 percent of all 4-year students take at least one remedial course.<sup>9</sup> Students who enter a 4-year institution directly out of high school are more likely to complete a bachelor's degree than those who do not (Adelman 1999), so remediation in 4-year institutions has a place.<sup>10</sup> Also pertinent here are questions of best fit: some students benefit more from the 2-year environment, others from that of a 4-year college. Students who require a developmental/remedial course are less likely to complete a bachelor's degree than those who do not (Adelman 1999), so better preparation is critical.

Good instruction in developmental/remedial courses is also critical: Maryland data show that community college students who complete required remediation, transfer or graduate at slightly higher rates than their peers who began college-ready.<sup>11</sup> Finding ways to help students enter credit-bearing courses quickly is essential to improving college success and more than a matter of PreK-12 preparation. Students who have been out of school for years may increase remediation rates, especially in mathematics; enrollment data submitted to MHEC in 2008 show that 42 percent of all Maryland undergraduates are 25 or older (MHEC 2009a; 38.7 percent of degree-seeking 2-year students are that age, 26.5 percent of 4-year degree-seekers). Students who have been recent English language learners may require developmental work in language arts, even if they are otherwise very advanced in other areas of study. These principles hold true for entries to both 2-year and 4-year institutions. It should be said that not all remediation is the same, even in a single field of study. Some students might need refresher modules, not a whole course, and recent research on remediation also points to issues about sequencing (Bailey, Jeong, and Cho).

Maryland is now among the top five states for the highest percentage of residents who hold at least a bachelor's degree.<sup>12</sup> This is true even though Maryland is a net exporter of college students (NCES, 2008).<sup>13</sup> But neither Maryland PreK-12 nor higher education can afford to rest on their laurels while other states and

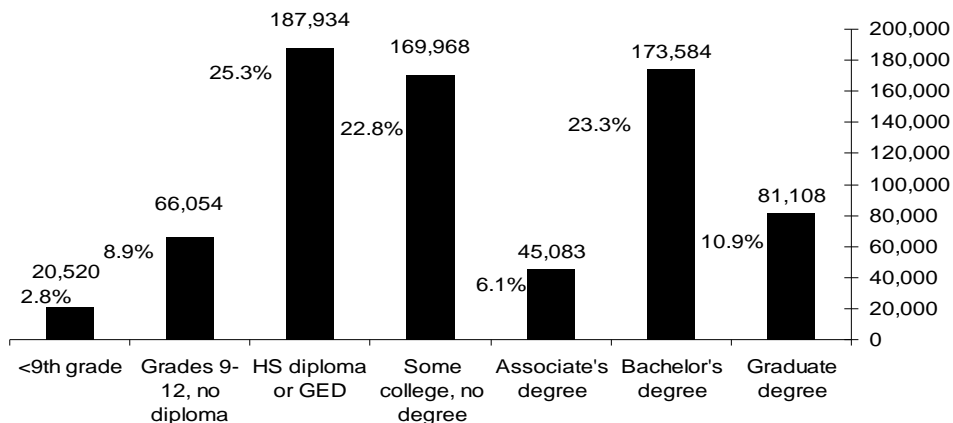
Figure 3: Success Rates of Community College Students in Maryland by Entering Status (Needs/Does Not Need Developmental Education)



Source: Student Information Systems, National Clearinghouse Enrollment Search and Degree Verify, MCCH Transfer Student System (2008)

nations take aggressive steps to improve education outcomes. For one, Maryland can improve its degree completion rates. While President Barack Obama has challenged all Americans to complete at least one year of postsecondary education<sup>14</sup> and set a national goal of leading the world again in postsecondary education,<sup>15</sup> Governor Martin O’Malley has set a goal for Maryland to lead the nation in the percentage of students who hold a postsecondary degree, with at least 55 percent by 2020. This goal is incorporated in the State’s Lumina grant and in the *2009 Maryland State Plan for Postsecondary Education*. In 2009, the blue-ribbon Commission to Develop a Maryland Model for Funding Higher Education (Funding Commission) made several recommendations related to improving college completion rates. One recommendation was that the Maryland Higher Education Commission and the Governor’s P-20 Leadership Council define what it means to be college-ready. Both the Funding Commission report and the College Board’s *Coming to Our Senses* report—produced under the chairmanship of Chancellor William E. “Brit” Kirwan—were presented to Governor Martin O’Malley and the Governor’s P-20 Leadership Council. *Coming to Our Senses* calls for 55 percent of all Americans to have a postsecondary degree by 2025. Governor O’Malley and Council members expressed a sense of urgency to do more to increase the success of students moving from high school into and through college.

Figure 4: Educational Attainment of Maryland Residents, Aged 25-34 (Census 2000)



Source: Lumina Foundation (using 2000 U. S. Census data)

## **Charge to the Task Force**

Governor Martin O'Malley convened the College Success Task Force and charged it with examining current Maryland policies and practices related to the alignment of secondary and postsecondary expectations, standards, and student learning outcomes, with particular attention to be paid to reading, writing, and mathematics. The task force was to identify gaps between standards for high school exit and for entrance to college, identify national benchmark educational achievement standards, and make recommendations for appropriate governing boards aimed at ensuring a smooth transition for students moving from 12<sup>th</sup> grade to the first year of college. The Governor also asked that the task force move beyond issues of preparation to look more broadly at strategies for students to be successful in college.

## **Description of the Task Force Process**

Task force members were selected to include leaders from different sectors of Maryland public education and workforce representatives. The task force met eight times from May 2009 to March 2010. All meetings were public. Relevant research, meeting agendas and notes, and testimony submitted for a public hearing were posted on a website so members and the public could access information easily (<http://www.marylandpublicschools.org/MSDE/divisions/leadership/programs/cstf/>).

The task force began its work just as the state-led Common Core State Standards initiative was kicked off by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. These two organizations are partnering with Achieve, Inc., ACT, and the College Board to coordinate the development of voluntary state standards in mathematics, reading, writing, and listening and speaking for K-12 and high school exit. The standards are to be rigorous, internationally benchmarked, and aimed at graduating students prepared for college and workforce training; the exit standards are called the "college- and career-ready standards." The Common Core effort overlaps with the task force charge, and the task force concurred with the Governor and the Superintendent that Maryland would benefit from participating in this Common Core initiative, so long as the standards are at least as rigorous as existing standards.

Representatives of Achieve, institutions of higher education, the Southern Regional Education Board (SREB), and other stakeholders made presentations to the task force. SREB interviewed nearly 50 education leaders in Maryland to assess the college readiness work here, and its president presented a report with recommendations for Maryland. The task force recommendations are informed by this report. An invitation to offer testimony was distributed statewide, and many of the submissions are also reflected in the task force report. After the hearing, the task force split into committees, each with a PreK-12 and a higher education co-chair, and each charged to look at a different set of issues: (1) assessments and accountability; chairs: Joe Hairston and Guy Altieri; (2) communications and structures of support; chairs: Christine Handy-Collins and Barbara Gill; and (3) P-20 curriculum and graduation requirements; chairs: Carl Roberts and Brit Kirwan. The groups met separately, and the task force reconvened in January to review and refine the subcommittee recommendations over the following two months.

## **Defining College Readiness**

### **Challenges**

What does it mean to be college-ready? Educators, policy organizations, analysts, and legislators all over the U. S. have been grappling with this question. This question is now inseparable in policy discussions from that of how college readiness is related to workplace readiness. Confounding these discussions are misplaced beliefs that certain students could never be "college material," that students who enter career training pathways in the military or in industry do not need rigorous preparation for those pathways, and that "college" only references a 4-year institution. There is a strong body of evidence about predictors of

college readiness and success, but less research has been done to define “career readiness.” Achieve and ACT have both done research on this topic with employers and see a convergence of the skills needed in language arts and mathematics to be successful in entry-level college courses and workforce training programs that lead to careers that provide a family-sustaining wage (i.e., middle-skill jobs).<sup>16</sup>

While some states have worked to provide a definition of college readiness, debate continues as to what it means to be college-ready, and states are finding that their definitions are not necessarily clear to students and families.<sup>17</sup> Furthermore, it can be a complex process to measure things like social readiness, and such concepts are sometimes left out of college and workplace readiness definitions. Discussions within the task force over the course of several meetings mirrored national debates. As on the national level, some key concepts emerged as significant, and the task force identified some concrete steps that can be taken to work toward a comprehensive definition of college readiness. That said, there are simultaneous challenges within Maryland and nationally to continue to develop a data-driven approach to understanding what helps students succeed after high school *and* describe in a compelling way for a broad audience what it means to be college-ready and why it matters. The Gates Foundation, the Education Trust, and Achieve, Inc. have been researching how to communicate the importance and meaning of college/career readiness for all. States continue to try to learn more about how to communicate most effectively as they work to improve their outreach, especially to families in which there have been no college graduates.

#### **Defining College (and Career) Readiness: Academic Skills**

The task force reviewed numerous definitions of college readiness and heard presentations from SREB and Achieve that highlighted the central importance of expository reading, writing, and mathematics to college success. The group discussed parallels between college and career readiness, while recognizing that preparation for different careers varies, just as the preparation for different college majors often does. They sought to identify a common baseline standard of readiness. Such a standard is not a college admission standard, and meeting it does not mean ready a student will be ready for all majors or smoothly transition into all college courses at all colleges (or all workplace situations). But achieving that standard should mean that the student is intellectually ready to enter credit-bearing, introductory general education courses. The student should not need remediation in English, reading, or mathematics, at either a two-year or a four-year college. The task force began referring to this kind of academic readiness as part of “general college readiness.” Several recommendations are addressed to identifying the particular skills and performance levels that describe general college readiness and how a specific definition of readiness can help guide students, families, and schools. Work to implement the college- and career-ready Common Core State Standards and to identify common assessments and performance standards will, over time, produce one concrete way of academically defining general college readiness. Because general college readiness will prepare students for all majors, the task force also calls for further work to be done to specify what STEM readiness requires.

#### **College and Career Readiness beyond Academic Knowledge and Skills**

Task force members agreed that “college readiness” more broadly conceived includes not only solid academic preparation, but also personal knowledge, skills, and abilities such as social and emotional readiness, a good work ethic, curiosity, time management, and an ability to work in teams of diverse individuals. These are also important characteristics in the workplace. A college-ready student must also have some knowledge about college processes and college life, such as how to apply for admission and financial aid and how to live with others. The task force saw value in the Partnership for 21<sup>st</sup> Century Skills model, which includes academic and nonacademic criteria, but did not adopt it as its definition of readiness. Some commonalities appear between the interpersonal, communication, critical thinking, and technology skills in that model and the existing Maryland Core Learning Goals—Skills for Success. (More information on

the relationship between college and career readiness is found in the 2009 Maryland P-20 Career and Technology Education Task Force Report.) The range and type of skills involved in becoming ready for college and careers point to the need to have strong partnerships between and among schools, colleges, families, community organizations, faith organizations, and other institutions and groups that serve students and families. Schools alone cannot prepare students for college, careers, and life.

As Maryland content experts work on refining the academic understanding of college-readiness, efforts should also be made to articulate other elements of readiness. Some guidance is available in the October 2009 American Youth Policy Forum (AYPF) report *Success at Every Step: Support Youth on the Path to College and Beyond*. The report presents a logic model for college- and career-readiness and success and profiles 23 programs that valid evaluations determined to be successful in building students' foundation for learning and growth based on short-, intermediate-, or long-term outcomes. The authors offer a comprehensive definition of college and career readiness for success that speaks to a broad set of developmental concerns and includes financial resources in "personal resources." The definition is offered for the purposes of one report, and like many definitions, it is aimed at policy-makers, not families. But it captures many of the task force concerns and links the worlds of academics and work. College is not an end-point, after all, but a pathway to a career and lifelong learning.

*Readiness means being prepared to successfully complete credit-bearing college coursework or industry certification without remediation, having the academic skills and self-motivation necessary to persist and progress in postsecondary education, and having identified career goals and the necessary steps to achieve them. Readiness also requires the developmental maturity to thrive in the increasingly independent worlds of postsecondary education and careers, the cultural knowledge to understand the expectations of the college environment and labor market, and the employer-based skills to succeed in an innovation-based economy. (p. 8)*

The communications and support system recommendations in this report are addressed in part to this broad set of skills needed to be successful after high school and in college. This definition from AYPF helped the task force shape its definition of college readiness.

