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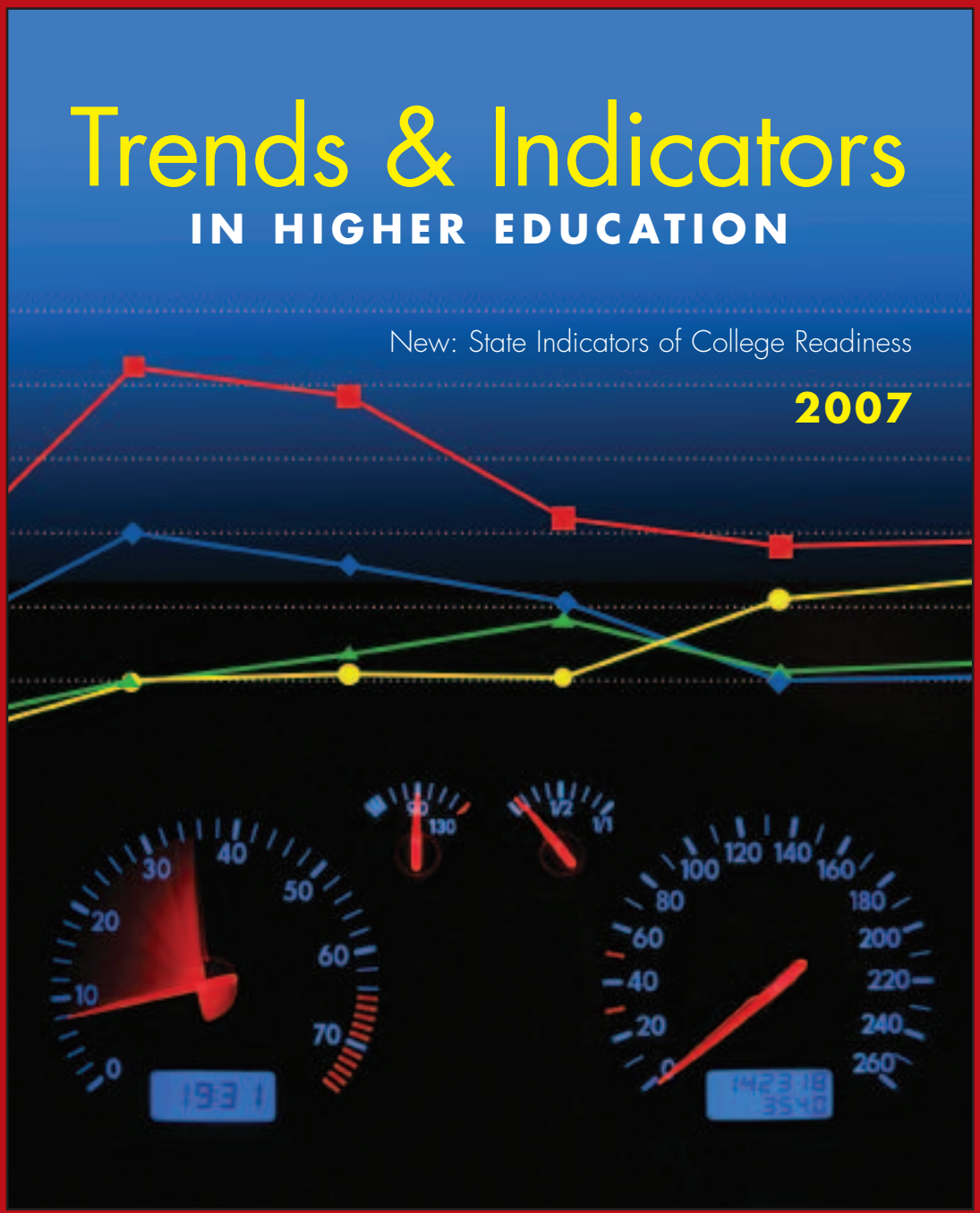
THE JOURNAL OF THE NEW ENGLAND BOARD OF HIGHER EDUCATION



VOLUME XXI
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EDITOR'S MEMO

Achievement Tests?

One trend that no amount of data can capture is the increasingly routine spinning of notions of "achievement" for ideological purposes. This past fall, a study conducted by the University of Connecticut's Department of Public Policy for the conservative Intercollegiate Studies Institute (ISI) made a splash with the finding that freshmen at some of America's most elite colleges know more about American history and government than seniors at those same institutions. The researchers asked 14,000 students at 50 colleges nationwide multiple-choice questions about America's history, government, relationship with the world and—that other bedrock measure of American cultural literacy—the "market economy." The average score for college seniors was 53.2 percent, not two percentage points better than the 51.7 percent average for freshmen.

The chief villains in ISI's world of limited government, free markets and personal responsibility are prestigious worldly institutions like Brown, Yale, Williams and MIT—four of 16 colleges where freshmen scored *higher* than seniors, or as the ISI suggests, students actually *lost* American knowledge. The researchers marveled that a 1 percent increase in civic learning, as measured by ISI's survey, corresponded to a drop of 25 positions in *U.S. News and World Report's* college rankings. The "liberal press" ate up the story, leaving it to a media watchdog in Colorado to expose ISI's interlocking board relationship with the institution it deemed No. 1 civic citizen, Rhodes College. Few, if any, outlets noted that No. 3 Grove City College boasts on its web site of rejecting not only "relativism and secularism," but also Title IX protections against discrimination.

More recently, Connecticut's Yankee Institute for Public Policy, which promotes lower taxes, proposed awarding full two-year scholarships to Connecticut community colleges to high school students who meet their graduation requirements in three years. Tax savings are not the only benefit Yankee sees in shaving a year off high school; there's also the chance to further squeeze electives. "Instead of trying to justify a fourth year of high school with an odd mixture of advance [sic] placement and eclectic non-core courses," argues the institute's executive director, "perhaps it makes more sense to concentrate on fulfilling the real mission of secondary education and make sure that students are learning the basics when they need to—earlier."

The American Council of Trustees and Alumni, founded by Lynne Cheney, peddles the same rigid view of learning and achievement at the college level. Railing against Harvard's core curriculum recently, ACTA huffed that "students can fulfill its lax requirements with all sorts of narrow and trendy courses, such as 'The Perfect Tale: The Art of Storytelling in Medieval France' and 'Japan Pop: From Basho to Banana.'" ACTA warned that the core "makes no guarantee that students will learn what they need to be informed citizens."

So precisely which combination of courses *does* guarantee that graduates will be not only informed, but also thoughtful citizens, savvy enough to navigate the global economy? The anti-Storytelling in Medieval France crowd, which tends to be anti-arts and anti-gym at the K-12 level, leans to the basics. Its agenda has been absorbed as conventional wisdom and codified in state testing regimens—with predictable results. A report from the Center on Education Policy in Washington, D.C., finds high school exit exams are leading to increased instructional time in tested subjects "often at the expense of other high school learning experiences and electives."

Yet there is no upward trend in evidence that the three R's and almighty eighth-grade algebra have a corner on the capacity, as John Adams put it, "to elevate the minds of our children and exalt their courage; to accelerate and animate their industry and activity; to excite in them an habitual contempt of meanness, abhorrence of injustice and inhumanity, and an ambition to excel in every capacity, faculty and virtue." There's no theorem for that. Nor do the "tested subjects" prepare graduates to know when a press secretary is lying, what to say to a friend who is diagnosed with cancer, when to honor a professional loyalty and when to blow the whistle or how to deal with global warming. Indeed, "trendy" electives on The Vietnam Experience and Man and His Environment may be just as promising on those fronts.

Narrow prescriptions of what it means to achieve will only undermine efforts to expand opportunity and deprive the region of its imagination.

***John O. Harney** is executive editor of CONNECTION. Email: jharney@nebhe.org.*

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Leisure

What higher purpose could be tied to education than increasing leisure time? And yet the English songwriter Andy Partridge might have had it right when he complained, *"They taught me how to work but they can't teach me how to shirk correctly."* Added leisure time appears not to be among the many well-documented benefits of increased educational attainment, according to "Trends in Leisure: The Allocation of Time over Five Decades," a paper authored by economists Mark Aguiar of the Federal Reserve Bank of Boston and Erik Hurst of the University of Chicago.

The good news is that leisure time increased for everyone between 1965 and 2003—by six to eight hours per week for men, thanks largely to a decline in work hours, and by four to eight hours per week for women, driven by a decline in time spent on home chores. That's like having five to 10 more weeks of vacation per year, assuming a 40-hour work week.

But the relative disadvantage for more educated people presents a puzzle for the researchers. "Given that the least-educated households experienced the largest gains in leisure, this growing 'inequality' in leisure is the mirror image of the well-documented trends in income and expenditure inequality," they write.

In 1965, people with different levels of education balanced work and play in similar proportions. But the allocation of time started to diverge in 1985. The explanation, according to Aguiar and Hurst, is that total time at work fell by 14 hours per week for less-educated men but by under nine hours per week for highly educated men. And less-educated women added fewer work hours than highly educated women. Whether all this reflects more professionals being tied to their desks or more undereducated people underemployed in part-time jobs the authors don't say.

Male Motives

The new gender gap in education is increasingly well-documented.

In Massachusetts, new research by the Rennie Center for Education Research & Policy shows boys score lower than girls on the state's standardized assessment tests, more often wind up in special education and drop out of school at higher rates.

A survey by the New Hampshire Partnership for the Advancement of Post-secondary Education Research, or NH PAPER, finds that last year's female high school seniors planned to go to college at a rate almost 10 percentage points higher than their male classmates.

Northeastern University's Center for Labor Market Studies reports that men in every New England state earn fewer associate, bachelor's and master's degrees than women, and the male degree disadvantage is particularly sharp among some ethnic groups. For example, black and Hispanic males in Massachusetts and Connecticut earn only six degrees for every 10 earned by black and Hispanic women in those states.

Iowa higher education analyst Tom Mortenson, who has been warning for more than a decade that U.S. education is failing to reach male students, has dug a little deeper. In a recent analysis, Mortenson compared the aspirations, use of time and attitudes of male and female students and found troubling results for the men. According to his findings, females were more likely than males to pick colleges based on school size, campus visits and academic reputation, while males were more likely to have been recruited by athletic departments. Males were more likely to have high opinions of themselves physically and emotionally, but women were more likely to see themselves as driven to achieve, understanding of others and cooperative. Females were also more likely than males to plan on volunteering, studying abroad and communicating regularly with professors once in college.

Baum Fragments

In February testimony before the U.S. Senate Committee on Health, Education, Labor and Pensions, Skidmore College economist and College Board senior policy analyst Sandy Baum offered a cornucopia of ways to improve higher education financing.

Among other things, she urged Congress to use its leverage to influence how other partners in the higher education financing process spend their money. Baum noted that under the Leveraging Education Assistance Partnerships (LEAP) program, which is on the Bush chopping block, the federal government matches state dollars for need-based grant programs. She suggested Washington use a similar approach to influence institutional aid policies. "If Congress were to provide financial incentives for colleges and universities to enroll *and* graduate low- and moderate-income students, institutions would find ways to help students succeed that would be most suitable to the specific circumstances on their own campuses."

She observed that debating whether college enrollment and completion gaps are caused more by inadequate preparation or lagging student aid "is not very constructive," since young people from poor families in neighborhoods where college experience is rare are likely to believe that higher education is simply not an option for them and have little

Snippets

"They're robbing Peter to pay Pell."

—Luke Swarthout, higher education associate for U.S. PIRG quoted by the *Chronicle of Higher Education* describing Bush administration proposals to fund an increase in Pell Grants by eliminating Supplemental Educational Opportunity Grants, the Leveraging Educational Assistance Partnership, which encourages states to provide need-based financial aid to college students, and the Robert Byrd Honors Scholarship Program.

incentive to prepare themselves. If student aid programs provided these young people with information and even a commitment of funds *earlier* in life, it could encourage them to prepare academically while addressing the financial constraints. Baum noted two promising approaches. Individual development accounts could be created in which savings of low- and moderate income families would be matched by public or private entities. Or federal and state funds could be deposited into education accounts for young people from low-income families who cannot afford to put money away in tax-exempt college savings plans. Earmarking these funds every year as students progress successfully through school would encourage academic success "and help move our less-privileged youth into the so-called ownership society," Baum told lawmakers. Moreover, these early commitments of funds and information about aid could be combined with the personal mentoring and support systems that have proven to promote access to higher education for low- and moderate-income students, she observed.