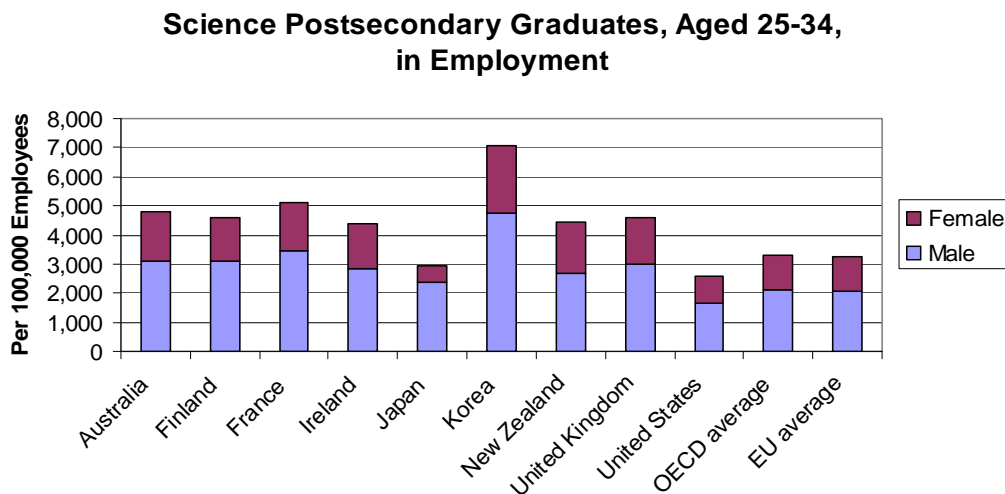
**The task force agreed that a college- and career-ready student has the following characteristics:**

- Prepared to succeed in credit-bearing introductory general education college courses or in an industry certification program without needing remediation;
- Competent in the Skills for Success, which are the Core Learning Goals identified in the late 1990s by the Maryland Business Roundtable for Education and educators as identifying skills for workplace readiness; these skills include learning skills, thinking skills, communication skills, technology skills, and interpersonal skills. While the particular technologies that students need will change, the general skills remain the same. Skills for Success is a Maryland model that resembles significant portions of the more recently developed Partnership for 21<sup>st</sup> Century Skills, which also includes these skill sets to prepare students to work in a diverse, innovation-driven economy;
- Has identified career goals and understands the steps to achieve them; and
- Mature enough and skilled enough in communication to seek assistance as needed, including student financial assistance.

As performance levels on college readiness assessments and other specific indicators are identified, this definition should reference them. In addition, the task force distinguishes between general college readiness, which includes the characteristics above, and **STEM-readiness**. For a student to be prepared to

succeed in science, technology, engineering, and mathematics (STEM) programs without taking additional time or needing additional help, specific training in mathematics and science courses is needed.

Figure 5: Postsecondary Graduates in Science Fields, Aged 25-34 (2007)



Source: Education at a Glance 2009: OECD Indicators (Table A3.7)

### **Key Themes**

In both group and committee discussions, key themes emerged repeatedly. Some are explicit in the recommendations, while others are principles that the task force would like to see guide action going forward at both the State and local levels.

#### **Collaborate, P-20**

All of the task force recommendations speak to the need for alignment—of curriculum, of expectations, and of support—to help students progress on their chosen career path. Creating aligned systems is an ongoing process that requires regular, periodic communication at both state and local levels. PreK-12 and postsecondary education are intricately linked, and only if both sides continue to communicate and act on their mutual needs can both systems improve. Institutionalizing alignment discussions at a high level is necessary to emphasize the importance of this collaboration. Furthermore, too often teachers, faculty, and administrators are not rewarded for engaging in this kind of activity, yet without it, alignment efforts are doomed to fall short of what’s needed for systemic change.

#### **Use a Data-Driven Approach**

Educators cannot verify what does and does not work without data. Data has helped demonstrate that students who go directly from high school to college perform better in college mathematics if they took rigorous mathematics throughout high school (Adelman 2006). Montgomery County Public Schools used data from a period of years to see what K-12 benchmarks corresponded to success in college for their students. The district then used that information to create a preparation and communications plan called *7 Keys to College Success*, which helps teachers and families understand in what areas they can help a student in order to improve his or her chances for college success—beginning in kindergarten. Data can help identify scalable strategies and also demonstrate that a one-size-fits-all approach does not work. Having good data and understanding how it can be used to improve outcomes has led the U. S. Department of Education to make a P-20 longitudinal data system a prerequisite for competing for \$4 billion of Race to the

Top grants. As recommendations are translated into concrete, sometimes local actions, data should shape next steps.

### **Focus on Core Skills to Prepare All Students for Postsecondary Success**

Different career pathways require different steps. A prospective architecture major should not necessarily take the same high school courses as a student who wishes to become a registered nurse, an electrician, a computer programmer, or a translator. But all students need strong verbal and numeric literacy. SREB and the Common Core State Standards Initiative focus on mathematics and language skills for good reason: they are the foundation for further work in all fields. The task force values secondary and postsecondary study in foreign languages, sciences, and social sciences, but put the focus on Core skills first. Standards, curriculum, assessments shared by PreK-12 and higher education, teacher development, student supports, and P-20 accountability are tied in some ways to Core skills. But the application of these skills should be broad—focused standards and goals should not interfere with a rich and diverse educational experience.

### **Ensure Multiple Pathways, Flexibility, and Supports to Meet Individual Student Needs**

Task force members agreed that from elementary school onward, all students should be guided to understand the benefits of college and to understand what steps they should take to be college-ready. Research at the national level shows low-achieving students learn more and fail *less* often in rigorous courses than in courses that are low-level.<sup>18</sup> This is an important point because too often standards are not raised out of fear that graduation rates will decline. Schools and communities have to work together to raise graduation rates, but low standards, or low standards for some students, is not part of the solution. Clifford Adelman's research has shown that an academically intense, high-quality high school curriculum, with mathematics beyond Algebra 2, is the greatest predictor of college completion; the impact of such a curriculum on African-American and Latino students is even stronger than on white students (1999).

All students should also be guided to thinking about careers from an early age, so that as they begin high school, they make appropriate choices about courses and activities that can help them prepare for their desired career and, as they leave high school, they are prepared to enter a career pathway that will lead them to a family-sustaining wage. College may not be necessary for some career pathways, but some postsecondary training is needed for most careers,<sup>19</sup> and students should be able to enter training without remediation. An example from Hawaii is pertinent here. There, to encourage more students to earn a higher standards college- and career-ready diploma, students who wish to enter a carpenter or drywall apprenticeship are exempted from the entrance math exam and proceed to the interview process if they meet the college/career-ready requirements.<sup>20</sup> Multiple pathways are an important part of providing a valuable and relevant secondary education to students and can include options such as rigorous career technology education, early college access, and transition courses in middle or high school.

Students need different supports, academic and personal, and may need to take different steps to reach their high school or college diploma. To meet students where they are, there has to be flexibility in systems so faculty and schools can meet individuals' needs. Students come to school with very different levels of preparation and resources from home. Schools, teachers, and colleges need options for addressing each student's needs. Some students may need supplemental instruction to accelerate them in a particular area of study; this need should not be read as an anomaly, but as a regular feature of education. Supports that address the whole student, not just academic needs, are important, too. For example, mentoring and peer advising are supports that have been used successfully in both secondary and postsecondary settings.

## **Financial Implications**

Given the impact of the economic downturn on State, local, and institutional budgets, the spending that will take place in all budgets will reflect priorities. College success has to be a priority. Much of the work recommended here will be implemented in stages, as financial and human resources allow. It is clear that for at least a year, any new resources for reform would have to be from grants or other outside funds, not State coffers. Efficiencies should be sought among responsible parties to keep down costs as much as possible. But ultimately, the major reforms called for will require some new resources. These reforms are consistent with those called for by the Obama administration, and for which the administration has reserved \$4.35 billion in competitive state grant funds, recognizing that major reforms require substantial resources. Additional federal funds are available through formula funding to support activities consonant with many of those identified in this report, though many of these formula grants will likely have a competitive component in the future.

### **Long-Term Savings**

Over the long term, preparing more students for college and the workplace will boost tax revenues and save the State and businesses money by reducing remediation costs. More educated workers bring the State and local jurisdictions increased tax revenues: The Bureau of Labor Statistics indicates that for 2008, median weekly earnings of a person with a less than a high school degree are \$467; with a high school degree, \$618; with an associate degree, \$757; and with a bachelor's degree, \$1,233. The Mackinac Center for Public Policy estimates that remediation costs Michigan businesses and colleges \$600 million per year. Maryland costs would be less, given population differences but still substantial. The Alliance for Excellent Education estimated in 2006 that Maryland could save \$37,973,289 on annual remediation costs and gain additional annual earnings of \$42,012,478 if students who needed remediation graduated at the same rate as those who did not.<sup>21</sup> To the extent that stronger teacher development helps retain teachers, additional savings can be realized by local school districts since, according to one estimate, Maryland spends \$42 million per year on costs associated with teacher turnover.<sup>22</sup> Savings to students can be measured not only in money saved, but also in time. For low-income students in particular, savings of time and money linked to remediation could be life-altering and mean the difference between a degree and no degree. All these important savings should be kept in mind as the costs of reform are considered.

### **Short-Term Costs**

Convening alignment groups to work on revising the State and, as needed, local curricula will require travel time and costs, release time for teachers and college faculty, substitutes as needed for that release time, and State and central office administrators' staff time. Similar costs apply for convening experts to develop an accountability model for Maryland and for reviewing the Maryland models of teacher preparation and professional development. Participating in a multi-state consortium to identify appropriate assessments will be less expensive than if Maryland developed its own assessments, but there must still be some convening in Maryland to decide if the tests and performance indicators are appropriate for Maryland schools, colleges, and universities. If some of these activities take place before September 2010, it is possible that the State may be able to secure grant funds from SREB to assist with some of the meeting and travel costs; however, the State, districts, and colleges sending representatives may be asked to cover these costs for their employees. Professional development workshops tied to college readiness might be organized relatively soon at the State level, but some support has to be provided to higher education to offer them.

### **Costs over 1 -2 Years**

Changing and implementing curricula is much more expensive than designing curricula and entails buying books, instructional aids, and possibly technology, plus providing professional development and a host of

other costs that amount to millions statewide. Similarly, implementing an assessment system is a multi-million dollar project. Working with higher education to identify assessments of readiness that can be used by high schools, community colleges, and four-year colleges is a challenging project but of itself less costly than implementing those assessments in schools and colleges. Economies of scale can be achieved by working through a multi-state consortium, but there are still added costs to changing assessment practices that institutions of higher education and schools are ill-prepared to bear at this moment. Maryland has applied for a multi-million dollar grant to help develop its P-20 education longitudinal database, which, if won, could help cover significant costs related to connecting data sets. Maryland will also apply for Race to the Top grant funds, and there may be some limited overlap between that State application and the curriculum and assessment efforts noted here.

Adopting or expanding best practice models in higher education such as course redesign, accelerated learning programs, bridge programs, learning communities, first-year experience seminars, revamped advising practices, honors programs, and supplemental instruction have start-up costs but in some cases can lower institutional costs over the long run. Some course redesign costs will be supported by the State's Making Opportunity Affordable grant through the Lumina Foundation, but institutions will also be challenged to support these efforts. Recent course redesign in the University System of Maryland have matched \$20,000 in grant funding with \$20,000 from the institution to pilot redesign in one or two large gateway courses (high enrollment introductory general education courses that usually have relatively low pass rates). New competitive grants from the Gates Foundation for course redesign in community colleges award winners \$40,000 per campus. Redesigned courses should improve learning and ultimately repay the investment in them. Campuses may also need additional State and local support to implement new methods of delivering developmental education, accelerated learning strategies, and programs that support first-generation, low-income, and minority students from entry through graduation. Resources are needed over the next two years and over the long term for academic services and student services that support student success.