On the subject of student loan debt, Baum suggested waiving payment obligations for borrowers with incomes below 150 percent of the poverty level, making sure that payments do not exceed more than about 10 percent of income for the typical borrower and requiring higher percentages of income from borrowers with higher incomes than from those with lower incomes. She also suggested forgiving one year of debt for every year of public service performed by former students, and raising Stafford loan limits so students would feel less need to supplement their federal borrowing with higher-interest private loans.

Testing Out

Stonehill College is the latest New England institution to go "test-optional."

Giving applicants the choice of whether or not to submit SAT or ACT scores is "mission-consistent," according to Stonehill officials who noted in a statement: "Our mission states that the college educates the whole person so that 'each Stonehill graduate thinks, acts, and leads with courage toward the creation of a more just and compassionate world.' By becoming test optional, we reaffirm our commitment to carrying the whole-person view through to our admission process—looking at candidates holistically, not summarizing them based solely on test scores."

Data collected by Stonehill show that factors such as depth and breadth of coursework, class rank, grade point average, teacher recommendations and personal essays "are far better indicators of students who will succeed at Stonehill and contribute to our community."

The Massachusetts-based National Center for Fair & Open Testing, known as FairTest, now counts more than 700 bachelor's degree-granting colleges that have made standardized test scores optional, including Bowdoin, Middlebury, Bates, Holy Cross, Providence and Connecticut colleges.

Up to Their Ears

The following New England colleges and universities graduated students with average debt of $25,000 or more in 2005. The table also reveals how the average debt of graduates at these institutions has grown since 2001.

Average debt of graduates	2000-01	2004-05
Chester College of New England	$10,000	$40,695
Daniel Webster College	36,958	37,945
University of New England	17,500	37,507
Becker College	8,303	33,046
New England College	22,519	31,753
Mount Ida College	NA	31,105
University of New Haven	16,868	30,399
NE School of Communications	12,000	30,000
American International College	17,125	29,700
Rivier College	16,555	29,375
Bryant University	20,479	29,222
Sterling College	18,464	28,251
Saint Josephs College (Maine)	17,687	28,195
Roger Williams University	19,002	28,147
Franklin Pierce College	19,308	28,036
Worcester Polytechnic Institute	17,500	27,384
Salve Regina University	18,875	27,332
Bentley College	17,811	27,132
Maine Maritime Academy	15,650	27,000
Nichols College	14,867	26,626
Simmons College	19,820	26,300
Quinnipiac University	17,170	25,794
Maine College of Art	23,634	25,743
University of Hartford	19,192	25,553
Boston Architectural College	NA	25,387
Fairfield University	19,873	25,081
Curry College	7,000	25,051
Smith College	19,546	25,023

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The Empty Pipeline

EVAN S. DOBELLE

Perhaps the most disturbing data in this "Trends & Indicators" issue of CONNECTION concerns the "education pipeline." For every 100 public high school ninth-graders nationally, only 69 will graduate from high school four years later, only 39 will enter college the fall after they graduate, only 27 will return to their college for sophomore year and only 18 of those original 100 will earn associate degrees within three years of enrolling in college or bachelor's degrees within six years of enrolling.

The New England states perform a little better than the nation as a whole but not well enough to meet the challenges posed by today's global knowledge economy and complex civic and political environment.

If you live in New England, chances are, you are just a few minute drive from sixth-graders who believe they have two choices in life: find a paycheck job (as opposed to a career) or join the military. College is not even part of the cultural equation for them or their parents.

The main reasons for this are by now familiar: inadequate preparation and lack of financial resources for too many New England families and communities.

Despite the best efforts of teachers and professionals, too many of our students—particularly in urban environments as well as rural parts of New England—either drop out of high school or are allowed to graduate without having learned what they need in order to succeed academically or socially in college.

Others work hard only to find out the resources society invests annually in various student aid programs and educational tax benefits still do not provide them with a real chance to achieve the American Dream.

An American from the top quartile of family income is six times more likely to have completed a bachelor's degree by age 24 than his counterpart from the bottom quartile, according to research by Iowa higher education analyst Tom Mortenson. This lopsided attainment, Mortenson observes, is "driven by disparities at each of the three hurdles along the path to a bachelor's degree."

He's talking about high school graduation rates (93 percent for the top income quartile; 69 percent for the bottom quartile); college continuation among high school graduates (87 percent for the top; 59 percent for the bottom) and bachelor's completion (90 percent for the top; 31 percent for the bottom).

Of course, this gap takes hold long before students enter high school. A benchmark University of Michigan study found that children in the highest socioeconomic group entered kindergarten with cognitive scores 60 percent higher than those of the lowest socioeconomic group.

These children—and their teachers—need our engagement. But it takes a region to raise a college-ready child. That's why the New England Board of Higher Education is working in partnership with the Burlington, Vt., Boys and Girls Club to instill college aspirations and preparation among the young people who participate in activities at the venerable community organization. The idea would be to expand this partnership to Boys and Girls Clubs and other community groups across New England that engage with students afternoons, weekends and summers.

We also need to stop making it easy for children to fail. One sensible step would be to adopt a policy like Indiana's in which a rigorous college- and work-prep curriculum becomes the default high school course. If a student really wants to opt out of the college-prep curriculum, the student *and* his parents or guardian should have to explicitly choose that life-altering assignment.

Another step would be to encourage New England employers to pledge not to hire permanent workers who do not have a high school diploma unless they have a solid plan to earn a GED.

Finally, the region's higher education institutions, many located in the very same urban and rural communities where college aspirations are lowest, have a keen self-interest in getting the pipeline flowing. They need to strategically deploy their students, faculty and facilities to provide the role models, mentors and support programs that give their young neighbors a real chance to enroll in the future.

There is much at stake. Our excellence as a nation and a society requires that we fight relentlessly to make sure our young people are prepared academically and financially to succeed. Unless the current pattern is altered, we will lose our collective capacity to sustain a vibrant democracy, let alone compete economically in a global marketplace.

Evan S. Dobelle *is president and CEO of the New England Board of Higher Education and publisher of* CONNECTION. *Email: edobelle@nebhe.org.*

Will New England have too few college graduates by the year 2020?

That's the question answered in a ground-breaking study commissioned by the Nellie Mae Education Foundation and conducted by a team of experts from the University of Massachusetts Amherst and the University of Connecticut. The answer, and what it means for the region's prosperity, and levels of educational access and attainment, is examined in **"New England 2020"**.

To read **"New England 2020"**, visit www.nmefdn.org

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A Trend Toward Excellence

MARY R. CATHCART

CONNECTION'S annual "Trends & Indicators in Higher Education" issue is so rich with trend data and analysis that readers may forget the human faces behind the numbers.

Last month, the New England Board of Higher Education (NEBHE) recognized some of the people and programs working to point those trends in a positive direction with its fifth annual New England Higher Education Excellence Awards.

Only about 75 percent of New Englanders finish high school in four years, and less than 60 percent of those graduates enroll in college the following fall. The pipeline is especially leaky for nontraditional students. One NEBHE Excellence Award winner, the University of Maine's Onward Program, has helped low-income, first-generation or disabled Maine students overcome college readiness challenges for more than three decades. The Onward Program has helped thousands of Maine students develop academic skills and then transfer to the major of their choice anywhere in the university.

A former Onward student named Al told us he grew up "in a sea of alcoholism, chronic mental illness and violence," and thought that "universities were for smart kids from people of means, not folks like us." Al was seeking work as a janitor when a friend handed him information about Onward and changed the course of his life. He went on to earn degrees in forest management and engineering and an MBA, and today he enjoys a successful career. "Much of who I am can be attributed to the love, attention, patience and support of the staff" of Onward, Al says.

The data in this issue of CONNECTION also show that fully 280,000 students attend New England colleges on a part-time basis, many pursuing degrees while they work and build families. Another Excellence Award recipient from UMaine, the Frederick Hutchinson Center, provides high-quality undergraduate, graduate and professional development education, as well as cultural opportunities, in a supportive and flexible environment for people on Maine's Midcoast. The center now serves more than 20,000 students. The local newspaper, *The Village Soup*, noted last month: "Whether you're a stay-at-home mom, a full-time laborer, retired and in search of something new, or a student with a high school diploma in hand, the Hutchinson Center has something to offer you."

Just seven years old, the Hutchinson Center offers a weekend master's degree program in social work with a nontraditional format allowing students to earn their degrees close to home or work and at convenient times. The center recently added a bachelor's in social work and a master's in special education as well as evening courses leading to a UMaine certificate in tourism. Last fall, the center initiated the Black Bear Bridge Program, which offers the first two years of a bachelor's degree, and hundreds of retirees attend its Senior College.

Unfortunately, the data also tell us that college costs gobble up a large and growing share of family income, especially for low-income New England families. The winner of the 2007 Massachusetts State Merit Award knows quite a bit about that. Fall River optometrist Irving Fradkin launched the grassroots scholarship effort called "Dollars for Scholars" in 1957, with the very first dollar donated by Eleanor Roosevelt. The organization he founded has grown into one of the largest nonprofit, educational support foundations in the country. Scholarship America, which encompasses Dollars for Scholars and several other programs, has awarded nearly $1.5 billion to 1.5 million students over its history. Through it all, Fradkin's dream and purpose have endured—giving America's youth the opportunity for postsecondary education by reducing dropout rates, prison populations, drug abuse and crime and by building a better America, one community at a time.

All the 2007 NEBHE award winners have contributed to New England higher education in special ways: former U.S. Sen. James Jeffords' landmark legislation for students with disabilities; John Silber's early work on integration in Texas and transformation of Boston University into a world-class research university; Southern New Hampshire University's groundbreaking School of Community Economic Development; Gov. James Douglas's leadership in Vermont and Michael Audet's leadership of Vermont State Colleges; Ingrid Lemaire's dedication to college planning for New Hampshire students and Peter V. Sampo's thoughtful leadership of the Thomas More College of Liberal Arts; and the remarkable international efforts of the Initiative to Educate Afghan Women and the Baden-Württemberg Connecticut Higher Education Exchange. They are just a few of the hard-working people and programs behind the positive trends in New England higher education.

Mary R. Cathcart *is chair of the New England Board of Higher Education. She is a senior policy associate at the Margaret Chase Smith Policy Center and former four-term Maine state senator. Email: maryorono@verizon.net.*

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Trend: Shrinking Opportunity

KATI HAYCOCK AND DANETTE GERALD

In recent months, there's been a surge of attention to issues of access and success in higher education. The U.S. Education Secretary's Commission on the Future of Higher Education talked about it. State policymakers are proposing new goals and accountability systems to address these issues. Even the mainstream press has been increasingly critical of higher education's perceived turning away from its longstanding promise to serve as a means for hardworking low-income students to learn their way into the middle class.

Now it seems that instead of serving as a bridge between the "two Americas," higher education is widening the gulf.

Many college leaders seem perplexed by this critique. In their minds, the main factors that contribute to both the access and success problems are beyond higher education's control.

Those leaders aren't all wrong. Let's take a look, first, at the access side of the equation.

Access. Though most young Americans now aspire to go to college, the levels of college preparation, especially among poor students and students of color, remain low. Although American elementary schools are getting ever better, we've not yet managed to turn the corner in high schools. Too many low-income and minority students aren't placed in the right courses, their teachers are less likely than others to be experienced and well-educated, and the assignments they get are often watered down. Not surprisingly then, disproportionate numbers of these students aren't even close to graduating with the skills they need to be considered "college-ready."

Preparation is by no means the only barrier. Federal and state policymakers also have to shoulder some of the responsibility. They have walked away from their obligation to make college affordable for students who absolutely need adequate financial assistance in order to enroll. In 1994, states disbursed 87 percent of their financial aid dollars in the form of need-based grants to low-income students. By 2004, just 73 percent was devoted to need-based grants, with the balance distributed based on criteria other than need.

That said, analyses commissioned for two recent Education Trust reports—*Promise Abandoned* and *Engines of Inequality*—show very clearly that colleges themselves are independent actors in the drama of shrinking opportunity in America. Both public and private colleges have shifted how they use their own financial aid dollars.

Once aimed almost exclusively at covering the costs of admitted students from low-income families, these resources are increasingly used to help institutions buy their way up the college rankings ladder. Between 1995 and 2003, for example, America's private colleges increased the average amount of institutional aid that went to students from families earning more than $100,000 annually from $1,359 to $4,806—an increase of over 250 percent. Over the same time period, the average institutional grant to students from families earning less than $20,000 per year increased by a mere $1,794, from $3,246 to $5,240—an increase of about 50 percent. Though the dollar amounts are smaller, trends in public universities between 1995 and 2003 were much the same: up 50 percent for students from families earning less than $20,000 per year, but up 227 percent for students from families with incomes over $100,000 per year.

Had they chosen to, universities could have cushioned low-income students from the effects of rising tuition and shifting government priorities. But they chose not to.

Surprisingly, these patterns are even more marked in the nation's public flagship universities and in other public research universities—arguably the institutions that are already so prestigious that one would assume they don't need to buy their ways farther up the food chain. Although these institutions play a special role in educating future academic, political and business leaders in many states, their turn away from low-income students and students of color is among the most pronounced of all. During the same eight-year period, from 1995 to 2003, these public universities decreased the average institutional grant awarded to the lowest-income students by 2 percent, from $3,756 to $3,691, while they increased the average grant to the highest-income students by 19 percent, from $3,223 to $3,823.

Certainly, these prestigious public universities are also affected by problems that exist in high schools serving high concentrations of poor and minority students. They are affected, too, by shifts in government aid away from the poorest families. In truth, however, what these institutions spend on student aid from their own resources swamps what federal and state governments provide. Had they chosen to, they

could have cushioned low-income students from the effects of rising tuition and shifting government priorities. But they chose not to. Indeed, the shifts in institutional aid in the research universities from lower- to upper-income students were more pronounced than changes in the distribution of either federal or state aid.

Success. The breadth and diversity of college-educated Americans is threatened not just by problems on the access side, though. There are big problems, too, with college success. Both minority college freshmen and those from low-income families are far less likely than other students to earn the degrees they set out to attain.

Once again, when asked about these numbers, college leaders are quick to point fingers… at high schools and at increasingly stingy governments. Even when their six-year graduation rates fall below 30 percent, institutional leaders typically claim that "this is about where other institutions that serve students like ours fall as well."

But here too, it turns out that colleges themselves are very important actors in student success. The Education Trust's *College Results Online* web-tool (www.collegeresults.org) makes it possible for users to take a look at disaggregated graduation rate data for virtually any four-year college in America. More important, users can see how these numbers compare with the graduation rates of the 15, 25 or 50 institutions most like theirs.

The results show whopping differences among institutions with the same mission, the same size and other characteristics and, roughly speaking, the same kinds of students. Certainly, preparation plays a role in college success—no question about it. But *College Results* demonstrates that institutions that bring in students with very similar academic profiles have vastly different levels of success getting them out with a degree. Take, for instance, the six-year graduation rates of the groups of institutions below:

- Penn State, the University of Texas at Austin and the University of Minnesota are all selective public flagship institutions that serve students with similar characteristics, but their graduation rates—84 percent, 75 percent and 60 percent, respectively—are quite different.
- Montclair State University in New Jersey, Old Dominion University in Virginia, and Kennesaw State University in Georgia are smaller, less selective institutions that serve roughly the same kinds of students, yet their graduation rates—58 percent, 48 percent and 32 percent, respectively—vary as well.
- Elizabeth City State University in North Carolina, Prairie View A&M University in Texas, and Coppin State University in Maryland are all Historically Black Colleges and Universities that serve similar students, but their graduation rates—49 percent, 31 percent and 20 percent, respectively, are also substantially different.

In other words, what institutions do to ensure that their students are successful matters a lot.

Learning from Success. Over the past two years, we've taken a look at practices of colleges that have been unusually successful in both access and success, compared with institutions just like them. We also partnered with the American Association of State Colleges and Universities in a process that involved identifying member institutions with strong records of achievement and studying their practices.

Each successful institution, of course, has gone about things differently. But there are important cross-cutting lessons.

One is the importance of leadership. At campuses that are more successful in getting students through, presidential leadership makes that issue a high priority for every academic unit. Goals and data are public; progress is monitored and rewarded.

Another lesson may be found in the importance of examining and analyzing data on student progress. Successful institutions look hard at their data to identify choke points that slow student momentum and they go to work opening up those bottlenecks. Sometimes doing so is as simple as adding a few more sections of key courses; other times, it's about redesigning those courses so they better meet students' needs.

Institutions truly committed to both access and success are also looking much harder at how they use their own aid resources. They know that for some students, aid isn't a luxury, it's a necessity. And they put those students first.

Certainly, like leaders in almost every other field, college leaders today have to make a lot of tough choices. In the public sector, those choices have been made more challenging by state officials who don't accord higher education the priority they once did. Governing boards obsessed with improving their institution's standings in college ratings guides don't help.

Still, you can tell a lot about leaders by the choices they do make. Leaders of successful colleges choose to improve and they go about it with relentless zeal. They know that one special program won't do the trick, so they take a more comprehensive approach to facilitating student achievement. They make student success the focal point of everything they do, and they never give up.

Kati Haycock *is president of the Education Trust. Email: khaycock@edtrust.org.* ***Danette Gerald*** *is the trust's assistant director for higher education policy. Email: dgerald@edtrust.org.*

Foundation Course

CONNECTION Interviews Nellie Mae Education Foundation President Nicholas Donohue

Nicholas C. Donohue is the new president and CEO of the Quincy, Mass.-based Nellie Mae Education Foundation, the largest philanthropy in New England devoted exclusively to education. Donohue succeeds Blenda J. Wilson, who wrote regularly for CONNECTION *before retiring in December 2006. Donohue has been a classroom teacher, a university trustee and commissioner of education for the state of New Hampshire. Most recently, he served as special master of Hope High School in Providence, R.I., where he was appointed to oversee implementation of the Rhode Island commissioner of education's order to restructure the underperforming school.* CONNECTION *Executive Editor John O. Harney interviewed Donohue about issues facing New England and the foundation's role.*

CONNECTION: You've only had a couple months in this job to survey the landscape. What's your impression of the challenges facing New England?

DONOHUE: I think the main issue is that New England is a fabulous place to live, a place many people have a great affiliation with, and it's a place that is undergoing a transformation. The race, ethnicity, age and backgrounds of people coming to New England are changing and will change even more dramatically in the years to come. At the same time, we know our economic and social well-being depends upon preparing more graduates and workers with significantly higher levels of educational achievement.

CONNECTION: What exactly do we mean by "achievement" and how would you measure it?

DONOHUE: We need a set of standards that are broad enough to reflect the opportunities and challenges people are going to engage with in their workplaces and in their lives. Successful achievement means knowing math, being able to read and write well, knowing how to solve problems and work with other people, how to communicate well and manage yourself, use technology and understand history. It's about striking a balance between knowing a robust set of facts about what has gone on in the past, for example, and understanding how the systems of history predict the future. It's also a balance between getting a good job and leading a fulfilling life, doing well and doing *good*.

CONNECTION: How do we agree upon what students need to know?

DONOHUE: There is sufficient information from employers and educators and people who care about social issues to describe what our hopes should be for graduates at various levels. The real challenge is not articulating those standards, but organizing for success in achieving them and measuring them well. Organizing for success includes creating a seamless set of standards that spans the life of the learner instead of competing sets of standards for early learning, K-12, higher ed and workforce—with chasms between them. Measuring well means looking at performance-based systems that tell us more broadly how people apply their intelligence in complicated situations, because our future is about being able to think and innovate. There are already competency-based assessments in a few New England states that we'd like to learn more about.

CONNECTION: You've suggested a *new* kind of education reform is needed. What do you mean by this?

DONOHUE: There have been waves of reform for generations and we're going through one now. And important progress has been made. But it's fair to ask some basic questions about things we still hold as unchecked assumptions. We are seeing these kinds of questions asked in terms of early learning. At the K-12 level, there has been a huge focus on instructional improvement. This must continue, but the context in which teachers and students are working must change as well. It is still a restrictive, rigid, age-based model with students moving through in lockstep in front of staff who are dedicated and intelligent but often underprepared in subject areas. We need to take a closer look at how we organize schools and use technology to personalize instruction. This means questioning deep-rooted assumptions about how schools are put together including how to staff differently and locate differently. If we adjust the context for learning, I believe the challenges around instruction will diminish.

CONNECTION: Coming from the K-12 environment, do you see any lessons for higher education in the No Child Left Behind experience?

DONOHUE: No Child Left Behind has given the whole conversation about underperforming K-12 students a different flavor. Now, higher ed is facing questions

about how we know whether students have succeeded other than that they've paid their tuition and completed their coursework. And that's a healthy conversation as long as it doesn't go too far and define a tiny box into which graduates need to fit. One lesson from No Child Left Behind is to be cautious about an assessment system that may be too narrow. That would be a crisis for New England higher education with its diversity of options and goals. I think there's a middle ground, and I hope the foundation can help the region find standards for all levels of education that are defensible and able to withstand revision as the world changes around us.

CONNECTION: How do issues of achievement relate to the foundation's historical mission of expanding opportunity for underserved populations and what exactly do we mean when we say "underserved"?

DONOHUE: Given where we have been as a country, the most obvious underserved groups are low-income students and low-income students of color—the "minority" students who are becoming the majority in America. By embracing high expectations for underserved populations and helping the neediest students through high school and college, we serve these groups as we push the whole venture forward. We have partners who are doing this very well, helping students who would not otherwise succeed in today's higher education institutions. A lot of learners come to our schools with significant disabilities or disadvantaged backgrounds. Our challenge is to apply educational approaches that make the most of what they bring to the table and to really expect them to succeed. I believe we can organize an educational experience where everyone succeeds at higher levels than we accept today. However, I am not sure it is going to happen by simply improving "school" as we see it today. We need a different model—one that is much more personalized and authentic and much more rigorous.

CONNECTION: Is it realistic to aim to prepare *all* people for college?

DONOHUE: We have to. A high school diploma simply is not a sufficient endpoint for anyone in today's world. Does everyone have to go to an elite, four-year college? No. There is a vibrant and growing market of postsecondary experiences for young people and those offerings need to be nurtured, because you need some college experience and ideally a college degree of some kind in order to be economically and personally successful in today's society. And that's only going to be more true as the rest of the world catches up with us educationally and economically. Community colleges are trying to respond to this reality. Small private institutions are attracting a broader audience out of business self-interest. I think we are entering an exciting time, when a greater variety of educational opportunities will emerge to meet the needs of more and more customers.

CONNECTION: What's required to prepare more students for educational success?

DONOHUE: We need to have very high expectations of our educators. We need to invest wisely in education and not give ourselves excuses for lower performance. And we need to be clear about outcomes and measure them sufficiently. But there's also a "public will" piece that we've yet to grapple with. We've been a society that has done well overall but there have always been people inside that mix who have not done well and who have not achieved the American Dream. Now, the interests of our fellow citizens are more intimately tied with our own interests. I expect my own children to do well in school. But if we're going to succeed as a society, I need to expect other children who might look very different from my own to succeed too. It's not just about being a generous and charitable majority community. It's about being an intelligent and strategic society that says we all want to achieve more in order to succeed together.

CONNECTION: Is there a point where the foundation's role is really to address poverty in New England insofar as poverty shapes the inequities in opportunity and achievement?

DONOHUE: Our mission will continue to focus on educational opportunity and educational change. But we do need to acknowledge that issues such as housing, employment, criminal justice and health care all play a role in promoting success. In order to learn, you have to be in school. If you're out of school because you're sick or you can't pay attention because your teeth hurt or your family is moving *again* or you are hungry or you have to work—all those things get in the way of achieving. There's real fertile ground there for work that will enhance educational outcomes. And I think there will be places where the foundation can encourage cross-field collaboration on these connections.

CONNECTION: How can philanthropy make a difference that other sectors can't?