Developing an effective statewide communications campaign linked to college readiness and college financial assistance will require resources. Existing web-based programs like *mdgo4it.org*, the MPT-MHEC production *You Can Afford College*, bilingual print publications, and the more than 100 financial aid presentations offered in high schools by MHEC staff are useful but not enough—and these have been supported by resources no longer available. To develop an effective statewide campaign that encompasses the efforts of both PreK-12 and higher education, a centralized effort—perhaps out of the Governor's Office—will have to be developed to ensure there is a truly statewide focus to the campaign. That centralized effort should have dedicated staff who can identify existing resources, seek grant funds and other new resources, and work with agencies, colleges, school districts, and vendors to coordinate a major campaign like that described here. An effective communications firm could usefully be engaged in this work, but in the absence of resources for sub-contracting to private firms, additional staff resources will be needed.

### **Long-Term Costs**

Expanding the role of higher education in teacher professional development will have significant costs, which cannot be borne primarily by higher education. Districts should have flexibility to provide support to higher education for locally delivered professional development and other activities related to teacher development (e.g., professional development school networks), but some State support would also be appropriate to ensure equity across districts with varying resources.

Adapting school calendars so that all students receive the instruction they need may have some costs, but KIPP schools have shown it is possible to extend calendars. Other strategies to deliver instruction more effectively to more students might have start-up costs and then long-term maintenance costs (e.g., for technology maintenance, staffing for instructional coaches etc.). Funds to make such adaptations should be directed first to those schools with the greatest need, such as those with higher dropout rates and schools that feed to schools with high dropout rates.

One of the greatest returns on investment is available through universal pre-school education, but it is a substantial investment. Again, it would be prudent to focus funds on those geographic areas where data show the need is greatest and children are less likely to have existing pre-school education. Implementing the College Readiness Outreach Program, which calls for expanded availability of guidance staff and implementing early qualification for financial assistance, could help steer thousands of students toward a better future, but significant resources would be needed to expand guidance staff. Mentoring programs can be implemented locally and primarily require staff time or a new staff person, depending on how many students are involved, to coordinate mentors and students.

One of the smaller long-term costs is maintaining the statewide communication plan. The most modest costs are associated with maintaining and updating websites and media content. More costly but just as important is providing staff who can stay in touch with the wide variety of school, college, church, social service, mentoring, and neighborhood organizations positioned to deliver the college-readiness message to students who need to receive that message.

#### **Convergence with Other State Efforts**

To the extent that recommendations described in this report are aligned to Race to the Top efforts, it is possible that Maryland could defray some of these costs with federal grant funds. The Obama administration's budget of at least \$350 million for multiple state assessments will also provide some relief on the assessments front, if the multi-state consortium that Maryland joins successfully competes for assessment grants. Lumina grant funds will support some college-based efforts to promote completion and build success. Through Complete College America, which Maryland has joined, technical assistance might be available for implementing best practices for having more students complete college degrees. Federal Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) funds available through a competitive grant and the State match for those funds should continue to be leveraged to support not only the specific cohorts being assisted through direct services, but also additional students who can benefit from communications and program models used at GEAR UP sites. The work being done through the USM Closing the Achievement Gap initiative overlaps with the recommendation to create a statewide system of supports for students and can provide information to other institutions about best practices. PreK-12 and higher education will work to be as efficient as possible with resources available, but additional resources will be needed to fully implement these recommendations.

#### **Action Plans, Timelines, and Budgets**

The P-20 Council has determined in regard to previous task force reports that once recommendations are accepted by the Council and the Governor, the responsible party(ies) identified in each recommendation should prepare a detailed action plan to implement that recommendation that includes strategies, a timeline, and a budgetary impact statement. These detailed action plans should be prepared in a timely fashion after acceptance of the recommendations for this task force report and adoption of the recommendations by the relevant boards.

## Recommendations

### *Change curricula and high school graduation requirements to meet higher standards*

**Recommendation 1: Ensure that by 2011 all districts have PreK-12 curricula and graduation requirements aligned to the Common Core Standards and back-mapped from the college- and career-ready standards.**

*Responsibility:* MSBE, local school boards, MSDE, MHEC, school districts, and colleges

*Rationale:* A central component in graduating high school students who are college-ready is an aligned curriculum that prepares students for the content, assignments, and rigor they encounter in introductory college courses. The Common Core Standards will include college- and career-readiness exit standards and K-12 standards in mathematics and “language arts,” defined as reading, writing, and speaking and listening. The K-12 standards will also have literacy standards within history and science for grades 6-12. Standards, however, are not curriculum but the framework for it.

State and local collaboration will be essential to move from standards to delivering a college-ready curriculum to all students. The State must lead this effort, calling upon P-20 content experts to ensure that the next generation of the PreK-12 State Curriculum is aligned to college/career-ready standards. In agreeing to participate in the Common Core, states agree that their curriculum will not exceed the breadth of the Core by more than 15 percent, to be consistent with the Core themes of fewer, clearer, higher. By implication, districts will have curricula that are at least 85 percent the same.<sup>23</sup> Each district could therefore save resources by collaborating with the State on that 85 percent. Using Race to the Top funds and/or prioritizing other State funds could ensure timely implementation of this major reform, as well as provide districts with the support they need to translate the new standards for their local needs. Local alignment teams can determine how to make the most of local resources in delivering a college-ready curriculum.

In 2009, the Maryland State Board of Education adopted high school English and Algebra II curricula that Achieve approved for inclusion in its American Diploma Project (ADP).<sup>24</sup> Achieve, a partner in developing the Common Core, has noted that its ADP benchmarks for high school exit in Algebra 2 and language arts are closely aligned with the Common Core, despite some differences.<sup>25</sup> It therefore stands to reason that all students will need strong language arts training and Algebra 2 if they are to be educated by the standards of the Common Core and the State Curriculum. Achieve has produced a series of fact sheets titled “Math Works,” which show how advanced math is needed in a variety of postsecondary pathways other than college ([www.achieve.org/mathworks](http://www.achieve.org/mathworks)), including manufacturing (e.g., automobile plants). The Governor’s P-20 Career Technology Education Task Force also recommended aligning high school requirements with those needed to be college- and career-ready. Although the State Curriculum includes Algebra 2, current minimum high school graduation requirements are more general and do not require mathematics beyond geometry. Minimum graduation requirements should be changed to include more and higher-level mathematics as well as rigorous preparation in reading and writing so more students will have a better chance of being prepared for their choice of postsecondary pathways.

Furthermore, Maryland secondary and postsecondary requirements cannot be aligned without strong language arts and at least Algebra 2 being required in high school. College-level reading, writing, and mathematics are required for all degrees offered by public institutions, including workforce-oriented associate of applied science (AAS) programs. State regulation requires that college-level mathematics be at

or above the level of college algebra: in other words, at one level beyond a rigorous Algebra 2 course—that is, the type of Algebra 2 course that would prepare a student to perform well on the Achieve-led, multi-state Algebra 2 exam. (This assessment is discussed more in recommendation 2.) Both the Maryland Business Roundtable for Education and Morgan State University called for requiring Algebra 2 and a generally more rigorous K-12 education that is better aligned to college expectations and rich in STEM.<sup>26</sup> The University System of Maryland already requires at least Algebra 2 for admission to all of its institutions, and its Board of Regents recently approved new admission requirements that call for four units of math. As of the 9<sup>th</sup>-grade class of 2011, if a student successfully completes Algebra 2 before senior year, the student must nonetheless take mathematics through senior year, including courses after Algebra 2 that are algebra-rich in content, though not necessarily algebraically sequential after Algebra 2.

In the area of language arts, the State Curriculum for high school was reviewed by higher education representatives through the P-20 English Language Arts Alignment Committee (2008). It appears that the principal difference between the Common Core and the current State standards is the Core's focus on developing communication skills across disciplines, which is evident in the draft language arts standards and by having draft literacy standards in history and science for grades 6-12. The statewide PreK-16 English Composition Task Force Report (2007), however, reflects this interest in ensuring that literacy skills are emphasized across fields and not isolated in English, so there is already documented interest within Maryland of preparing students for discipline-specific literacy. Implementing literacy standards across disciplines will require sustained effort, a new way of developing and evaluating assignments, and additional professional development targeted at these skills. The English Composition Task Force Report already made related recommendations, calling for the development of clearer expectations for writing at the level of college entrance, preparing K-12 teachers to teach writing and reading in their respective disciplines, strengthening regional P-16 partnerships to deliver professional development, and expanding job-embedded professional development in literacy skills across disciplines, P-20. The strategies in that task force can be used as part of implementing the new higher standards curriculum.

Because taking an Algebra 2 course or series of high school English courses has not meant that all students who pass necessarily perform at a college-ready level,<sup>27</sup> schools and colleges will continue to work on strategies to bring students to college-level readiness before entry into college. In some Maryland school districts, community colleges and high schools have developed mathematics transition courses to ensure students graduate college-ready,<sup>28</sup> either designing a new high school course or having college faculty train high school faculty to offer the college's highest-level developmental course. In California, higher education and secondary faculty collaborated to develop transition courses not only in mathematics, but also in expository reading and writing. Texas, South Carolina, and other states are also developing such courses. Since students who enroll in a remedial reading course are 41 percent more likely to drop out of college than those who needed no remediation, a focused course on expository reading could have particularly significant impact on students.<sup>29</sup> This course is in addition to senior year English. The Common Core, with its emphasis on literacy within disciplines, provides a focus for stimulating efforts to develop transition courses for expository reading and writing. All transition courses should be developed by higher education and high school faculty working together to help more students graduate truly ready for college and to help high schools better and colleges better understand each other's needs. As the Common Core is implemented in Maryland and across the country, performance levels to indicate a threshold level of college readiness may rise from current levels; transition courses could mitigate a possible spike in remediation rates.

Establishing college-ready standards does not guarantee that those standards remain current indefinitely—far from it. Periodic review is necessary, and more frequent P-20 communication is necessary for consistent and successful implementation of curricula, with strong skills preparation. Institutionalizing local alignment

teams provides a way to review and communicate about standards, skills, and curricula across P-20. Having such local teams meet regularly can also serve as a lever to align other services for students and ensure appropriate professional development is available. Statewide alignment teams could provide informed input to policymakers. With respect to other areas of STEM college-readiness besides mathematics, the College Success Task Force is calling for one or more P-20 alignment teams to be convened to offer more specific, data-driven advice (see recommendation 3). Given the rapid pace of change in STEM fields, regular communication among P-20 faculty in these areas may be especially critical.

STEM standards developed at the national level may also be on the horizon. In February 2010, the National Research Council (NRC), with support from the Opportunity Equation Initiative of the Carnegie Corporation of New York, convened an expert committee in public session to discuss how to improve science education and understanding among students and the general public. The Conceptual Framework for New Science Education Standards Committee includes several leading academics and is chaired by Dr. Helen Quinn, a professor of physics from the Stanford Linear Accelerator Center, National Accelerator Laboratory. The group is using a public process, and information and feedback options are available at the NRC site. The Carnegie Corporation of New York has provided grants to support Achieve and the Council of Chief State School Officers, among others. This committee is also charged with using the principles of “fewer, clearer, higher” that has informed the Common Core Standards Initiative to date. Maryland will watch the developments from this important group as its discipline groups begin to meet.

**Summary of Strategies for Recommendation 1 [change curriculum and H.S. graduation requirements]**

- ✓ The State should use Race to the Top or other funds to have all 24 school districts and higher education work together to have a Maryland-Common Core curriculum aligned grade-by-grade to the new K-12 standards and back-mapped from college-ready standards. Standards in mathematics and communication skills should be reinforced across disciplines.
- ✓ Once the State Board of Education acts on the Common Core high school exit standards, MSDE and MHEC should convene discipline-based alignment teams with faculty and staff from across P-20 to participate in the development and implementation of aligned curricula and student performance benchmarks to ensure P-20 alignment in core areas. Local P-20 alignment teams should also be convened once State standards are clear to assist with local curricula review and implementation.
- ✓ State and local alignment teams should be institutionalized (i.e., with formal structures in place) to monitor alignment at regular intervals, helping to ensure that college-ready skills are clear to teachers and students. It is especially important that these teams operate regularly at the local level since that is where alignment or lack thereof affects classroom practice.
- ✓ As part of adopting a college-ready curriculum, school districts and alignment teams should determine if appropriate transition courses are available in the senior year of high school in expository reading, writing, and mathematics to assist students who are not college-ready in becoming college-ready prior to graduation. If such courses are deemed necessary but not available, districts should partner with MSDE and higher education, as well as the State and local alignment teams, to help develop, share, or adapt existing transition courses. (Some states have expository reading courses that could be models.)
- ✓ The State Board of Education should require students to earn at least one credit of mathematics each year of high school to be awarded a Maryland high school diploma and those credits should include courses through at least Algebra II. The 4-year requirement should begin with the 9<sup>th</sup>-grade class of 2011, and the Algebra II requirement should begin then or as soon thereafter as the necessary PreK-8 supports can be in place to make this requirement feasible (but no later than the 9<sup>th</sup>-grade class of 2015). After Algebra II, students should continue in rigorous mathematics.

- ✓ School districts should monitor Career and Technology Education (CTE) completers to ensure an increasing percentage of CTE completers who are also college-ready.

*Identify and adopt college-readiness assessments to be used statewide*

**Recommendation 2: Based on the Common Core Standards, develop by June 2012 college/career readiness assessments with an agreed-upon readiness score.**

*Responsibility: MSDE; MHEC; Maryland General Assembly (if funding is required for assessments); Governor (to participate in multi-state initiative and link to Race to the Top); institutions of higher education and their governing boards*

*Rationale:* New standards and curriculum will not automatically result in the needed change for the college- and career-ready initiative. Instruction plays an essential role, of course, and assessments are also an important component in an overall system of reform aimed at ensuring higher standards for more students. Assessments can help states and districts identify where additional supports may be needed to help move more students toward college- and career-readiness. To be effective, such assessments should be meaningful in their relationship to standards, to what is taught, and to what students need to know for success after high school. To be truly effective in instituting a college-readiness agenda, these assessments have to have meaning for both schools and colleges.

Race to the Top funds include \$350 million for consortia of states to apply for competitive grants to support the development of multi-state assessments that support college- and career-readiness. A few consortia of states are now voluntarily coming together to develop appropriate assessments linked to the Common Core Standards. Such a system will likely include multiple forms of assessment addressed to different benchmarks in students' K-12 experience. At the outset of the consortium work, it seems likely the focus will be on measuring college- and career- readiness. In January 2010, Maryland and 25 other states joined with Achieve to make a commitment to developing a multi-state consortium to compare performance against the new standards with a maximum number of states; see <http://achieve.org/node/1179>. Maryland also belongs to another consortium along with 12 other states (Arizona, Colorado, District of Columbia, Florida, Illinois, Indiana, Kentucky, Louisiana, New Jersey, North Carolina, Pennsylvania, and South Carolina) that will work collaboratively to build a balanced assessment system that advances the quality, effectiveness, and efficiency of measures of achievement to improve learning and instruction, resulting in a significant increase in the percent of career and college-ready graduates.

The task force is pleased that Maryland has moved aggressively to be part of a consortium of states committed to common assessments. Furthermore, the task force believes that this assessment system should not simply be one set of college readiness measures near the end of high school. Rather, in addition to such a late measure, it should include multiple and varied assessments at various stages of students' K-12 careers. In this way, students and their families will know at critical intervals where the student's performance is as compared to clearly established benchmarks. It will be the responsibility of educators along the way to respond to these benchmark assessments by providing appropriate support so that, as necessary, students have the opportunity to get back on track to graduating college- and career-ready.

The task force is nonetheless particularly concerned about the benchmark at the end of the 11<sup>th</sup> grade year. In addition to previous assessments to determine if students are meeting benchmarks for graduating ready for college and careers, an assessment near the end of the 11<sup>th</sup> grade would help identify the need for specific interventions, including transition courses in the 12<sup>th</sup> grade, for those students who are within reach

of being college- and career-ready but who need targeted help in identified areas. This junior year assessment can also serve as the final “wake-up call” for students who have not taken their studies seriously or who have inflated views of their readiness. It is clear that remediation in college will not disappear, especially since there are so many variables affecting it (e.g., students returning to school after a long absence; students who see far too late that they have not put forth the required effort). In such cases, remediation can be an important opportunity for students to get back on track. But that does not diminish the need to prevent such remediation whenever possible.

If such an assessment system is to be put in place, it must be accompanied by strong incentives for students to take readiness tests seriously. The task force believes that, contingent on admission to an institution, the incentive should be that the students who perform at the agreed-upon readiness level would be allowed to take the appropriate credit-bearing courses at that institution as long as they continued in a rigorous program of studies during the 12th grade. The performance level should be set high enough that it would indicate if a student is prepared to enter and succeed in credit-bearing college courses in core general education subjects. Universities may also administer placement tests to determine which credit-bearing course is most appropriate for a given student. Providing students with this knowledge can help them, their families, and their teachers make good choices about their remaining time in high school. Although a few introductory college courses might require more specialized preparation (e.g., calculus-based physics), the great majority of college introductory courses require strong skills in reading, writing, and/or college-level mathematics, plus research skills—not more advanced and specialized skills. Using the college-readiness assessment system, students who earn a college-ready score would be eligible to take a credit-bearing course. This strategy could help recruit to college some students who are on the fence about going—a potentially valuable recruitment tool since students who enter college directly after high school are more likely to complete a degree (Adelman 2006).

It is important to note, however, that simply having an assessment at the 11<sup>th</sup> grade is insufficient. Students must be high-school ready as they enter high school if we want those students to be college-ready upon exit. Likewise, students need to be middle-school ready as they enter middle school if we want them to be high-school ready upon exit. Technical experts will have to be brought together by discipline to assist in the identification and development of this assessment system. Validity testing will need to take place and adjustments may need to be made over time to ensure that performance levels identified with college readiness, high-school readiness, and other benchmarks on the path to college readiness are appropriately set to ensure college success. Parents, students, and teachers will need to be educated about these PreK-12 benchmarks and what can be done to help students stay on track, or get back on track, to graduate college- and career-ready. (See also recommendation 7 for a discussion about communications.)

The task force and policy leaders across the country believe that it is extraordinarily important for all sectors of education to embrace common assessments. The PreK-12 community must focus its attention on meeting the standards as measured by the appropriate assessments. The higher education community must help determine what those assessments and performance levels are, but then must also find the best ways to use them. The practice of using multiple assessments to identify if a student is college-ready must end if PreK-12 is to have a clear idea of the knowledge and skills associated with college readiness. To truly align high school exit with the entry point for general college readiness, there must be shared standards and shared assessments for those standards. There can be only one college readiness goal for K-12, and that target should be the one established by the common assessments with the agreed-upon readiness score (or scores, if there is a set of tests by discipline or skills area), which are in turn linked to shared standards. Students who achieve the appropriate performance level will be deemed ready for college in the State of Maryland. For the purposes of accountability for high schools, and moreover for identifying standards for

students and teachers, there should be one assessment metric that determines individual high schools' success in preparing students for college.

Saying a student has achieved general college readiness is very different from saying a student has met the admission standard for an institution. Each institution will still maintain its own admissions standards based on its institutional mission. Students who wish to matriculate at that institution must, at a minimum, meet that institution's admission standards. Another distinction to be made is that the college-ready assessments should be linked to placement into credit-bearing courses, but colleges may still need to administer tests that determine *which* credit-bearing course is appropriate for an individual student.

To ensure mutual understanding and effective use of high school exit assessments and any other criteria of college readiness, the state's chief academic officers should endorse or otherwise engage in a process of formal acceptance of the assessment system and the criteria identified for college readiness. Some within the higher education community may wish to maintain the current system of each institution of higher education having its own preferred assessment, or perhaps to limit the number of assessments to two or three. According to Achieve and the Education Trust, such practices "make little sense in an era when so many students are transferring credits between institutions, and it makes it impossible for K-12 leaders to know what they are aiming for . . . . Imagine how frustrating it is for high school faculty members . . . . They are told that we want them to prepare students for success in college, but there are many different definitions of 'ready' depending upon which colleges their students attend" (*Making College and Career Readiness the Mission for High Schools*, p. 25). David Spence, president of SREB, is also on record as being in favor of "one assessment with one passing score," where "passing" means "college-ready."

#### **Summary of Strategies for Recommendation 2 [identify & adopt college-readiness assessments]**

- ✓ Maryland PreK-12 should participate in a multi-state assessment consortium and compete for federal grants to develop assessments to be shared by the consortium state partners. In this effort, PreK-12 teachers and faculty from higher education should work in collaboration to develop a system of assessment that is linked to standards and provides teachers, students, and families with information on how students are performing relative to identified K-12 benchmarks so that students may be assisted in staying on track for graduating college- and career-ready.
- ✓ Maryland PreK-12 should work with the multi-state consortium and also with higher education partners within the state to identify appropriate assessments for identifying college- and career-readiness, as well as for benchmarks leading to readiness. Part of the assessment system to be adopted should include testing no later than 11<sup>th</sup> grade to identify if students are college-ready in key areas (Core skills and/or disciplines, as decided by the assessment experts) or approaching readiness or not ready. Schools should use the information to guide students and families in planning the senior year (transition courses, dual enrollment, supplemental instruction and then transition course etc.).
- ✓ Maryland higher education content and assessment experts should be closely involved in identifying college-ready performance levels and other criteria for high school exit that are strong predictors of success in credit-bearing, introductory general education courses.
- ✓ Higher education should help provide incentives to students for taking the college readiness assessment (or assessment system) seriously. One important incentive would be for students to know that achieving college-ready scores on these assessments would qualify students to enroll in credit-bearing introductory college-level courses in these disciplines upon admission to the college or university.

- ✓ The agreed-upon criteria used to identify college-readiness should be developed by K-12 teachers and higher education faculty working collaboratively and should be used by schools and colleges in accountability processes (see recommendation 8).

*Adopt diploma endorsements for college-readiness*

**Recommendation 3: To help encourage more students to graduate college-ready, include a general college/career-ready endorsement and a STEM-specific endorsement for qualified students on the high school diploma beginning with the incoming 9<sup>th</sup>-grade class of 2011.**

*Responsibility: MSBE, MSDE, MHEC, local school districts, institutions of higher education*

*Rationale:* The State of Maryland has a long history of looking at the diploma endorsement issue. Local school systems have created their own endorsements based on local criteria. The former Certificate of Merit was, for all practical purposes, an endorsement of a student's academic performance. In August 1998, Dr. Nancy S. Grasmick, State Superintendent, charged a workgroup with looking at the concept of endorsements in response to the then State Board of Education's interest in this concept in conjunction with the evolving high school assessment program. The State Board said that "endorsements are desirable to provide additional opportunities for students to be recognized beyond minimum requirements." During its discussions, the workgroup defined an endorsement as "a recognition of academic excellence through demonstrated superior knowledge of the content of a course, a discipline, or overall academic achievement." This workgroup decided that it was not appropriate at that time to recommend a state level endorsement program since the high school assessments were still being field tested. It went further in saying that if an endorsement program was ultimately recommended, the endorsement should reflect multiple criteria and not be based on a single test score.

In June of 2000, Dr. Grasmick asked another workgroup to revisit the issue of diploma endorsements as well as the notion of differentiated diplomas. In February 2001, that group also recommended against additional endorsements for the high school diploma. The group was concerned that the level of the assessments did not match the level of rigor one would want for an endorsement on the diploma because the high school assessments are not exit tests. Rather, they measure content that can be characterized as the "floor" of what students should know and be able to do. As such, they would not be appropriate measures upon which to base an endorsement. This workgroup also recommended that Maryland continue with a single high school diploma.

The current situation is different in that assessments under consideration are for high school exit and point to a much higher "floor." (Many students will exceed the threshold requirements of general college readiness—and such excellence should be supported, not dampened, by efforts to move the curve forward.) If the K-12 and higher education communities can come to agreement on a common assessment system based on nationally developed standards and a common readiness score, then there should be an opportunity for students to receive a diploma endorsement certifying that status. That endorsement should also be based on the student taking appropriate courses in addition to scoring at the desired level on the assessment. Students achieving a diploma endorsement would also have the endorsement noted on their high school transcripts. Two- and four-year colleges, as well as employers (to the extent that college readiness is essential to the job for which the student is applying), would be able to determine that the student took a rigorous course of studies and that there was evidence to substantiate that the student achieved performance expectations with respect to general college readiness.