DONOHUE: Part of our job as a foundation is to find the organizations that are doing the best work and get behind them and learn from them. Then there's a complementary role, which is to provoke and challenge assumptions about how we do our business. Since none of us have figured out the absolutely correct way to educate everybody, the foundation has a chance to push the edges and challenge people's thinking about what education needs to look like tomorrow even as it nurtures things that organizations are doing well today. While the challenges are broad, I am very hopeful about our future. We will find our way ahead as a region—and as a country—and the Nellie Mae Education Foundation will be part of that success.

An *Independent* Path to College Success

MICHAEL P. DANZIGER

In Hartford, Conn., more than $11 million was recently committed to support college access for low-income students. Federal funds under "No Child Left Behind?" Nope. A gift from the Gates Foundation? Not that either.

The millions were pledged by a group of Hartford-area private, or *independent*, high schools as part of Mayor Eddie Perez's campaign to improve college matriculation rates in Connecticut's capital city.

Faced with a long-term economic crisis if the city's school system fails to show marked improvement, Perez charged a Blue Ribbon Commission in 2004 to "open the doors of economic opportunity for Hartford residents by increasing the number of Hartford youth obtaining bachelor's degrees." With the support of business, education and community leaders in the city, Perez set a goal to increase the number of Hartford public high school graduates who enroll in and graduate from four-year colleges by 25 percent over a period of five years.

In support of the mayor's goal, more than 20 Connecticut independent high schools have committed $11.5 million in scholarships for Hartford students. Perez's inclusion of independent schools in the plan is unconventional and controversial, but critically important. Fully half of Hartford's 125,000 residents are age 14 or under, and education is crucial to developing and retaining a skilled workforce. But the Hartford public school system posts lower high school graduation and college enrollment rates than any other urban area in New England. Less than 5 percent of the high school Class of 2003 is expected to graduate from a four-year college by 2008. "Education is the great equalizer in our society," said Perez. "I want to increase the number of options for Hartford students and their families to even out that playing field."

No one, including the mayor, would argue that independent schools are the solution: these schools enroll fewer than 10 percent of U.S. students and do not have the resources to provide financial assistance to vast numbers of students who lack the funds to attend them. Sustainable college access on a broader scale is contingent upon progress and additional investment in public schools, and indeed, Perez is implementing curricular and structural changes in the Hartford public school system. Still, local independent schools are important fixtures in the long-term health of their communities and often-overlooked resources for students and families.

As Perez and other community leaders began designing the independent school initiative, called The Hartford Youth Scholars Foundation (HYSF), members of the HYSF board traveled to Boston to learn about the Steppingstone Foundation's experience preparing urban students for success at independent and public exam schools. Founded in 1990, Steppingstone is a privately funded nonprofit organization that has prepared more than 1,000 fifth-, sixth-, and eighth-grade students in Boston and Philadelphia for admission to top "college-preparatory" middle schools and high schools. Through a selective process, Steppingstone enrolls motivated students from underserved, low- to moderate-income neighborhoods who would not otherwise have access to these educational opportunities.

Beginning in the summer before fifth-, sixth-, and eighth-grade, Steppingstone students—dubbed "Scholars" upon acceptance to the program—are immersed in a demanding 14-month academic preparation component that consists of two full-time summer sessions and classes after school and on Saturdays during the school year. Classes are taught by teachers from partner placement schools such as Belmont Hill School and Milton Academy and area graduate schools such as Harvard, Boston College and Lesley and are designed to prepare the Scholars for the rigors and expectations that await them at college-preparatory schools. Courses range from literature and science to test prep and study skills. On a typical day at Steppingstone, Scholars might dissect a passage from *Newsweek* in search of words with Latin roots, discuss censorship and civil liberty issues raised in reading *Fahrenheit 451*, and practice their critical thinking skills in a math clinic focused on word problems. The focus of the 14-month component is academic skill development, including self-advocacy skills; the goal is to prepare students to get into and succeed at schools whose graduates go on to college.

Over the years, 90 percent of Steppingstone Scholars who have completed the 14-month academic component have been placed at independent or selective public exam schools. But Steppingstone's responsibility to prepare and support Scholars doesn't end when they enter new schools in sixth, seventh or ninth grade. Unlike students for whom a college-preparatory education is a birthright handed down for generations, these young people need support in their new environments. Steppingstone offers comprehensive services to ensure that the students are thriving—academically and socially—at their new schools. Similarly, Steppingstone provides college-counseling support, such as college visits and SAT

preparation, to ensure that college matriculation is an obtainable goal for all Scholars. Fully 95 percent of Scholars who complete the 14-month preparation program graduate from high school, and 96 percent of Scholars who graduate from high school enroll in a four-year college or university.

Through further discussions with Steppingstone, Mayor Perez and other members of the HYSF board, including Trinity College President Jim Jones, determined that adapting a tested and replicable program model was not only good for Hartford students and families, but also made good business sense. Citing Steppingstone's record of getting kids into college and helping negotiate financial aid packages, Perez concluded the program "will resonate with Hartford families."

As a result of a formal partnership with the foundation, HYSF will launch the Steppingstone Academy Hartford this summer with its first class of eighth-grade students. Middle school teachers and guidance counselors from the Hartford Public Schools have already nominated more than 450 students for one of the 30 spots in the Academy's pilot class. Upon acceptance, Steppingstone Scholars in Hartford will spend the following 14 months preparing for placement into and success at one of more than 20 partner independent schools in Connecticut, including day and boarding schools, single-sex schools and Catholic schools.

While many mayors and community leaders might not include independent schools in a campaign to increase college access, Perez, HYSF and the Steppingstone Foundation have provided a model of public/private partnership for other cities with clusters of college-prep-oriented independent schools to follow. As one initiative within a larger campaign to increase college access in Hartford, independent schools serve as an important resource to help city leaders address the achievement gap, while contributing to the portfolio of school options available to Hartford students and families.

Michael P. Danziger *is co-founder and president of the Boston-based Steppingstone Foundation. Email: mdanziger@tsf.org.*

What's in Your Valise?

Determining What Students Learn in College

CLIFFORD ADELMAN

What would we think of U.S. higher education if we knew that 59 percent of bachelor's degree recipients completed two or more courses in college-level mathematics such as statistics or calculus? Or that 35 percent completed a writing course beyond freshman composition, a course such as technical writing, creative writing or journalism? Would we think better of our business majors if we knew that 84 percent crossed that two college-level math course threshold and better of our chemistry, physics, and geology majors if we knew that 55 percent crossed the advanced writing threshold? If we asked students what's in their knowledge valise when they leave college, would we consider these markers to be sufficient evidence of quantitative and communication skills?

I didn't make these numbers up: they come from the transcripts of college graduates in the most recently completed national longitudinal study conducted by the U.S. Department of Education. They are what is called "unobtrusive evidence," generated in the natural course of students' higher education. Transcripts don't lie, and common sense would hold the data to be transparent markers of achievement. Sure, a calculus course at MIT is not the same as a calculus course at Old Siwash, but it's still calculus. A journalism course at Northwestern is not the same course as that delivered at Greentree Valley Community College, but they both have freshman composition as a prerequisite. We can do better, particularly in evidence of writing attainment, but with data such as those cited, do we need a test to prove it? If we do, then what kind of test?

The issue of how we determine what college students learn and who might report the answer to that question didn't arise yesterday, though the recent report of U.S. Education Secretary's Commission on the Future of Higher Education treated it like the discovery of a new planet. The Commission report grabbed everything that crossed its selective radar screen, every test or survey that someone told them did the job, and beat up on the higher education accrediting bodies for not doing enough to make sure that colleges provide sufficient evidence that something positive happened inside their students' heads. Continuing down this narrow road will not

produce a satisfactory answer to the question. Accountability for student learning in higher education is not an extension of No Child Left Behind, certainly not in the hands of an Education Department which, when Congress first proposed the Academic Competitiveness Grants for supplementary awards to needy students who completed a "rigorous" high school curriculum, had to send an email bouncing down through the bureaucracy to find out what an academically challenging high school curriculum meant (the email landed on my former desk at the Department). A few months later, another bouncing bureaucracy e-mail asked whether there was any high school math between algebra 2 and calculus. As the IM generation would respond, "OMG!"

These indicators respect the central role of the academic disciplines and academic faculty in setting standards for the real stuff of degrees … and tell employers what they can expect of all graduates.

There are three tensions behind the debate on the evidence of what college students learn that might have been more thoughtfully addressed by this commission report before it rattled off its preferred solutions and implicit threats: 1) Are we judging the student or the institution(s) the student attended? 2) Are we content with samples of students or do we demand that all students are accounted for? 3) Do we want the results in statements that fit on bumper stickers or those that reflect the complex kingdom of knowledge through which college students move on their way toward degrees?

Having studied and participated in the massification of assessment in U.S. higher education that was spurred by the last time the Department of Education sponsored a national report on higher education (1984), I come down on the side of two transparent, public, high-stakes markers—one for graduating students and one for the institution from which the students graduate—both based on the performance of all students, not just samples.

First, a revival of the comprehensive examination in the major, required of students as a condition of graduation, with the previous year's comprehensive exams posted publicly by the institution. This requirement would apply to occupationally oriented associate degrees granted by community colleges as well as for all bachelor's degree fields. It would apply, with appropriate variations, in what I call the "conservatory fields," e.g. fine and performing arts, where exhibits, portfolios or performances carry the evidence of student learning. In applicable disciplines, an institution could use the GRE field tests, with subtest scores weighted to reflect the distribution of the delivered curriculum in that institution's departments.

In February, Texas Gov. Rick Perry proposed that public four-year colleges in his state use the ETS Major Field tests for this purpose, but those exams (like the GRE field tests) cover but a fraction of majors in which degrees are granted. They are also too limited in coverage, they don't allow for subtest weighting and, chances are, they have not undergone a review of their content in a decade. Nice try, Governor, but no cigar! The home-grown comprehensive exam, made public with its scoring criteria, is the strategy of preference and provides each department with the opportunity for serious reflection on what it expects of its majors and a chance to show off. This requirement is no different, really, from licensure or certification examinations given to students entering occupations—such as accounting, teaching, nursing, engineering and architecture—that do not require graduate or first professional degrees. This requirement is student-centered, high-stakes and accounts for all degree candidates. No pass, no play; or, better still, take it until you pass! If My Cousin Vinnie passed the bar exam on the sixth try, so can you!

Second, a report from the institution, based on the transcripts of all graduates in a given year, citing the proportions who had reached key thresholds of knowledge and skills deemed essential by the institution's faculty, documented by completed coursework wherever that coursework was done (since 60 percent of our bachelor's degree recipients attend more than one school along the way, we have to acknowledge all qualifying coursework). The examples of college-level mathematics and advanced writing cited above are illustrative. Faculty at each institution can select other "gateways" for similar coursework documentation. Challenge exams, e.g. in foreign languages, can and should be counted in lieu of coursework.

Both of these indicators respect the central role of the academic disciplines and academic faculty in setting standards for the real stuff of degrees. Both of these indicators tell employers what they can expect of the knowledge and skills of all graduates (not just a sample) from Old Siwash University and Greentree Valley Community College. Most importantly, the content reflected in the comprehensive exams and the gateway courses is what your sons and daughters talk about learning at the family dinner table, and reflects the knowledge they will take into economic and community life. When asked, "What's in your valise?" it's the content they are proud to show off. If we want a vibrant economic and community life, content makes the difference.

Clifford Adelman *recently left the U.S. Department of Education after 27 years as a Senior Research Analyst. He is now a senior associate at the Institute for Higher Education Policy in Washington, D.C. Email: cadelman@ihep.org.*

Educational Malpractice?

Higher Ed May Be Courting Trouble with Overpaid Execs and Restless Consumers

ROBERT B. SMITH AND DANA L. FLEMING

The number and complexity of state and federal regulations governing U.S. colleges and universities is on the rise. Consumerism, soaring tuition costs, burgeoning student loan debt and the high expectations of helicopter parents are all converging to put higher education under increased scrutiny. Colleges and universities beware! Higher education's "consumers" are growing angry and restless. That anger is likely to boil over on two related issues in higher education: students feeling like they don't get their money's worth and dismay over excessive executive pay.