Additionally, the task force believes that STEM disciplines are critical to the future economic well-being of the State. The task force wants criteria to be developed for readiness in the various STEM disciplines or, preferably, in STEM generally. To create an incentive for students to take a rigorous STEM course of studies based on the identified criteria, students who satisfy the criteria should also have an endorsement placed on their diplomas signifying STEM readiness. The task force believes that this would send a very strong message about the program of studies chosen by students who take this route, and it would showcase to institutions of higher education and employers those students who have successfully completed such a program. It will also be important to have a communications plan in place that (1) describes the rationale for such a diploma endorsement, linking it to the importance of STEM to the economic well-being of the state and (2) provides guidance to students in their pursuit of such an endorsement. This communications plan will have to highlight STEM while not devaluing other career choices that students might make.

In August 2009, The Governor's STEM (Science, Technology, Engineering, and Mathematics) Task Force submitted its final report. The task force had several recommendations that impact the work of the College Success Task Force. Among the report's seven recommendations are the following five:

- Align PreK-12 STEM curriculum with college requirements and workplace expectations in order to prepare all students for postsecondary success.
- Triple the number of teachers in STEM shortage areas who are prepared in Maryland programs, increase their five-year retention rate from an estimated 50% to 75%, and enhance the STEM preparation and aptitudes for elementary and early childhood teachers.
- Ensure that all P-20 mathematics and science teachers have the knowledge and skills to help all students successfully complete the college- and career-ready curriculum.
- Provide STEM internships, co-ops, or lab experiences for all interested high school and college students to jump-start their successful transition to the workplace.
- Increase the number of STEM college graduates by 40% from the present level of 4,400 graduates by 2015.

The STEM initiative in Maryland is extremely important for the economic well being of our state. The above recommendations make it very clear that it is critical for Maryland public schools to prepare a significant number of students who are deemed STEM-ready in addition to being college- and career-ready. Likewise, colleges and universities must graduate these students from STEM disciplines.

To graduate more students STEM-ready, it will be important for K-12 and higher education to come to agreement on the courses that would be required to prepare students for STEM disciplines. These courses might differ by discipline, but in each instance would go beyond the college-readiness course requirements that students would take to be deemed college-ready. Some STEM disciplines require different levels of mathematics and science course-taking patterns than other disciplines. Technical committees by discipline would need to be formed to establish these course requirements and to determine if there are key commonalities that exist among the disciplines. For example, a pre-engineering student would do well to participate in Project Lead the Way, but both students in engineering and chemistry should have a rigorous physics course and would benefit from taking math through at least pre-calculus. (Adelman has shown that the higher a student continues in math in high school, the more likely it is that the student will graduate from college.) At the end of the process, there might be one or more sets of STEM recommendations, although there would be just one STEM endorsement for the diploma, not an endorsement for each discipline. The STEM requirements would then need to be made known to students, teachers, principals, other administrators, parents, colleges and universities, and the general public.

Once the course-taking requirements were established, it would be important to determine how to measure student performance in these courses. An Advanced Placement (AP) or an International Baccalaureate (IB) exam might serve this purpose in certain cases; in others, exams might have to be created. It would be important for colleges and universities to establish a common score for determining college readiness on these assessments. In the case of AP and IB, it would also be clearer to students and their parents if a common standard existed for the awarding of credit based on the national course exams. The same committee of technical experts working on course-taking patterns could make recommendations on the appropriate assessments for the higher-level courses.

**Summary of Strategies for Recommendation 3 [adopt diploma endorsements for college-readiness]**

- ✓ Use the multi-state assessments as part of determining if a student is eligible for a general college-ready endorsement on the high school diploma. Convene appropriate parties to identify assessments and performance levels indicating college readiness.
- ✓ Maryland P-20 faculty and administrators should be convened to develop by June 2011 criteria for STEM college/career-readiness in STEM and determine the most appropriate manner in which to measure such readiness. The group should work for one definition of STEM readiness and indicate readiness differences by discipline only as necessary. The group should remain apprised of work being done through the National Research Council to determine if efforts can be dovetailed or consolidated.
- ✓ Develop a communications plan that (1) describes the rationale for endorsements; (2) provides guidance to students seeking such an endorsement; and (3) honors other career choices.

*Rethink how schools and colleges deliver education*

**Recommendation 4: Redesign as needed P-20 instructional delivery models to embrace innovative concepts and flexible structures that meet the diverse learning needs of the state's students.**

*Responsibility: MSDE, MSBE, MHEC, institutions of higher education and their governing boards, local school boards, Governor's Office, General Assembly; local school systems, Maryland Lumina State grant leadership team (includes MACC, MHEC, MICUA, USM, Governor's Office, legislature)*

*Rationale:* In the spring of 2009, President Obama and Secretary Duncan each commented on the need to extend the K-12 school year if the U. S. is to be internationally academically competitive. According to data from the Organisation for Economic Co-operation and Development (OECD), top-performing education countries include South Korea, Finland, and Japan. Schools in those regions all have at least 90 percent of the population enrolled until at least age 17 (age 16 in the U. S.) and have generally longer school days and/or more days in school than Maryland requires (OECD). In Finland, the school year is at least 190 days (180 in Maryland), with five-day weeks, and each day 5 to 7 hours long, depending on the education level.<sup>30</sup> In South Korea, students attend school for 220 days, approximately 8 am to 4 pm and some Saturday mornings.<sup>31</sup> More time does not always equate to better results, but in combination with other factors, more time on task can produce better results.

With this context in mind, this recommendation calls for PreK-12 and higher education to re-think how the school year and school day are defined; what the most effective means of instruction are; how technology can be put to the most effective use to improve student learning; and how data can be used to verify that best practices are being used. In *Graduating America: Meeting the Challenge of Low Graduation-Rate High Schools*, Robert Balfanz of the Johns Hopkins University and his co-authors make the case that effective

reform has to avoid both “one size fits all” and “every school is unique” approaches (2009, p. 8). The latest research on brain function, patterns of college success, accelerated learning programs, technology use, and learning styles, among other issues, should weigh heavily in the evaluation and revision of how schools and colleges educate Maryland students.

Brain research over the past generation, and especially over the past 10 years, has burgeoned and points toward new ways of enhancing instruction. During this period, related journals have been launched, and, to select just one example, the OECD has supported a Brain and Learning project within its Centre for Educational Research and Innovation.<sup>32</sup> Among other things, this research speaks to ways that classrooms and curricula can be shifted to better support how people of different ages learn, how different environments and emotional states can impact learning, and how instruction related to numeracy and literacy should be tailored to developmental stages. The OECD is a strong supporter of early childhood (PreK) education. Maryland has data on every cohort of 3<sup>rd</sup>-grade students since 1992 with related data on the relative performance of students with and without pre-school education. There is no question that high-quality pre-school education goes far in closing linguistic attainment gaps and other learning gaps already evident in early elementary school.

Some research on learning points to the negative impact of long summer breaks on achievement gaps (e.g., Cooper). This research suggests why Secretary of Education Arne Duncan has called for schools to experiment with longer days and longer school years, as well as with various ways of making schools the center of communities.<sup>33</sup> The agrarian schedule and calendar developed more than a century ago bear little resemblance to the way most children live and most families work—and it was not a calendar or schedule that benefited in its design from neuroscience research. In some communities, such as rural communities where children face long bus rides, Saturday instruction might not be accepted, but in others, it may have a more positive impact. KIPP Schools—the Knowledge is Power Program—have had success using extended schedules, including some Saturday instruction. The KIPP network, with schools in 19 states including Maryland, serves largely low-income and minority students, and the schools have a record of outperforming other schools in their districts.<sup>34</sup> Flexibility with regard to school district schedules already exists in Maryland law, but few schools or districts use it; KIPP schools do.

In higher education as well, the traditional academic calendar is becoming dated. According to Clifford Adelman’s analysis of data that begins with a 1988 sample of 8<sup>th</sup>-graders and follows them to 2000, more than 60 percent of the cohort enrolled in summer term classes, and earning more than 4 credits through summer terms had a consistently positive relationship to college completion, with a stronger impact on African American graduation rates (2006). Colleges in Maryland have been developing concentrated terms, such a winter terms and eight-week concentrated semesters, especially for part-time, working students. Continued efforts to find calendars (and financial aid tailored to those calendars) can be part of a set of strategies employed to help more students persist and graduate.

Extending schedules is one means of providing students with additional learning opportunities to accelerate them. Traditional methods of remediation like summer school can seem like a punishment to students. This holds true for students in higher education, too. Finding ways to enrich students’ learning experiences is a better alternative to helping students progress in both PreK-12 and higher education. Carefully designed transition courses, as discussed under recommendation 1, and bridge programs can be developed for high school seniors and rising first-year college students by schools and colleges. These courses and programs strengthen students’ academic skills and help build confidence in using those skills. Bridge programs especially help introduce students to both academic and non-academic elements of college. Transition courses and bridge programs help students better understand the expectations in the next level

of education and can help mitigate the need for remediation in college, as well as provide students with skills that help them persist when they encounter challenges. In some locales, bridge programs and transition courses are also offered to rising 9<sup>th</sup>-graders and might also be appropriate for the transition into middle school or even earlier.<sup>35</sup> Early college programs and other means of parallel enrollment in high school and college are other ways of accelerating students and starting them on the path toward a college degree. Such options should not be seen as the exclusive domain of the gifted. Results of a study of dual enrollment programs in Florida and New York show that parallel enrollment works well for average-achieving students, not just high-performing students, and helps make college a tangible option for them (Karp et al.).

Research is also showing ways to help more students successfully move past remediation. Doing so is critical: The 2008 and 2010 performance accountability reports from Maryland community colleges indicate that students who enter remediation in college are not likely to leave remediation before they leave college (v.1, p. 5); but if students complete their remedial sequence, the rate at which they transfer to a 4-year program or complete an associate degree is comparable to, or even slightly higher than, those of students who did not need remediation—most recently, 84 percent versus 82.7 percent (MHEC 2008, 2010; and see figure 3). The Community College of Baltimore County (CCBC) is a national leader in accelerated learning programs. These programs identify a cohort of students and co-enroll them in developmental reading and a credit-bearing writing course, both taught by the same instructor, who has had special preparation for this work. Results from the college show that pass rates in English 101 increased 250 percent over three years using this program—and students passed the course in one semester instead of having to wait another semester to be promoted past 101.<sup>36</sup> CCBC is now implementing and studying the effectiveness of learning communities, in which a group of students is co-enrolled in the remedial reading course and an introductory general education course such as Psychology 101. Results so far are promising, with pass rates in the paired classes both up about 30 percent.

Honors programs are another type of learning community demonstrated to be successful in helping more students complete college (MHEC 2009b). Four-year colleges and universities are also finding ways to accelerate large numbers of students. Course redesign is aimed at improving student performance in gateway courses, especially the large introductory general education courses that have traditionally high rates of failure and otherwise poor performance. In an effort to bring successful strategies to scale, the State of Maryland has just begun work on a Lumina Foundation State grant to use course redesign to improve student success. Course redesign, developed through the National Center on Academic Transformation, makes effective use of technology, peer-to-peer work, and other strategies to improve student learning and increase student completion rates. The University of Maryland Eastern Shore redesigned its introductory chemistry class, and in one year the pass rate jumped 14 percentage points.

**Summary of Strategies for Recommendation 4 [Rethink how schools and colleges deliver education]**

- ✓ Schools and colleges should provide students with enhanced learning opportunities to accelerate progress and completion, especially but not only when students perform below expectations (e.g., pre-school education, summer academic enrichment and bridge programs, early college access, accelerated learning programs). These programs may require additional time in school or time devoted to a particular subject.
- ✓ Transition courses should be developed for high school seniors in mathematics, expository reading, and writing; these may be especially helpful if validated college-ready performance levels cause a temporary spike in remediation rates. (See also recommendation 1 and strategy on p. 12.)

- ✓ Local school boards should explore what flexibility is available to them through section 7-103 of the *Education Article* to extend school calendars as appropriate to ensure all students receive a high-quality college-ready education.
- ✓ Colleges and universities should explore how course redesign, effective use of technology, alternative calendars, and other successfully piloted strategies can be brought to scale to support both access to higher education and quality within it.

*Develop a statewide system of support to increase college success*

**Recommendation 5: By July 2011, develop a plan for a collaborative statewide system of support for PreK-12 and higher education to ensure both a smooth transition from high school to college/career and success in college.**

*Responsibility: MHEC; MSDE; higher education institutions and their governing boards; local school systems and schools; PTA; MBRT*

*Rationale:* As Maryland expands access to college and career preparation opportunities, it is imperative that a statewide system of support be created to ensure success. To accomplish this, there are steps that must be taken by PreK-12 and higher education, both independently of each other and collaboratively. Some of the academic steps have been discussed earlier in this report. Academic programming should be coordinated with other student services to ensure students receive the support they need to succeed.

It is incumbent upon PreK-12 to guide students toward thinking about college as early as possible. A system should be established by 10<sup>th</sup> grade to take the following steps to help guide students to college:

- assess student progress toward achieving college readiness;
- develop an individualized student plan to ensure college readiness by the end of 12<sup>th</sup> grade;
- identify and use clearly articulated benchmarks marking the path to college throughout PreK-12; and
- provide intervention and acceleration strategies to help more students graduate college- and career-ready.

Career planning, such as MSDE’s Career Development Framework provides, can also be used to direct students toward college- and career-readiness. (Maryland regulation—COMAR 13A.04.10A(2)—now requires students to develop an individual and academic career plan by grade 9 and to update that plan in subsequent years.) To accomplish these steps to guide students toward college readiness, teachers, guidance staff, administrators, and parent and community groups should be involved in plans to implement them. It is the responsibility of PreK-12 to communicate this “big picture” pathway to families to help parents and guardians guide their children to success. By building capacity for administrators, these target benchmarks can be used to raise expectations and help close racial/ethnic, income, and parental education gaps in achievement towards success for college.

Higher education has its own responsibilities in promoting student success in the smooth transition from high school to college/career as well as success in college. Students in higher education should have explicit completion plans, as should all students in PreK-12. As with PreK-12, integrating academic services and student services in higher education can help leverage resources for maximum student success. For example, based on student results in a pilot, all first-time, degree-seeking CCBC students are now required to take a one-credit Academic Development course that addresses college skills such as time management, note-taking, and computer basics. The course also embeds academic advising. Other Maryland community colleges offer a similar course but not all require it. College and school districts can also partner to create

innovative programs. Chesapeake College offers their course to local high school students, and staff reports that 58 of 105 students who recently took the course changed their schedules to take an additional mathematics course.<sup>37</sup> Some students decided they wanted to go to college who previously had not been interested.

Support strategies should not be limited to late high school or early college, however. In higher education, more effective models of integrated support services in higher education must also be identified to ensure student success. Towson University's *Pathway to Success* is a good example of working with students and families in this regard. It offers multiple interventions and integrated support throughout a student's college career. The university has coordinated 25 different programs under *Pathway to Success*, some focusing on different sub-populations of students, to support success. It should be noted that at Towson, minority students graduate at comparable rates to white and Asian students; indeed, African-American students have a graduation rate that is over 4 percentage points higher than that of the general student population. (Despite Towson's commendably strong achievement relative to its peers in closing gaps, a double-digit low-income achievement gap remains; this point speaks to the persistence of those gaps even when institutions have developed many successful strategies for meeting student needs.)

It is further suggested that all college strategic plans should include or expand upon strategies to ensure student success. As part of the strategic plans, higher education is encouraged to institute new models for developmental courses that address multiple learning styles, differing cognitive levels, and content mastery. Higher education administrators should not only themselves be aware of Maryland college readiness standards, but they should also share information about the State Curriculum with college faculty through professional development efforts.

Both PreK-12 and higher education should work collaboratively on several fronts to ensure student success. There needs to be agreement upon a clear set of minimum expectations for general college readiness, aimed at preparing many more students for credit-bearing college work. Colleges also need to be very clear about admission criteria for their institutions (coursework, SAT, GPA, and class rank) and to specific programs or majors that may have additional criteria to help guidance counselors steer students in an appropriate direction both for course selection in high school, as well as for selection of an appropriate institution of higher learning and/or career path. In addition, PreK-12 and higher education are urged to develop new partnerships (and continue those already developed) to create smooth transitions from secondary education to higher education. Partnerships can be developed to increase dual enrollment, to explore and increase early college enrollment opportunities for high school students, and to explore funding options for such enrollment strategies. To bridge the gap between high school and higher education, students should be provided with transition courses in both environments, and counselors, teachers, and parents should be broadly informed about these opportunities. To ensure the collaboration between PreK-12 and higher education, it is recommended that a series of regular local and regional conferences be held to facilitate communication and provide staff development, Pre-K through college (and cf. recommendation 6).

**Summary of Strategies for Recommendation 5 [a statewide system of support to increase college success]**

- ✓ Build capacity for administrators to help them communicate the "big picture" of college readiness to students and families throughout PreK-12.
- ✓ Coordinate academic and student services to provide appropriate supports to ensure student success.
- ✓ Have each student in PreK-12 and in higher education, in collaboration with appropriate staff and/or faculty, develop a completion and career plan and update it at intervals.

- ✓ Support colleges using their strategic plans to identify ways to improve developmental education, as well as to generate greater overall student success by coordinating programs.
- ✓ Continue to develop State and local P-20 partnerships to develop programs to support students and to ensure good communication between PreK-12 and higher education with respect to college readiness standards, high school curriculum, and how to smooth students' transition from high school to college.
- ✓ Address the shortages of staff and resources in both PreK-12 and higher education that are needed to implement appropriate programs to support students.
- ✓ Expand efforts to include parents and families in P-20 partnership efforts as a means of strengthening support services being developed.
- ✓ Develop a plan for showing the alignment of support systems P-20, similar to the alignment we show for standards, assessments, and curriculum, with particular emphasis on supports for students with disabilities (including parental release for the sharing of information between PreK-12 and higher education).

*Make changes to teacher preparation and professional development*

**Recommendation 6: Convene during the 2010-11 school year a group of P -20 stakeholders--to include the deans and directors of teacher education and appropriate PreK-12 staff—to examine how the State and education institutions can best address challenges for teacher preparation and professional development in the 21<sup>st</sup> century.**

*Responsibility: MSDE, MHEC, institutions of higher education, local school systems*

*Rationale:* Committing to college and career readiness remains only an idea if teachers are ineffective. The Southern Regional Education Board recommends that states engaging in a systemic college readiness initiative provide statewide guidance on for teacher development (pre- and in-service) on the State's college readiness standards.<sup>38</sup> The Alliance for Excellent Education has argued that preparing teachers to deliver a college- and career-ready curriculum requires more than professional development; it also call for pre-service changes.<sup>39</sup> Implementing new curricula on a statewide scale tied to college readiness calls for coordinated and focused teacher development to communicate the standards consistently and clearly.

Maryland requires its pre-service preparation programs to include the State Curriculum in its instruction, and candidates have to demonstrate knowledge of it, which will be part of this effort. In-service professional development is less closely evaluated at the State level, but the Maryland Professional Development Advisory Council has developed statewide standards and resources available to support high-quality, school-based development activities. That Council includes PreK-12, higher education, and State experts. To ensure that teacher development and other elements of higher education are coordinated, higher education should be involved with developing statewide strategies to address the new readiness standards. Although the involvement of higher education should extend beyond membership in the advisory council, the council could provide guidance about how higher education can provide input in developing professional development targeted to the new readiness standards. The many local partnerships between schools, districts, and colleges and universities that are in place across the state will surely provide a foundation for this professional development focus.

Accountability processes ensure that Maryland-prepared teachers will be taught the State standards, including the readiness standards once they are identified. But it is not just Maryland colleges that train Maryland teachers; most new teachers were trained elsewhere. Maryland institutions of higher education

are projected to prepare 2,865 new teachers for academic year 2008-09.<sup>40</sup> This is the largest number of candidates produced in the state during the years for which the data are available (since 1993-94, when the total was 2,337). But trend data shows just under half of Maryland-trained teachers become teachers in Maryland public schools, and that roughly twice as many new teachers were prepared elsewhere. Looking beyond the supply and demand issues (which are well documented and addressed in other State reports), it is clear that *most* new teachers are likely to need professional development related to Maryland standards.

There is a clear challenge in finding ways of delivering high-quality professional development to the thousands of new teachers. The State and districts have expanded mentoring during the first-year induction period, which is consistent with research on what helps teachers.<sup>41</sup> Still, the recent TELL Maryland survey pointed to lower rates of new teacher mentoring in Maryland than in some other states, including North Carolina.<sup>42</sup> As Maryland continues to expand its mentoring, it could enhance this experience with more higher education-based professional development than is currently available, understanding that higher education and PreK-12 must be accountable for the professional development they provide.

Teacher development related to the new college- and career-ready standards should be a priority and could begin with a series of regional professional development workshops organized at the state level and involving higher education. In broader terms, if teacher development were fully to implement a professional training model, higher education and district professionals would provide structured professional development to new teachers through their attainment of an Advanced Professional Certificate, which may be earned by completing a master's degree (among other requirements). This fully implemented teacher development model implies a major expansion of professional development networks that would require more human and financial resources than are now available to higher education institutions. Existing funding models are inadequate to providing much less than that. To enhance the professional development offered, creative solutions are needed—for delivery, for funding, and for building sustainable partnerships. How can local school board funding enhance partnership efforts? How could this professional development be delivered most effectively (noting the means may vary from district to district, as needs and resources dictate)? What continuous improvement models would be most useful to teacher development programs, for pre- and in-service?

The challenges of meeting the needs of new teachers, especially under the pressure of new standards, coincide with growing attention to incipient changes in the teaching profession. The National Council for Accreditation of Teacher Education convened a national blue-ribbon panel in January 2010 to develop recommendations related to clinical training in teaching; these recommendations are to be released by summer and stand to change how teacher education programs are accredited. In its 2009 annual report, the Maryland Professional Development Advisory Council recommends that new teaching standards to be developed, and the Funding Commission report calls for a review of STEM teacher training. Elementary school teachers play a pivotal role in attracting students to STEM and preparing all students for higher math—they have to have enough math and science knowledge to be comfortable teaching those subjects in a way that engages students. Maryland has a strong system of teacher preparation, but the time is ripe for a series of organized conversations about how its higher education institutions can best work with its PreK-12 partners to address contemporary and statewide challenges. Any recommendations for changes to performance criteria, other elements of policy implementation, or State, local, or institutional policies and practices should be shared with the P-20 education community.

**Summary of Strategies for Recommendation 6 [make changes to teacher preparation and professional development]**

- ✓ The State, school districts, colleges, and governing boards must prioritize professional development funds to support instructional changes necessary to implementing K-12 college- and career-ready curricula and using research on learning. If Maryland receives Race to the Top funding, some funds should be directed toward P-20 collaborative professional development to support these changes statewide.
- ✓ MSDE, working with the deans and directors of teacher education and local districts, should organize regional professional development workshops to address college-readiness. Topics would include the State Curriculum, minimum first-year expectations for college, college course syllabi, statewide minimum standards for a “C” paper, and philosophy and implementation of student portfolios in both high school and higher education.
- ✓ Technical experts, including the deans and directors of teacher education, should be convened in 2010 to consider NCATE changes and other topics. This group should consider work from the Teacher Shortage Task Force and the STEM Task Force, along with the *2009 State Plan for Postsecondary Education* and recent reports from MSDE and P-20, in formulating next steps. Among other topics it considers relevant, this group should consider the following:
  - The existing and potential role of professional development networks in maximizing the professional development resources of school districts, community colleges, and public and independent 4-year institutions;
  - How teacher development can offer teachers the differentiated professional development needed for their success and that of their students in a college-ready curriculum;
  - How collaborative professional development might be expanded statewide so higher education is more involved in staff development through a teacher’s induction and “residency” (the period through the achievement of an Advanced Professional Certificate);
  - An assessment of current resources and the need for further resources to support existing and enhanced professional training and development—and how fiscal responsibility can be shared appropriately for joint work in teacher preparation and professional development;
  - How Race to the Top plans and possible funding can catalyze these efforts;
  - Instructional shortage areas and recommendations from recent related reports; and
  - What incentives can be built into PreK-12 and higher education to institutionalize effective P-20 partnerships in teacher professional development.