U.S. Secretary of Education Margaret Spellings recently suggested that colleges account for their "escalating sticker price" by tracking student performance and aligning with standards similar to those imposed on K-12 by the No Child Left Behind law. "If you want to buy a new car," she noted further "you go online and compare a full range of models, makes, and pricing options. And when you're done you'll know everything from how well each car holds its value down to wheel size and number of cup-holders. The same transparency and ease should be the case when students and families *shop* for colleges, especially when one year of college can cost a lot more than a car!"

If higher education adopts universal standards, deviation from those standards, can (and probably will) be used against colleges and universities in court.

While Spellings has been criticized for her college-car analogy, her call for increased accountability is already being answered by 78 public college and university administrators developing recommendations for a "Voluntary System of Accountability" (VSA) which would apply to all state colleges. In August 2006, the National Association of State Universities and Land-Grant Colleges and the American Association of State Colleges and Universities prepared a "discussion draft" in which they recognized multiple constituencies to which schools should be held accountable and recommended that schools begin compiling data about "student campus engagement" and "value-added core educational outcomes" to create a "bundle of accountability measures" that could then be made available to the public.

Such standards could open the educational malpractice floodgates. To date, courts have refused to hear educational malpractice claims on the grounds that judges and juries are not qualified to decide what constitutes a "reasonable" standard of care in higher education. But if the government were to establish—and state schools were to follow—some "reasonable standard of care" for colleges and universities, courts could enforce that standard without the problems associated with crafting one of their own. Nothing would do more to validate educational malpractice lawsuits than the implementation of universal standards written by experts in higher education and approved by policymakers at the Education Department.

When other businesses establish industry-wide standards, deviation from those standards can be used as evidence of negligence. If higher education adopts universal standards, deviation from those standards, can (and probably will) be used against colleges and universities in court. Universal standards are particularly problematic considering the broad diversity of academic programming that exists today. How will "Big 10" schools, the Ivy League, and small, single-sex, religious colleges all live by the same code?

Even in the absence of such standards, courts, which historically showed great deference to academic decision-making, are now using quasi-contractual analysis to ask (and answer) the question, "Are colleges and universities delivering the 'goods' they promise to students?"

Proprietary institutions are particularly vulnerable to these kinds of lawsuits because these for-profit professional schools often promise students that they will acquire specific skills, licenses or other forms of certification.

For example in the 1999 case of *Alsides v. Brown Institute, Ltd.*, a Minnesota Appeals Court refused to hold a trade school liable for educational malpractice on the grounds that such a ruling would be against public policy. But in the same opinion, the court held the school liable for failing to provide "specifically promised educational services," which included an array of issues impacting the *general* quality of education such as instructors' attendance and attentiveness; lack of hands-on training and of specific technology in the classroom; and a shortage in the number of hours of instruction provided to students. The 40 plaintiff-students in that case could have been entitled to money damages on their contract-based claims.

Educational malpractice claims cloaked in terms of breach of contract (as opposed to tort) are still largely confined to trade schools—but that may not be the case for long. A Florida court concluded that a fourth-year medical student was entitled to lost future earnings and

tuition reimbursement after the school dismissed him for failing one of his required courses. In the jury's estimation, the school's decision was "arbitrary and capricious."

When we start comparing colleges to car dealerships, we invite courts to expand the theory of contract-based malpractice to traditional liberal arts settings. While you cannot sue a car dealer for malpractice, you can sue him for breach of contract, breach of warranty, and for a host of lemon law violations, which all amount to a kind of "reasonable standard of care" for car dealers. If you think of educators as professionals (like doctors and lawyers) it is easy to imagine how they might be sued for malpractice on a routine basis. Although the principles of academic freedom and independent intellectual discourse should prevent us from outsourcing educational decisions to judges and juries, the realities of educating students in a highly commercialized environment ensures that at least some of these battles will end up in court.

At present, there is no clear alternative to litigation, which leaves schools in a very difficult position. When a student spends hundreds of thousands of dollars and years (sometimes *many* years) of his or her life at an institution, but fails to acquire the skills necessary to graduate or enter their chosen field, whose fault is it? On the one hand, the school has an obligation to afford the student some number of second chances before expelling him from the program. On the other, there may come a point (in the seventh or eighth year of someone's college career) when the school has a responsibility to turn the student away and encourage him to pursue other endeavors. Where and how schools should draw this line is a difficult question for educators, let alone jurors.

Excessive Compensation

In June 2004, the U.S. Senate Finance Committee held a hearing on fraud and mismanagement in America's nonprofit organizations. At the close of the hearing, Chairman Charles Grassley (R-Iowa) said it was "sad that in a hearing about charities, we have to hear about million-dollar insider contracts; middlemen who purposely cheat charities to make an extra buck; and the fact that over half of all new tax shelters used a tax-exempt party."

The intense scrutiny of executive compensation that started in the corporate world is now focused on nonprofits. With rising tuition costs and unprecedented levels of student debt, all eyes are on colleges and universities. Where presidents, provosts and coaches command high six-figure or even seven-figure salaries and enjoy a range of extravagant perks, Congress, the Internal Revenue Service (IRS) and the public can be expected to pressure schools to justify their pay scales.

The problem came into full relief in fall 2005 when American University President Benjamin Ladner was forced out of office after an anonymous tip revealed he received $800,000 for travel and personal expenses in 2004 alone, in addition to his $886,750 base salary. A trip to Paris with a personal chef and $40,000 for wine, liquor and parties, all went on the school's tab.

American University is not alone. The president of Mercer Community College left his post in Trenton, N.J., after serving $60-per-pound Kobe beef at special school dinners even as tuition headed upward. Meanwhile, an internal audit revealed that University of Tennessee President John W. Shumaker was using the university's aircraft for personal travel to the tune of at least $25,000 in outstanding travel reimbursement fees.

The cynics among us expect high level officials to get caught with their hands in the cookie jar every once in a while. What's so shocking about these scandals is that no one seemed to be watching the cookie jar in the first place. The trustees should have been aware of these problems from the start, but because they grossly misjudged or ignored their fiduciary duties, the excesses of a few executives were allowed to grow and fester until they exploded onto the front page. Predictably, the response has been to place round-the-clock surveillance on that jar.

The IRS is helping to drive these reforms with its "Tax Exempt Compensation Enforcement Project," launched in August 2004. The stated goals of the project are to: 1) address the compensation of specific individuals including high level administrators and highly compensated coaches and faculty members and identify questionable compensation practices; 2) increase awareness about tax issues to help institutions set appropriate levels of compensation on the theory that colleges will play by the rules if they know them; and 3) ensure that compensation practices are reported to the IRS and the public on annual Form 990 returns. Note that these reforms are not intended to set a cap on compensation, but rather to shed light on questionable spending practices that might otherwise go unnoticed.

In response, and in the interest of self-preservation, many colleges are adding layers of oversight to their executive compensation systems by using independent compensation committees, outside auditors and consulting firms. Meanwhile, Sarbanes-Oxley, the federal law designed to reform corporate America by enhancing "transparency" and accuracy in the accounting industry, casts a long shadow over the future of executive compensation in all fields.

These two trends—educational malpractice and executive compensation—are interlocked. As students continue to pour money into their educations and take on mountains of debt, they increasingly feel as though they are not getting their money's worth. This discontent is fueled by stories about overpaid administrators who live the high life while students barely scrape by. The challenge for schools today is to find a way to break this cycle and avoid the litigation that will inevitably flow from it.

Robert B. Smith *and* ***Dana L. Fleming*** *are members of the College & University Practice Group at Nelson, Kinder, Mosseau & Saturley, P.C. in Boston and Manchester, N.H. Email: rsmith@nkms.com or dfleming@nkms.com.*

Next Stop for the Grassroots Movement: Education Policymaking

DANA MOHLER-FARIA

For the first time in many years, Massachusetts has an "Education Governor." Swept into the corner office on the strength of a historic grassroots movement and a mission of civic renewal, Gov. Deval Patrick has put education at the top of his list of priorities—and it's little wonder why. Like so many who have experienced success in the Commonwealth, and so many more who anxiously await their chance to do great things, Patrick understands the awesome transformative power of education.

But an extraordinary task lies ahead. Though Massachusetts may be revered as the cradle of public education in America, recent data show that nearly half the state's Hispanic 9th-graders and more than a third of its black, urban and low-income freshmen fail to graduate from high school four years later.

Though Massachusetts is known throughout the world as a hub of higher education, the state currently ranks 46th in the nation when it comes to the per-capita investments it makes in our community colleges, state colleges and public university campuses.

And though Massachusetts business leaders, politicians, educators and citizens alike increasingly agree that early childhood education constitutes the most critical phase of an individual's lifelong development, such programs have lacked the critical resources and attention they deserve.

Beneath this set of acute ailments, however, lies an even more troubling and chronic problem: little connectivity and sporadic coordination between the three principal segments of the education pipeline. It's important to emphasize that this predicament is not the result of apathetic or unresponsive educators. By and large, Massachusetts teachers and faculty—be they in pre-schools, K-12 districts, community colleges, or four-year colleges and universities—approach their work with great dedication and alacrity, and typically do so against the backdrop of salary inequity and unpredictable levels of state and local support.

Massachusetts educators at every level share equally in a noble mission: to prepare their students to succeed. But while the concept of an educational pipeline may seem obvious, precious and few are the occasions in which educators have either reason or opportunity to come together and behave as integral components of a much larger system of learning. It's a problem not of *people* but of *policy*.

For too long we've operated as independent education silos. Even within these silos, there are important barriers to break down. For example, for years, the five public institutions in my region (Bridgewater State College, Bristol Community College, Cape Cod Community College, Massasoit Community College and the University of Massachusetts Dartmouth) behaved as if they had nothing in common with one another and had little reason to cooperate.

Recently, however, these institutions have come together in Southeastern Massachusetts with an eye toward streamlining the path to student success. In 2003, we began a new dialogue through the "Connect Partnership" to improve transfer articulation, harmonize basic curricula in writing and math and share resources.

Connect showed us what is possible within the public higher education community. In regions all over Massachusetts, the walls separating our institutions have become more permeable—all for the betterment of our students and the public we serve. More important, though, Connect demonstrated a whole new world of possibilities made possible by beginning a new kind of conversation.

And that's exactly the kind of conversation we're trying to have throughout Massachusetts with the entire education community from early childhood through graduate education.

People are ready, willing and even eager to have this conversation. In the days immediately following the November election, Deval Patrick convened dozens of transition working groups, which held open meetings to solicit citizen input on an array of topics. Thousands turned out to participate and share their views and ideas. Their input has already informed governing in Massachusetts by focusing the higher education policy debate on the issues that are of most concern to people, including rising college costs, the need for immediate capital improvements on college campuses, instability in public higher education funding and the need to create partnerships between higher education and business, communities and schools.

Of course, policymaking naturally becomes more specialized and sophisticated as one drills down into its seemingly endless layers. It's up to all of us to ensure that the public doesn't lose its voice as we descend further into the details, and it's up to every citizen to stay informed, interested and connected.

Building a coordinated pre-K-16 education pipeline means that the words of a district superintendent are as relevant as a university faculty member; that the suggestions of a hard-working community college student are on par with an early childhood special education teacher; and the proposals of a high school senior get the same consideration as those of a college president.

Dana Mohler-Faria *is Massachusetts Gov. Deval Patrick's special adviser for Education and president of Bridgewater State College. Email: dmohlerfaria@bridgew.edu.*

The Economic Impact of New England Higher Education … and K-12

JACOB LUDES III, NADIA ALAM AND EVA KAMPITS

Economists and business leaders have recognized the role played by colleges and universities in driving economic development through their purchasing and employment (to say nothing of their longer-term contributions to workforce development and knowledge creation) and the institutions often promote that impact in order to gain public and political support. But the economic impact of public and private elementary and secondary schools has been noticeably absent from the discussion.

A 2006 report by the New England Association of Schools and Colleges (NEASC) indicates that New England's accredited colleges and universities *and* schools represent the leading economic stimulus in the six-state region with an annual direct economic impact exceeding $93.4 billion in academic year 2003-2004, the latest year for which audited school data is available. That's greater than the sum of annual state government expenditures by the six New England states combined.