*Communicate more clearly about college-readiness and student financial assistance*

**Recommendation 7: By July 2011, develop a communications campaign for college and career readiness that focuses on (a) the expectation that every child in Maryland will be ready for college, (b) students’ and families’ awareness of the availability of state, federal, college-based, and private financial aid programs and scholarship opportunities, and (c) families’ awareness of savings strategies and of the importance of saving for college many years before college begins.**

*Responsibility: MD General Assembly and Governor; MHEC; MSDE; MPT; higher education institutions; local school systems; MBRT; PTA; community organizations*

*Rationale:* For Governor O’Malley’s and President Obama’s ambitious postsecondary completion goals to be met, many more students in Maryland and across the country must attend and graduate from college (or another post-secondary education program). Maryland needs to communicate to every parent and student the belief and expectation that every student can be ready for college – and can be successful in college. More than three-quarters of the students who responded to the MSDE survey of 2009 high school

graduates (50,490 of the 59,002 graduates) stated their intention to go to college full-time; another 6 percent indicated they would attend part-time. With so many students intending to go to college, they have to know what is expected of them to be ready for college (MSDE 2009). As stated in the SREB's *Maryland Progress Report* (2009), "Readiness Standards . . . need to be readily identifiable and specifically understandable." The State communication campaign needs to be comprehensive and universal and should be consistent from state government levels to higher education institutions to local school systems to business and community organizations.

Specific strategies need to be implemented to ensure that students and parents are better informed about college and workplace expectations, requirements, and opportunities. The involvement of PTAs, business organizations, and community organizations (churches, boys' and girls' clubs, after-school programs) is crucial to the campaign's success, as is the use of electronic means of information distribution such as websites and social media. Communication to parents and students about readiness and student financial aid needs to begin prior to high school, preferably in the pivotal transition years between elementary and middle school, and continue through middle and high school. Efforts such as *MDgo4it* and *way2gomd* address this need; promotion and consideration of these and similar efforts are strongly recommended. As the testimony of Allegany College to the task force put it, this kind of effort can help "students envision the possibility of college prior to high school and in that way, put them in a better position to make college-bound course selections throughout high school." Achieve has developed a toolkit ("Taking Root") to help states develop communications campaigns, which could be helpful in this effort, though staff resources would still be needed at the state level to enhance efforts to the level desired.

To acknowledge and address the diversity of students throughout the state, plans and strategies for communicating the expectations of readiness for college and careers should be made an integral part of state and local system master plans, as well as individual school improvement plans. Materials from state and local organizations, as well as institutions of higher learning, should be addressed to non-English speaking students and their families. Programs such as Montgomery County Public Schools' *7 Keys to College Readiness* can serve as models for the rest of the state in this regard. That school system partnered with organizations that serve the Spanish-speaking community to ensure that material reached families and communities serving them. As one piece of this statewide strategy, the State should continue such efforts as the federally funded GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) initiative and the State College Preparation Intervention Program, both of which not only work to communicate with students, teachers, and families through direct services, but can also be leveraged to help support broader communications efforts.

The cost of college is a primary barrier for many parents and students in believing that a two- or four-year college is a realistic option for them. It is therefore imperative that communication from a variety of sources be available to parents and students early in a child's education to help reduce their anxieties and to increase their awareness of the possibilities available to them. Parents and students should be made aware of the financial aid available as early as possible for various venues for success including 2-year and 4-year higher education institutions, apprenticeships, and bridge programs. They should also be well informed about opportunities for college financial assistance starting in a child's early school years. Parents need to understand the value of higher education and why it is a worthwhile savings goal. They also need to be prepared financially and intellectually for the large expenditure that a college education may bring. At the same time, however, they should also be confident that college can be affordable. This recommendation calls for helping both parents and students acquire the financial literacy to make this so. The communications strategy should include the use of print, website, and electronic materials, in addition to programs and events designed for specific audiences.

As early as middle school, guidance counselors can help make the financial aid process more transparent by educating parents and students to the availability of opportunities such as State financial aid programs, including need-based programs like the Guaranteed Access Grant and the Educational Assistance Grant (both part of the Howard P. Rawlings Educational Excellence Awards program), and the Maryland College Savings Plan. Students eligible for free and reduced meals are almost always eligible for the Guaranteed Access (GA) Grant, which in combination with the Federal Pell grant can cover up to all educational costs at a public college—but they must fill out a FAFSA and apply for the GA grant. Websites such as *MDgo4it* are designed for the purpose of reaching a middle school audience and informing them about opportunities like this grant. Schools, colleges and universities, and community outreach programs can target specific families and students whose needs may be extraordinary and can educate all students and families to the opportunities available for financial assistance. Maryland has created a program modeled on successful programs in Oklahoma and Indiana that combine early intervention for college preparation and financial aid awareness to encourage traditionally underserved student populations to aspire to college and be prepared to be successful in college. Maryland’s College Readiness Outreach Program, which calls for expanded guidance and includes the option of State financial aid pre-qualification for the neediest students in 9<sup>th</sup> or 10<sup>th</sup> grade, provides college readiness preparation and financial aid awareness for first-generation college students. Although the program has not been funded due to fiscal constraints, it has the potential to be a valuable tool to increase college aspirations – and ultimately college readiness and completion – for Maryland students.

**Summary of Strategies for Recommendation 7 [communicate more clearly about college readiness & student financial assistance]**

- ✓ Develop a comprehensive statewide communications plan that uses all partners to provide a unified message about the need to be college-ready, what it takes to be college-ready, and how financial aid is widely available to help all students enter college.
- ✓ Ensure that communications from the State and local levels are addressed to families from a child’s earliest years in school, to include strategies for saving for a child’s college education from well before college would begin.
- ✓ Promote web-based programs such as *MDgo4it* and use social media as part of the campaign.
- ✓ Use district master plans and school improvement plans to help implement a statewide communications strategy related to college readiness and student financial assistance.
- ✓ Provide communications to families in languages other than English.
- ✓ As resources allow, consider funding the College Readiness Outreach Program.
- ✓ Teach students how to budget and finance a 4- to 6-year undergraduate education and to be financially literate prior to entering graduate school, professional school, or the workforce.

*Make high schools and colleges accountable for college-ready graduates*

**Recommendation 8: Establish by July 2012 agreed-upon growth models for college/career readiness that require: (a) high schools to publish according to the defined model the percentage of students who graduate college/career-ready; and (b) colleges and universities to publish according to the defined model the percentage of full-time students who are retained each year and who were previously declared college/career-ready.**

*Responsibility: MSDE; MHEC; institutions of higher education and their governing boards*

***Rationale:*** Increasingly, both high schools and colleges are being asked to focus on completion and on student learning outcomes, and a deliberate statewide plan for college success should have an accountability component that indicates how the multi-step plan is succeeding. Central to the task force college- and career-readiness initiative is an accountability system that ensures the public that we are doing what needs to be done in preparing students for college and then having them be successful in college. This accountability extends to students, parents, and the general public, especially taxpayers.

Developing students who are college- and career-ready will be a long-term effort by all sectors of education. To determine its success, the statewide longitudinal database will be key in providing appropriate data to students, parents, schools, colleges and universities, and policymakers. It is critical that high schools continue to improve their college-ready rate of students over time. Likewise, it is critical that colleges and universities improve their retention rate of those college- and career-ready students over time. Campus-based data should be evaluated to determine if financial assistance, student academic performance, or other factors is impacting retention.

The question remains: what is the best way of measuring school and institutional success? According to the Council of Chief State School Officers, there are two general approaches to monitoring school performance: status models and growth models. Status models use a single year's data as an indicator of school performance. Growth models use two or more years of data as an indicator of school performance. A growth model implies a promise that the playing field can be leveled for schools, districts, institutions of higher education, and states, if individual student growth is used to generate overall school growth estimates. Growth models also allow for demographic variations among populations specific to a school, while not allowing the school off the hook for said demographic characteristics, income levels, etc. High-performing schools and institutions will, by definition, in an accountability model have a difficult time showing significant improvement. Alternatively, low-performing schools often face enormous challenges in terms of socio-economic conditions in the community that make it difficult to show growth. Neither end of the spectrum should be disadvantaged in an appropriately designed growth model.

As such, the task force believes that a growth model of accountability best serves this initiative with specific targets set for periods of time. Technical experts will need to be convened to establish the parameters of the growth models. This work should be done prior to the first administration of the planned college- and career-ready assessments. Among other reasons, appropriate baseline data has to be identified. Once established, the growth model developed will serve as the basis for reporting data to appropriate parties. That part of the model that pertains to community colleges will have to determine how to account for the many and varied reasons that students enter community colleges. Many do not seek a degree, for example, but wish to earn a certificate or participate in workforce training programs.

**Summary of Strategies for Recommendation 8 [make high schools and colleges accountable for college-ready graduates]**

- ✓ MSDE and MHEC, working with their district and segment partners, as well as other parties as appropriate, should convene P-20 technical experts to develop an accountability model that rewards growth in terms of developing and retaining college- and career-ready students.
- ✓ The accountability model should be developed prior to the administration of statewide college- and career-ready assessments.
- ✓ The process of developing a growth model of accountability should also involve consideration of some elements of performance other than growth.

## Endnotes

<sup>1</sup> For information about education and earnings, see OECD 2009, and the Bureau of Labor Statistics (e.g., <http://www.bls.gov/news.release/pdf/wkyeng.pdf>). Regarding education and health, see the 2004 study by the National Center on Education Statistics, which found that regardless of income, the higher a person's level of education, the more likely the person was to report being in "excellent" or "very good" health. For a summary of these topics, see *Education Pays: The Benefits of Higher Education for Individuals and Society*, published in 2004 by the College Board, and updates that have appeared since then. The McKinsey achievement gap study (2009) also identifies higher rates of incarceration for those with less education.

<sup>2</sup> See Sidney Verba, Kay Lehman Scholozman, and Henry E. Brady, *Voice and Equality: Civic Voluntarism in American Politics* (Cambridge, MA: Harvard UP, 1995) for a major study on the topic.

<sup>3</sup> See <http://www.uschamber.com/issues/index/education/default>, accessed January 26, 2010. The U. S. Chamber of Commerce information about fastest-growing occupations comes from data available through the Bureau of Labor Statistics. According to an analysis by the National Skills Coalition that was shared with the Governor's P-20 Leadership Council on February 26, 2010, about 47 percent of Maryland's jobs are middle-skill jobs (2007 data). Additional Maryland data can be found online through the website of the Department of Labor, Licensing, and Regulation, Governor's Workforce Investment Board.

<sup>4</sup> OECD (2009), *Education at a Glance 2009*, Tables A1.4 and A1.5, at <http://dx.doi.org/10.1787/664024334566>. The general pattern is that certain countries are accelerating their educational attainment significantly faster than the U. S.

<sup>5</sup> For Maryland demographic data, see the Maryland Department of Planning State Data Center and the U.S. Census. According to several studies, first-generation college-bound students, students from low-income families, and students from African-American and Latino families graduate from high school and earn postsecondary credentials at lower rates than their peers from white and Asian households and from households with more wealth and greater educational attainment. See, for example, McKinsey and Company (2009) and Adelman (2006). Towson University presented testimony to the task force showing that the university has closed its racial achievement gap with respect to graduation rates, but a significant gap remains between the graduation rates of Pell-eligible students and those of other students. Eligibility for federal Pell grants indicates a student's household income is relatively low for the number of people in the household and other factors. It should be noted that an important element of Adelman's research is focused on following the student, not the institution, to identify factors impacting bachelor's degree completion. The 2009 book *Crossing the Finish Line: Completing College at America's Public Universities* looks at the plateau in educational attainment and describes disparities linked to socioeconomic status, race, and ethnicity.

<sup>6</sup> For the specific web page consulted, see *Measuring Up: The National Report Card on Higher Education*, online state report card for Maryland, accessed March 10, 2010, [http://measuringup2008.highereducation.org/states/report\\_cards/index.php?state=MD&myYear=2006&cat=10yr](http://measuringup2008.highereducation.org/states/report_cards/index.php?state=MD&myYear=2006&cat=10yr). Grades for all categories are summarized on this page. Note that nearly all states received an "F" for affordability.

<sup>7</sup> See the U. S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts, 2008, using all industry total in millions of current dollars ([www.bea.gov/regional/gsp/action.cfm](http://www.bea.gov/regional/gsp/action.cfm)): MD \$273,333, U. S. \$14,165,565.

<sup>8</sup> "Developmental" and "remedial" are used interchangeably in this report. "Developmental" suggests the student is encountering material for the first time rather than revisiting it. Data submitted to MHEC show that in the 2006-07 academic year, 12,664 students statewide were enrolled in at least one remedial/developmental course in a Maryland college in the year following their graduation from a Maryland high school.

<sup>9</sup> U. S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (2004), "The Condition of Education 2004, Indicator 18," [nces.ed.gov/programs/coe/2004/section3/indicator18.asp](http://nces.ed.gov/programs/coe/2004/section3/indicator18.asp).

<sup>10</sup> There are a number of different reasons why students who enroll in college right out of high school and begin in 4-year institutions earn bachelor's degrees at higher rates than other students, including but not limited to the fact that

they have a greater likelihood of being enrolled at a single institution. Students with greater resources (socioeconomic and academic) are more likely to enroll in 4-year institutions, too. The point holds, however, when similar students from 2-year and 4-year schools are compared. See Long and Kurlaender. Adelman (1999 and 2006) also shows that students who transfer from 2-year to 4-year schools earn bachelor's degrees at relatively high rates.

<sup>11</sup> The 2010 Accountability Report shows a transfer or graduation rate of 82.7 percent for those who did not require remediation and an 84 percent transfer or graduation rate for those who completed recommended remediation (one or more courses). The previous report showed comparable success rates; see the Accountability Report (2008), volume 1, p. 5. It should be noted that many students who begin in developmental/remedial education do not complete the course or courses recommended for them.

<sup>12</sup> U. S. Census Bureau, American Community Survey; see <http://www.census.gov/acs/www/Products/Ranking/2002/R02T040.htm>. For degree production data, see *Measuring Up*. Maryland scored a B- for completion in 2008, which puts it about middle of the pack for degree production. [http://measuringup2008.highereducation.org/compare/graded\\_performance\\_index\\_result.php](http://measuringup2008.highereducation.org/compare/graded_performance_index_result.php)

<sup>13</sup> The "Participation in Education" table shows residence and migration of all first-year college students (at a public or private non-profit institution) for Fall 2006 who had graduated in the preceding year. Maryland had a net difference of -7,520 students, with 46.4 percent of college-going students enrolled in the state. Illinois and New Jersey were the only states with larger net differences, though Connecticut, Georgia, Hawaii, New Hampshire, and Vermont also have a lower percentage of in-state students in their colleges. See <http://nces.ed.gov/programs/coe/2008/section1/table.asp?tableID=871>.

<sup>14</sup> February 24, 2009, speech to a joint session of Congress. "I ask every American to commit to at least one year or more of higher education or career training. This can be community college or a four-year school; vocational training or an apprenticeship. But whatever the training may be, every American will need to get more than a high school diploma." See [http://www.whitehouse.gov/the\\_press\\_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/](http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/).

<sup>15</sup> February 24, 2009, speech to joint session of Congress. In *Coming to Our Senses*, the College Board's Committee on Access, Success, and Admission argues that if the U. S. is to lead the world again in education, then by 2025, 55 percent of Americans must hold at least an associate degree.

<sup>16</sup> See Achieve's "Ready or Not: Creating a High School Diploma That Counts" (2004); for more information on studies used to support the report, see [www.achieve.org/Research](http://www.achieve.org/Research). Part of that research is a 2002 report by researchers Anthony Carnevale and Donna M. Desrochers of Educational Testing Service, *Connecting Education Standards and Employment: Course-Taking Patterns of Young Workers*. Based on this research, Achieve argues that there is convergence between workplace and entry-level college expectations. See also information from the National Skills Coalition and Skills2Compete.

Achieve has a wealth of information on its website, including research on what people think about the college- and career-ready agenda, bibliographies on the research about high standards and student retention, crosswalks between the Common Core college- and career-ready standards and the existing American Diploma Project benchmarks, and numerous other topics related to the work of this task force. It has a one-page summary of its perspective on college- and career-ready at [www.postseconnect.org/files/CollegeandCareerReadyFINAL31809.pdf](http://www.postseconnect.org/files/CollegeandCareerReadyFINAL31809.pdf).

<sup>17</sup> The task force looked at definitions from Colorado and Texas, for example. They also looked at the definition that the Community College of Baltimore County uses and that of Achieve, Inc. Research that includes additional definitions were posted on the task force website. No other state's definition was wholly accepted. At the September 2009 Achieve meeting of state teams, it was clear that Achieve, the Gates Foundation, and the Education Trust are among the organizations with a national scope that have been working on ways to speak about college readiness in an encouraging and compelling way for various audiences.

<sup>18</sup> Achieve has gathered some of this research in a one-page summary titled "Requiring Readiness: Can All Students Benefit?" See <http://achieve.org/files/CanAllBenefit.pdf>. The research in question was done by the U. S. Department of Education National Center for Education Statistics, the San Jose Unified School District, and Sondra Cooney and Gene Bottoms of the Southern Regional Education Board.

<sup>19</sup> According to the Bureau of Labor Statistics, only 21 percent of jobs require no previous experience or training. These are low-skill jobs, few of which pay a family-sustaining wage. At the February 26, 2010, P-20 Leadership Council meeting, Secretary Sanchez presented data showing that 19 percent of Maryland jobs in 2007 were low-skill.

<sup>20</sup> <http://www.stepuphawaii.org/?q=incentives.html>. Representatives from Hawaii have presented on this topic at Achieve state team meetings. Part of the state strategy for encouraging more students to succeed in Algebra 2—and on Achieve’s common Algebra 2 assessment—is to identify incentives for students. Colleges and business have been part of this effort.

<sup>21</sup> See the Alliance for Excellent Education issue brief “Paying Double” The publication includes a lengthy explanation of how the estimates were derived.

<sup>22</sup> National Commission on Teaching and America’s Future, “The High Cost of Teacher Turnover,” Policy Brief, 2007. The brief offers estimates for two large districts. The Alliance for Excellent Education suggests a much higher statewide figure in the issue brief “Teacher Attrition: A Costly Loss to the Nation and to the States” (2005).

<sup>23</sup> [http://opi.mt.gov/PDF/CCSSO/Common\\_Standards\\_MOA.pdf](http://opi.mt.gov/PDF/CCSSO/Common_Standards_MOA.pdf). See page 2 of the memorandum of agreement. There are challenges with the 85 percent rule: language arts as a field is far broader than communication skills, and communication skills are less likely to stick in other curricula if they are focused in language arts.

<sup>24</sup> See [www.achieve.org](http://www.achieve.org) for more information about the mission, history, and goals of Achieve, Inc.

<sup>25</sup> Achieve posted a side-by-side comparison of the ADP benchmarks and the September 2009 draft of the Common Core standards at [www.achieve.org/SidebySideADPandCommonCoreStandards%20](http://www.achieve.org/SidebySideADPandCommonCoreStandards%20).

<sup>26</sup> Task force testimony is posted at [www.marylandpublicschools.org/MSDE/divisions/leadership/programs/cstf/si](http://www.marylandpublicschools.org/MSDE/divisions/leadership/programs/cstf/si). St. Mary’s College of Maryland is the State’s designated honors college, and no remediation is offered there.

<sup>27</sup> One demonstration of this point is the percentage of students scoring in the “prepared” or “well prepared” ranges on the multi-state Algebra 2 examination: about 15 percent across 13 participating states in 2009. In Maryland, the test has been piloted in some districts—and in some colleges for validity testing—but the test is not now required statewide as an end-of-course exam. So far, Maryland results are similar to those in other states. This examination and its performance levels were developed by content experts from K-12 and higher education, including some from Maryland. For a discussion of the test and results, see Achieve’s *American Diploma Project (ADP) End-of-Course Exams: 2009 Annual Report*. The number of students participating per state is small, except in Indiana and Arkansas, which account for over 69,000 of the more than 100,000 exams administered in 2009. Maryland had 1,295 participants.

<sup>28</sup> The Community College of Baltimore County and Baltimore County Public Schools have developed a college-readiness mathematics course that is offered in some high schools, and Chesapeake College has worked with a high school in its region to train high school teachers so that its highest-level remedial mathematics course is now offered by the teachers to their high school students (in the high school). Such courses focus on students who passed Algebra 2 but need additional work on topics to be fully college-ready.

<sup>29</sup> Referenced in the Alliance for Excellent Education, Issue Brief (August 2006), “Paying Double: Inadequate High Schools and Community College Remediation,” p. 3 The data is from the National Center for Education Statistics, *The Condition of Education 2004, indicator 18: Remediation and degree completion* (Washington, DC: US Department of Education). After 8 years, 58 percent of students who took any remedial education had earned a bachelor’s degree, but only 11 percent of those who took remedial reading had graduated in that time period.

<sup>30</sup> <http://tucs.fi/education/graduate/finland.pdf>; see also information from the OECD’s *Education at a Glance*.

<sup>31</sup> See <http://www.inca.org.uk/Table15.pdf>, “Organisation of the School Year,” from the International Review of Curriculum and Assessments Framework Internet Archive. Information is updated regularly.

<sup>32</sup> For a summary, see [www.oecd.org/document/63/0,3343,en\\_2649\\_35845581\\_38792447\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/63/0,3343,en_2649_35845581_38792447_1_1_1_1,00.html).

<sup>33</sup> See, for example, Secretary Duncan’s interview with Charlie Rose on March 11, 2009 (PBS).

<sup>34</sup> KIPP makes a public annual report, and since most of the schools are public charters, the records are in other accountability systems as well. See [www.kipp.org/reportcard/2008/](http://www.kipp.org/reportcard/2008/). See also Hooker and Brand’s *Success at Every Step: How 23 Programs Support Youth and the Path to College and Beyond* from the American Youth Policy Forum. KIPP schools are one of the featured programs. In addition to KIPP’s data, Hooker and Brand relied on five studies of KIPP, including one by Mac Iver and Farly-Ripple that studied Baltimore KIPP and was published by the Center for the Social Organization of Schools at the Johns Hopkins University.

<sup>35</sup> See Henry M. Levin and the Accelerated Schools Project (ASP). In the late 1990s, Levin and William S. Koski also studied acceleration vs. remediation in higher education. See also T. Bailey, D. W. Jeong, and S. Cho, “Referral, Enrollment, and Completion in Developmental Education Sequences in Community Colleges” in the *Economics of Education Review*. Bailey et al. discuss the ASP approach within postsecondary education.

<sup>36</sup> See President Sandra Kurtinitis's "CCBC's College Readiness Initiative" PowerPoint presentation to the College Success Task Force on July 31, 2009. Dr. Kurtinitis, Dr. Mark McColloch, the chief academic officer, and the Dean of Development Education, Dr. Donna McKusick, can provide more detail about the strategies employed and the institutional research done to evaluate their effectiveness.

<sup>37</sup> This information was provided to the task force at one of its meetings by a Chesapeake College staff member, Pat Cheek.

<sup>38</sup> See documents from the SREB College and Career Readiness Initiative available on the task force website. See also SREB President David Spence's chapter in the 2009 National Center for Public Policy and Higher Education report *States, Schools, and Colleges: Policies to Improve Student Readiness for College and Strengthen Coordination between Schools and College*.

<sup>39</sup> In November 2009, the Alliance for Excellent Education released "Teaching for a New World: Preparing High School Educators to Deliver College- and Career-Ready Instruction."

<sup>40</sup> See page 58 of the Maryland State Department of Education (2008), *Maryland Teacher Staffing Report, 2008-2010 (Revised)*, Baltimore: the Author. MSDE surveys the deans and directors to arrive at graduation data. Because not all secondary education teachers earn an education degree even when they complete the requirements for certification, MHEC graduation data will not indicate the number of new teacher candidates. The report data was collected prior to the end of the 2009 school year.

<sup>41</sup> See, for example, the literature survey by Ingersoll and Kralik (2004).

<sup>42</sup> See Eric Hirsch's presentation to P-20 Council in summer 2009, in which the comparison was mentioned, and results of the TELL Maryland and North Carolina surveys, which are online and in print. Information on the Maryland survey, including the survey itself, can be found at <http://tellmaryland.org/>.

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## **Testimony Submitted**

Allegany College  
Baltimore City Community College  
Charles County Public Schools  
Maryland Business Roundtable for Education  
Maryland Society for Educational Technology  
Montgomery County Public Schools  
Morgan State University  
Statewide Math Group  
Towson University  
University of Maryland Eastern Shore  
Worcester County Public Schools

## **Additional Presentations**

Achieve, Inc.  
Baltimore County Public Schools  
Community College of Baltimore County  
Maryland State Department of Education  
Southern Regional Education Board

## **Additional Resources**

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