Economic impact studies often multiply an organization or sector's direct spending by a factor of 2.0 to 3.0 to illustrate its broader impact on the economy. The NEASC study does not factor in a multiplier. The $93.4 billion is a measure of *direct* economic impact, with higher education accounting for $80 billion and K-12 for more than $13 billion annually.

Because NEASC is precise in its direct measurement and thereby conservative in its findings, the study is gaining attention from both educators and public officials. The NEASC study is also unique because it considers both K-12 and higher education.

Why bring K-12 into the fold of institutions and "industries" measuring and touting their economic impact? For one, public policy is heavily focused on issues of state and local spending, and K-12 public education represents a major commitment. In addition, the question of college readiness has spurred educators and politicians to look more closely at the pre-K-12-higher education continuum. And upcoming congressional consideration of universal preschool will surely underscore the importance of considering the pre-K through 16 and beyond education enterprise as a whole.

Accordingly, an economic impact study of New England's higher education institutions *and* schools combined would be a useful and timely tool for regional policymakers—and certainly for educators.

Public education is funded almost entirely by local property taxes. At budget time, policymakers tend to focus on education expenditures as costs, overlooking the significant positive economic impact that school spending has on local communities in terms of jobs and economic growth. In their quest for public support, schools should make the point that education spending does not occur in a vacuum. Most citizens and politicians understand education spending to be an investment with long-term social returns corresponding to lower welfare and crime rates and a more skilled labor force. Less understood are short-term benefits corresponding to transactions between schools and other businesses which generate commerce, raise the state income, spawn job growth and increase property values. Likewise, when education spending is reduced, firms that conduct business with schools are adversely affected because schools' demand for their goods and services inevitably decrease.

Thomas L. Hungerford and Robert W. Wasserman wrote in a 2004 National Education Association working paper that reducing public K-12 expenditures by 1 percent of state income would produce a nearly 1 percent decrease in employment in the state in the short-term and a 1.4 percent decrease in the long-term.

New England not only has the highest concentration of independent higher education institutions in the nation, but also the highest density of independent primary and secondary schools. And the six states spend 23 percent more per public school pupil than the U.S. average.

Moreover, the K-12 sector provides stability and continuity because it is less susceptible to ailments associated with the overall economy.

With discussion of school spending focused on the extraordinary impact that schools have on jobs and growth, public investment is likely to be seen less as a public tax burden and more as a worthy investment in society and the economy.

To be sure, some factors have impeded economic impact studies of schools in the past. The K-12 sector is highly decentralized and generally does not have the resources or support structure to engage in highly complex analyses. Also, financial reporting definitions and requirements vary from state to state denying researchers access to comparative information. Schools just don't have the personnel or expertise to devote to the complex data-gathering effort.

Economic Impact of Accredited Schools, Academic Year 2003-2004

Public elementary schools	$357,654,580
Public middle schools	$294,932,389
Public secondary schools	$5,489,196,490
Vocational-technical schools	$484,846,799
Private elementary, middle, secondary schools	$6,402,903,071
Higher education institutions	$80,455,073,488
Total	**$93,484,606,817**

Still, the total $8.4 billion in revenue for the six-state region's public elementary, middle and secondary schools during 2004 was greater than the individual revenues of many of the region's top-grossing companies including EMC Corp., State Street Corp., Reebok International, Gulf Oil, NStar, Bose Corp., Houghton Mifflin and TJX Cos.

What makes the economic contribution of K-12 schools unique is the scale and breadth of its impact; few companies or industries consist of as many establishments as widely dispersed throughout a region as schools. Schools are in every district, in both urban and rural areas. And New England's schools appear to have a greater impact on their regional economy than schools in other regions. New England not only has the highest concentration of independent higher education institutions in the nation, but also the highest density of independent primary and secondary schools. And the six states spend 23 percent more per public school pupil than the U.S. average.

Schools contribute to growth and employment in a range of industries that the NEASC study does not measure but which should be appreciated. Schools spend significantly on goods and services like heat, electricity, equipment, food, health services, teaching materials, transportation and employee benefits and have a major effect on industries like construction, health, publishing, energy and sporting goods.

Public elementary, middle, and secondary schools in the study spent over $443 million on construction, $45 million on instructional equipment, $322 million on pupil transportation, and $696 million on school operations. At the same time, public K-12 spending on salaries amounted to $4.8 billion and spending on health and other benefits topped $1 billion.

Perhaps most importantly, the education sector is the leading employer in New England. The 429,000 people working in the sector outnumber those employed in health care occupations (385,980) or business and financial services (307,600). The number of New Englanders working in schools, colleges and universities surpasses the total number of accountants, engineers, doctors, nurses, lawyers, police officers, electricians, mechanics, taxi drivers, dentists, clergy, photographers and architects in New England *combined*.

New England's construction industry benefits particularly from school construction and renovation. The New England region has many aging school buildings, some in use for a century or more. Connecticut and Massachusetts are the two New England states that spend the most (in terms of per-student spending) on school construction, ranking second and third in the nation after Alaska. In fact, they even outrank states like Nevada, where spectacular population growth has led to an explosion of new school construction in Clark County. In the decade leading up to 2004, the New England states spent a combined total of $10.1 billion on construction and $1.5 billion on the purchase of instructional equipment.

The construction industry should benefit considerably from growth in school construction and renovation projects, as 100-year old school buildings are replaced and ever-increasing use of technology and the Internet require both schools and colleges to build in sophisticated energy and electrical services.

The NEASC study allows us to make a few other important projections as well:

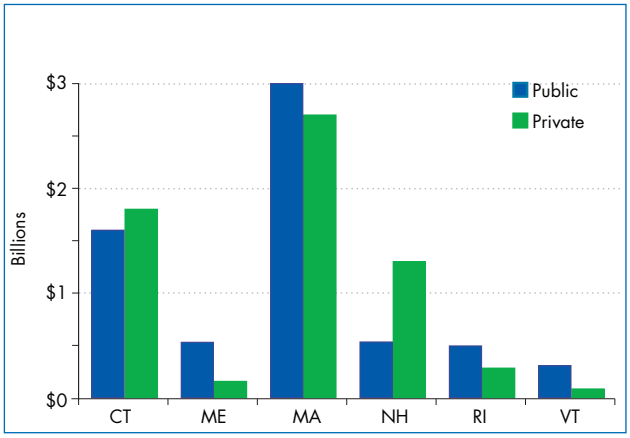
- The trend toward smaller classes and greater use of teacher aides and special education staff will demand more spending on teachers, while changing technologies will require more spending on capital equipment like computers and multimedia supplies.
- Aging school buildings and new electricity and wiring needs brought on by technologies will fuel spending on capital projects.
- Demand for additional school services such as early childhood education, full-day kindergarten, after-school activities and special education will grow.
- Greater demand for educational goods and services foreshadows growth in industries like publishing, multimedia, construction, supplemental educational services (particularly due to No Child Left Behind), and more health benefits.

Expenditures per Student in Average Daily Attendance, 2003-04

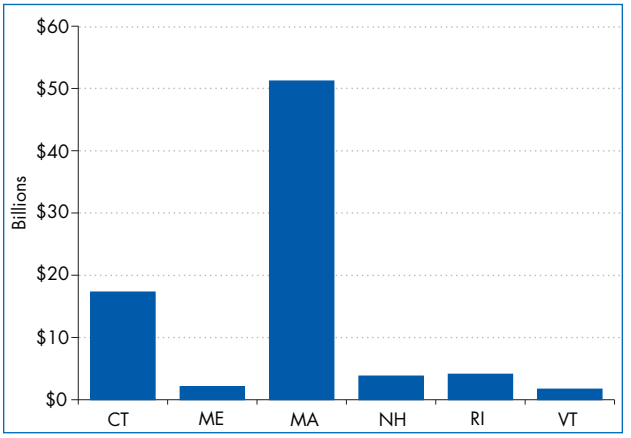
New England	$11,306
Middle Atlantic	$11,499
Southeast	$7,206
Great Lakes	$9,963
Plains	$7,945
Southwest	$7,118
Rocky Mountains	$8,006
Far West	$8,495
U.S. average	**$8,807**

Source: NEA Research. (June 2005). Rankings & Estimates: Rankings of the States 2004 and Estimates of School Statistics 2005. *National Education Association. Summary Table J: Estimated Expenditures for Public Schools 2003-04 (Revised).*

Economic Impact of Accredited K-12 Schools by State, Academic Year 2003-2004



Economic Impact of Accredited Higher Education Institutions by State, Academic Year 2003-2004



Clearly, the economic impact of the region's education community is significant and growing. At a time when districts, states and the nation are considering how best to align pre-K-12 and higher education institutions, organizations such as NEASC and the New England Board of Higher Education should help the pre-K-16 sector in examining, compiling and disseminating credible information on education's impact. Greater appreciation of the significance of the pre-K-12 education sector's economic impact as part of the broader picture will be good for the region's entire education enterprise.

Jacob Ludes III *is executive director and CEO of the New England Association of Schools and Colleges. Email: jludes@neasc.org.* ***Nadia Alam*** *is NEASC research associate. Email: nalam@neasc.org.* ***Eva I. Kampits*** *is NEASC director. Email: kampits@neasc.org.*

Foundations and Higher Education: Whose Agenda?

JOHN C. SCHNEIDER

A little over 15 years ago, I went with my university's provost to visit the higher education program director at a major foundation. The two had a lively exchange and we were invited to submit a proposal that was the brainchild of a creative young assistant professor of engineering. We got the grant, providing several years of support for a wonderfully innovative curriculum that in turn seeded a process that would culminate in revised pre-college teaching standards throughout Massachusetts.

After the grant ended, I took the faculty member to the foundation to report on the extraordinary success and impact of the project—the sort of thing foundations say they love to hear. The program officer who had reluctantly agreed to meet with us was polite but disinterested, and she ushered us out before we could even complete our presentation. As it turned out, we had been caught in a critical moment of change at this foundation similar to what was happening at many other foundations. Grant programs that had been relatively open-ended were now tightly drawn, grounded in the foundations' own carefully articulated take on issues and receptive only to proposals that responded appropriately. Initiative and creativity had shifted heavily from prospective grantee to grantor. Our funded project, whatever its merits, was now out of step with what this foundation wanted quite specifically to accomplish in its education program.

As foundations embraced this funding-by-agenda, it burdened their relationship with colleges and universities, who still preferred to bring their own ideas to the table. Some cut back or completely eliminated their programs in higher education teaching and learning. They also turned increasingly to pre-college education, funding for which in absolute dollars increased twice as fast as that for colleges and universities between 1990 and 2004. Much of this actually went to intermediary organizations,

usually nonprofits focusing on school systems or young people. These organizations were more receptive to taking their cue from foundations. Indeed, a similar pattern characterized other program funding, where foundations looked increasingly to think tanks, independent research centers and national policy and action organizations to help fulfill their agendas.

In the mating dance that often passes for substantive engagement, Bacchetti warns, foundations over-expect, universities over-promise, and both over-claim.

Ray Bacchetti, former education program director at the William and Flora Hewlett Foundation and an astute observer of these trends, and his colleague Thomas Ehrlich at the Carnegie Foundation for the Advancement of Teaching, recently co-edited a collection of essays—their own and others'—on *Reconnecting Education and Foundations: Turning Good Intentions into Educational Capital*. Bacchetti, who was a Stanford University administrator before moving to Hewlett, sees the disconnect between foundations and higher education as the product of deep-seated attributes. Universities are too set in their ways and inward-looking, while foundations are insular and shortsighted. In the mating dance that often passes for substantive engagement, Bacchetti warns, foundations over-expect, universities over-promise, and both over-claim. At base, they are too much alike. "While self-absorption is in the culture of colleges and universities," he writes, "in foundations, it is in the genes."

Bacchetti and Ehrlich want to reinvigorate the relationship where it has most deteriorated, around teaching and learning, through "educational capital" amassed by more collaboration among colleges and universities and by foundations sharing information among themselves and prospective grantees. This vision resonates with others. Lucy Bernholz, a California-based philanthropy consultant, called for knowledge-sharing and alliances among foundations in her 2004 book, *Creating Philanthropic Capital Markets*. In a more scholarly treatise last year, Helmut Anheier and Diana Leat encouraged foundations to engage in "creative philanthropy" that is daring, data-driven and cross-cutting. And now Joel Fleishman, a Duke University scholar and former foundation executive, has come forward with a book that implores foundations to cast aside their overly secretive and arrogant style and become more transparent and evaluative in their work.

It remains to be seen if foundations will respond to these urgings. Their missions can be generations old and their way of doing things deeply ingrained. Their limited accountability inhibits change imposed from beyond their own boardrooms. To help build educational capital they would need to set aside high-profile grant dollars in support of back-office information-gathering and disseminating. And despite a history of little mutual cooperation, they would have to group themselves around a set of shared goals and commit to a sustained longitudinal effort—a pedagogical version of the Framingham Heart Study. Critics accuse foundations of myopia and too frequently abandoning programs. Foundation officials, however, prefer to talk about "nimbleness" and the ability to move quickly and address new issues, something they will be loath to give up.

Universities, for their part, are not built to produce the quick results foundations often look for. They are complex places with sometimes contentious sources of decision-making and initiative, including tenured faculty, entrenched departments, deans, top executives, trustees and alumni groups. The pace can be slow, calling to mind Woodrow Wilson's *bon mot* when he was Princeton's president that one could move a cemetery more easily than the mindset of a college faculty. Universities also harbor a greater range of thinking than is usually represented in foundations' narrow, proprietary programs. Indeed, as the author of one of the articles in the Bacchetti-Ehrlich volume quips, faculty might want to ask "by what hanging chads" foundations were chosen to set the education agenda. If nothing else, with institutions ranging from large research universities to small liberal arts colleges and from highly selective to open-admission ones, higher education may in the end simply be too diverse for any integrated approach to teaching and learning.

Many truly creative and deeply committed teachers populate our nation's campuses and do see themselves engaged in the common effort to improve teaching and learning through dialogue and shared ideas. But colleges and universities also operate in a highly competitive environment, something foreign to the world of foundations. They try to establish their own brands built variously around their roles as key fixtures in local and regional economies, as fonts of discovery, new technology and entrepreneurship, as champions of civic and community engagement and not least as providers to students of both profound learning and marketable skills. Every institution sees itself distinctively through the prism of its own resources and character—and pursues that image in mission statements, promotional materials and fundraising campaigns that appeal to alumni whose giving potential and receptivity to university appeals far exceed that of foundations. Pedagogy is but one feature of this campus portrait, and restrictive education programs at foundations might be bypassed anyway for others that support research and programs better aligned with the broad spectrum of university priorities.

Indeed, the interaction between foundations and higher education has always been mostly about things other than pedagogy. As philanthropy expert Charles T. Clotfelter of Duke University documents in his contribution to *Reconnecting Education and Foundations*, over half of key foundation grants to higher education

in 2003 went for research, undergraduate scholarships, graduate and postdoctoral fellowships and faculty leaves and salary support.

With Bacchetti and Ehrlich we can hope that foundations and higher education can improve their relationship, even around the thorny issue of teaching and learning. If the conversation does perk up, let me suggest that foundations might also look to broader curricular issues. Careerism on campus is eroding liberal education. Conservative foundations have addressed this from their own traditionalist, if not reactionary, perspective, while the Andrew W. Mellon Foundation has a longstanding interest in the humanities and the Teagle Foundation has for years supported small liberal arts colleges. But elsewhere on the foundation landscape, one sees little reference to issues embedded in what used to be called a "well-rounded education."

The former president of the American Council of Learned Societies, Stanley Katz, wondered several years ago where the "learned foundations" have gone that encouraged open, disinterested inquiry and scholarship rather than short-term policy research—scholarship that probed basic social and scientific questions to develop the "essential knowledge upon which ameliorative strategies could be based." The big questions that humanists ask do not translate well to action-oriented foundation programs. But as the University of Washington's David P. Barash has noted, the more science advances and overshadows the humanities, the more its frontiers such as genetic engineering, robotics and cloning raise questions that beg for humanistic wisdom. Meanwhile on campus, the decline of liberal education continues. Students graduating from four-year colleges in New England with majors in the humanities, for example, dropped from almost 12,000 in 1971 to less than 5,000 in 2004. The humanities disciplines, to be sure, have brought some of this on themselves with theoretical squabbling and impenetrable jargon. Robert Weisbuch, then at the Woodrow Wilson Fellowship Foundation and now president of Drew University, said in 2005 that "it is not the world that has refused the humanities; it is the humanities that have refused the world." To help these disciplines find a more relevant voice and re-enter the larger public discourse, foundations could encourage proposals that bring humanists together with scientists in public sessions or "town meetings" around issues like genetic engineering; or provide support to university presses that publish book series in the humanities that target a broad audience through more accessible writing.

So, whither the relationship between foundations and higher education? It is true that over the past 15 years, the Pew Charitable Trusts, Atlantic Philanthropies and Hewlett and W. K. Kellogg foundations and others have sharply reduced or eliminated their support of higher education teaching and learning. During roughly the same period, however, new foundations with programs aimed specifically at higher education have appeared on the scene, among them the Howard Hughes Medical Institute, Lumina Foundation, Wallace Coulter Foundation, Jack Kent Cooke Foundation, and here in New England, the Davis Educational Foundation. Meanwhile, the Mellon Foundation, W.M. Keck Foundation, Alfred P. Sloan Foundation and others show no sign of abandoning their longstanding support of college and university research and other activities.

From many of these foundations will come, for sure, more strategic and assessment-driven programming, and foundation representatives will still be

irritated, as Bacchetti confirms they so often have been, when colleges and universities show up on their doorstep intent on substituting their own agenda for that of the foundation. I would imagine, however, that this happens less and less these days as those on campuses seeking to exploit fundraising opportunities have learned to orient their institutions' academic priorities to the well-honed concerns of foundations.

John C. Schneider *is consultant for scholarly publications at Tufts University's Tisch College of Citizenship and Public Service. He retired last year as Tufts' director of corporate and foundation relations. Email: john.schneider@tufts.edu.*

Warning Lights

New Dashboard Reports Help Institutions Gauge their Performance

LAWRENCE M. BUTLER

The annual "Trends & Indicators" issue of CONNECTION paints a statistical picture of the social, demographic and educational landscape that New England colleges and universities inhabit. We can even glimpse in these data some of the forces shaping the terrain in the years ahead. But how well do New England's college presidents and trustees navigate that landscape? How well are their "vehicles" performing? In addition to the external view, shouldn't they have their own internal "Trends & Indicators" issue—their own sets of institutional metrics to gauge progress toward student enrollment and retention goals, for example, or to alert key decision-makers to pending problems in fundraising or academic quality.

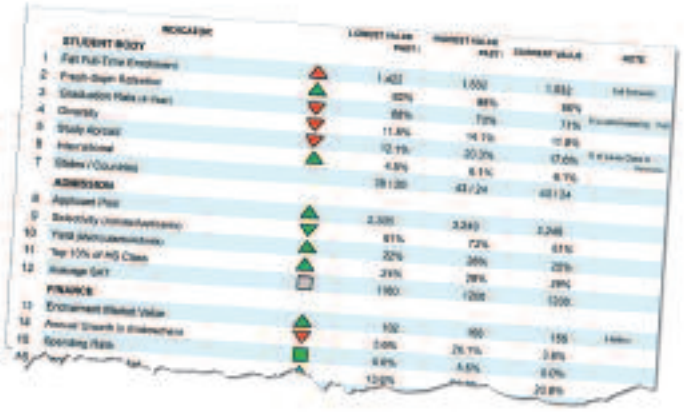
So-called dashboard reports—like an automobile's instrument panel—present quick, comprehensible overviews of the institution's status and direction. Instead of speed, RPM and engine temperature, dashboard reports display comparable measures of organizational performance and mission effectiveness. These key performance indicators (KPIs) are presented in consistent formats that enable institutional leaders to readily spot significant changes and trends. Like an automobile dashboard, these reports often display the equivalent of warning lights that flash on only when there is an impending problem or when certain variables stray outside of predetermined limits. In this way, the dashboard can serve as an early warning device alerting the board and senior administration when it might be important to dig deeper for greater insight.

Dashboard Styles

Among styles of dashboard reporting, the "scorecard dashboard," which first gained currency in the for-profit sector, has become increasingly common in nonprofits, including colleges and universities. Figure 1 is an example of one college's scorecard style of dashboard.

On a single page, 29 KPIs are listed along with their current values and their lowest and highest values during the previous five years. The direction of change of the current value for each KPI in relation to the most recent, previously reported value is indicated by an up or down arrow icon or a square for no change. The importance of that change (from a strategic, financial or mission perspective) is expressed as better, worse or neutral and indicated by the color of the icon (red, green, or gray respectively). This scorecard dashboard sits on top of a set of pages that briefly discuss each of the 29 indicators, adding detail as required.

Figure 1

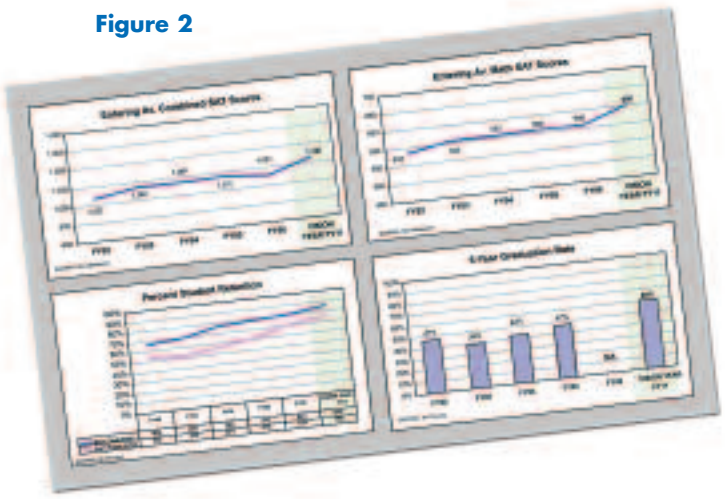


Instead of the five-year historical perspective shown in Figure 1, the scorecard style is often used to compare current values of a set of indicators to previously established goals or benchmarks. These goals or benchmarks can be externally derived—for example, an industry norm or standard or a "best practice" performance level achieved by peer institutions. Or they may be internally derived based on the organization's own historical performance, budget projections, vision targets or mission-based aspirations.

All the elements of the scorecard dashboard—selecting appropriate KPIs, determining benchmarks, calibrating how the icons indicate better, worse or neutral performance—should be thought through by senior executives in consultation with trustees during the dashboard design process. With that prior understanding, the president or trustees can quickly review the report and know which aspects of organizational performance are under control and which require deeper probing. The scorecard dashboard is a powerful data presentation format not only because it employs compelling, visual metaphors (like traffic light colors, arrows, meters and gauges) to direct attention to critical issues, but also because it rests upon this foundation of prior analytical and collaborative effort.

A more graphic style of dashboard reporting is illustrated by Figure 2. In this example, one page of a set of "vision dashboards" displays student performance data. Other pages in the set show enrollment, student body characteristics, academic quality, financial and development data. Five years of actual values for each indicator are presented along with a target value set for a vision year five years into the future. A well-designed dashboard of this type combines the judicious use of bar, line and pie charts with numerical data tables and, if greater guidance is needed, brief narrative bullet points. Some users prefer graphic dashboards such as this, because they convey at a glance various patterns, relative proportions and relationships among the data that the scorecard style does not. The two styles can be combined in a hybrid format that displays a series of key indicators in scorecard fashion with a few selected indicators displayed as line or bar charts.

Figure 2



Of these two basic styles of dashboard reporting, the scorecard approach works well not only in hard copy, but online where the color-coded icons can be used as links allowing the user to jump to another page with greater explanatory detail. The graphic style in Figure 2, with its multiple charts, numbers and words arranged on a single page, tends to work better in hard copy. Online versions of such dashboards often require scrolling to clearly see all the detail, which can undercut the user's ability to take in the entire page at a glance and spot patterns and relationships.

What to Measure?

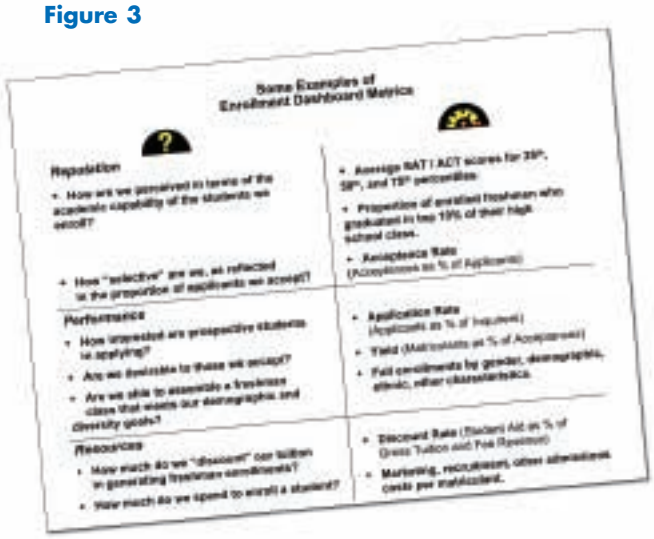
The real value of dashboards lies not in their compelling formats but in their ability to highlight key performance metrics. So clearly the most important step in designing any dashboard report is determining what to measure. A considerable amount of study has been devoted to this subject over the years. So much so that, when the Association of Governing Boards of Universities and Colleges (AGB) surveyed the literature on higher education performance indicators, it uncovered more than 200 assorted ratios, variables and indices used to gauge the effectiveness, efficiency and impact of colleges and universities. There are plenty of metrics from which to choose, but college officials should resist the temptation to display a comprehensive array. The trick is to select a small subset of indicators most meaningful to a given institution.

Figure 3 offers a set of possible indicators that help answer a series of questions in one category of institutional performance—in this instance, enrollment. Other "life-cycle" categories might include recruitment, retention, and alumni engagement. Questions in each category could address institutional reputation, followed by operational performance and finally resource adequacy and consumption. Similarly, indicators can be developed to respond to questions about academic quality and outcomes. Many financial indicators are available from sources like AGB, the National Association of College and University Business Officers, and the Integrated Postsecondary Education Data System of the National Center for Educational Statistics.

Benefits Beyond Reports

Dashboards are user-friendly tools for displaying performance measures. These measures are not the end product of organizational or program evaluation but rather the top layer—the high-level view that points institutional leaders to where they might want to drill down into a more detailed, refined understanding of organizational and program effectiveness. In fact, the value of the dashboard design process can be as

Figure 3



important as the insights gained from the reports themselves. By investing the time to identify in a thoughtful, collaborative way what is most important to measure—those key indicators that reveal the most salient aspects of institutional performance—dashboards can help clarify mission and build a shared understanding of institutional vision and strategy.

Lawrence Butler *is senior consultant with Maguire Associates Inc., the Concord, Mass.-based higher education consulting firm. He is the author of "The Nonprofit Dashboard: A Tool for Tracking Progress," recently published by BoardSource. Email: lbutler@maguireassoc.com.*

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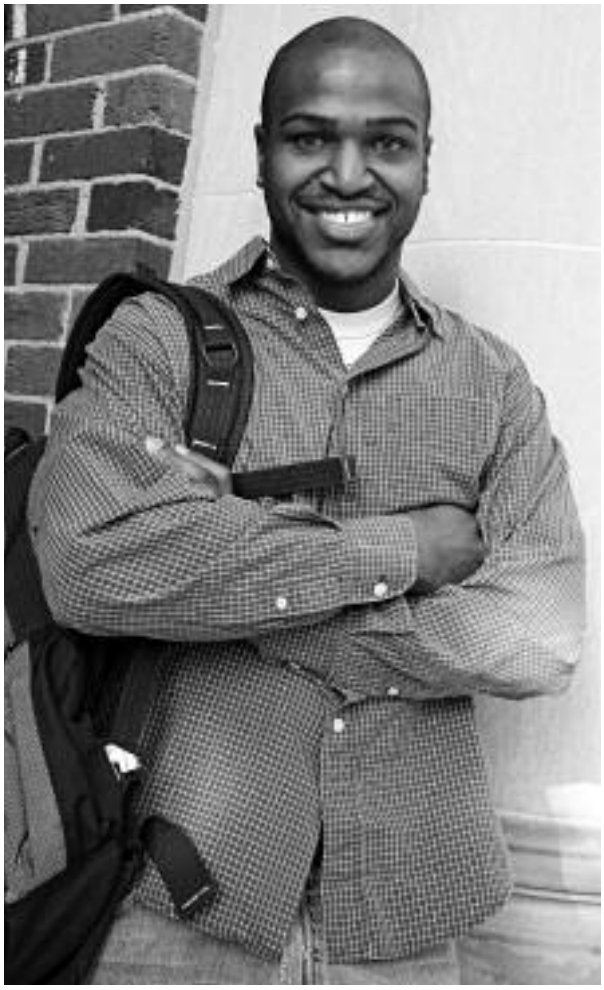

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CONNECTION's Trends & Indicators in Higher Education, 2007

CONNECTION's "Trends & Indicators in Higher Education, 2007" features more than 60 tables and charts exploring New England's changing demography, high school performance and graduation, college enrollment, college graduation rates and degree production, higher education financing and university research.

New this year, we have organized the data on high school performance and graduation, college enrollment, college graduation rates and degrees to correspond with the four goals of the New England Board of Higher Education's college readiness and success initiative:

High School Success *Increasing the number of high school graduates and GED recipients in New England;*

College Readiness *Increasing the number of high school graduates prepared for college and career success;*

College Access *Increasing the number of people enrolling in college; and*

College Success *Increasing the number of college graduates.*

A new data feature titled "Indicators of College Readiness: A State-by-State Comparison" offers a look at readiness benchmarks including social indicators such as children living in poverty, preschool funding and attendance, K-12 course-taking, NAEP and SAT performance, AP scores and high school graduation rates.

Some highlights from Trends & Indicators in Higher Education, 2007:

• Since 1990, New England's population has grown by just 8 percent, compared with 20 percent for the nation as a whole. And all six New England states are among the bottom 10 nationally in the growth of 18- to 24-year-olds since 1990.

• Only 76 percent of New England 9th-graders graduate from high school in the normal four years time, and just 59 percent of those high school graduates enroll in college the following fall.

• Fewer than half of New England students who do finish high school have completed the necessary courses and mastered the skills to be considered "college ready."

• New England college and university enrollment topped 875,000 in 2005, but the region's once-disproportionate share of total U.S. enrollment continued to drop to 5 percent.

• At least 16 OECD countries increased college enrollment at higher rates than the United States between 1995 and 2003, including 10 countries that did so despite overall declines in their traditional college-age populations.

• Nearly half of New England college students attend private institutions compared with about one quarter of college students nationally.

• More than 43,000 foreign students are enrolled on New England campuses—nearly half of them at just 10 of New England's 270 colleges and universities.

• Only 22 percent of students graduate from New England community colleges within three years of enrolling—and substantial gaps exist among racial and ethnic groups. Just 45 percent graduate from New England four-year state colleges (excluding land grants) within six years.

• Three in 10 doctorates awarded by New England universities go to foreign students, while just one in 10 go to U.S. minority students.

• Total yearly charges for resident students, including room and board, average nearly $40,000 at New England's private four-year institutions and $18,000 at the region's public institutions—far above national rates.

• College costs gobble up a large and growing share of family income, especially for low-income New England families.

• Americans pay an average of $242 each in annual state taxes to support public higher education and student aid in their states. New Englanders, however, pay just $177.

• New England universities performed $3.3 billion worth of research and development in 2004, and the region's share of all U.S. university R&D inched up to 7.7 percent—still a far cry from its 10 percent share in the mid-1980s.

The data presented on these pages are collected and analyzed annually by the New England Board of Higher Education's (NEBHE's) Department of Policy and Research. The data are drawn from a variety of sources, including the U.S. Department Education, the National Science Foundation, the College Board, the National Center for Higher Education Management Systems, and NEBHE's own Annual Survey of New England Colleges and Universities.

More comprehensive and detailed figures are available online through the NEBHE Department of Policy and Research at ***www.nebhe.org/research.***

Data compiled by former NEBHE research analyst Sue Klemer, now with North Shore Community College's Department of Planning and Research, and NEBHE intern Miriam Rubin, who is a junior majoring in sociology at Connecticut College.

An Index of Figures appears on page 36.

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DEMOGRAPHY

Since 1990, New England's population has grown by just 8 percent, compared with 20 percent for the nation as a whole. And all six New England states are among the bottom 10 nationally in the growth of 18- to 24-year-olds since 1990.

Fig. 1: Change in Population, 1990 to 2006, New England States and Other Regions

	1990	2000	2003	2004	2005	2006	% Change 1990 to 2005	% Change 2005 to 2006
Connecticut	3,287,116	3,405,565	3,483,372	3,503,604	3,510,297	3,504,809	7%	-0.2%
Maine	1,227,928	1,274,923	1,305,728	1,317,253	1,321,505	1,321,574	8	0.0
Massachusetts	6,016,425	6,349,097	6,433,422	6,416,505	6,398,743	6,437,193	7	0.6
New Hampshire	1,109,252	1,235,786	1,287,687	1,299,500	1,309,940	1,314,895	19	0.4
Rhode Island	1,003,464	1,048,319	1,076,164	1,080,632	1,076,189	1,067,610	6	-0.8
Vermont	562,758	608,827	619,107	621,394	623,050	623,908	11	0.1
New England	13,206,943	13,922,517	14,205,480	14,238,888	14,239,724	14,269,989	8	0.2
Middle Atlantic	37,602,286	39,671,861	40,225,598	40,332,259	40,402,171	40,471,364	8	0.2
East North Central	42,008,942	45,155,037	45,842,992	46,031,860	46,156,447	46,275,645	10	0.3
West North Central	17,659,690	19,237,739	19,585,918	19,697,992	19,815,527	19,942,091	13	0.6
South Atlantic	43,566,853	51,769,160	54,310,395	55,182,959	56,179,519	57,143,670	31	1.7
East South Central	15,176,284	17,022,810	17,349,717	17,480,032	17,615,260	17,754,447	17	0.8
West South Central	26,702,793	31,444,850	32,831,282	33,281,974	33,710,634	34,185,635	28	1.4
Mountain	13,658,776	18,172,295	19,387,045	19,798,992	20,291,305	20,845,987	53	2.7
Pacific	39,127,306	45,025,637	47,055,375	47,610,448	47,999,817	48,509,656	24	1.1
United States	248,709,873	281,421,906	290,793,802	293,655,404	296,410,404	299,398,484	20%	1.0%

Note: Middle Atlantic includes New Jersey, New York, Pennsylvania. East North Central includes Ohio, Illinois, Indiana, Michigan, Wisconsin. West North Central includes Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. South Atlantic includes Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida. East South Central includes Kentucky, Tennessee, Alabama, Mississippi. West South Central includes Arkansas, Louisiana, Oklahoma, Texas. Mountain includes Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada. Pacific includes Washington, Oregon, California, Alaska, Hawaii.

Source; New England Board of Higher Education analysis of U.S. Census Bureau data.

Fig. 2: Population of New England by Race, 2005

	White alone	Black or African-American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Two or more races	Total
Connecticut	2,981,509	354,111	11,954	112,366	2,752	47,605	3,510,297
Maine	1,280,776	9,946	7,293	10,893	455	12,142	1,321,505
Massachusetts	5,548,846	438,892	18,340	301,927	5,383	85,355	6,398,743
New Hampshire	1,258,274	12,670	3,115	22,874	543	12,464	1,309,940
Rhode Island	956,569	66,483	6,448	29,018	1,307	16,364	1,076,189
Vermont	603,849	3,904	2,181	6,361	165	6,590	623,050
New England	12,629,823	886,006	49,331	483,439	10,605	180,520	14,239,724

Note: The above categories reflect the U.S. Census Bureau Guidance on the Presentation and Comparison of Race and Hispanic Origin; www.census.gov.

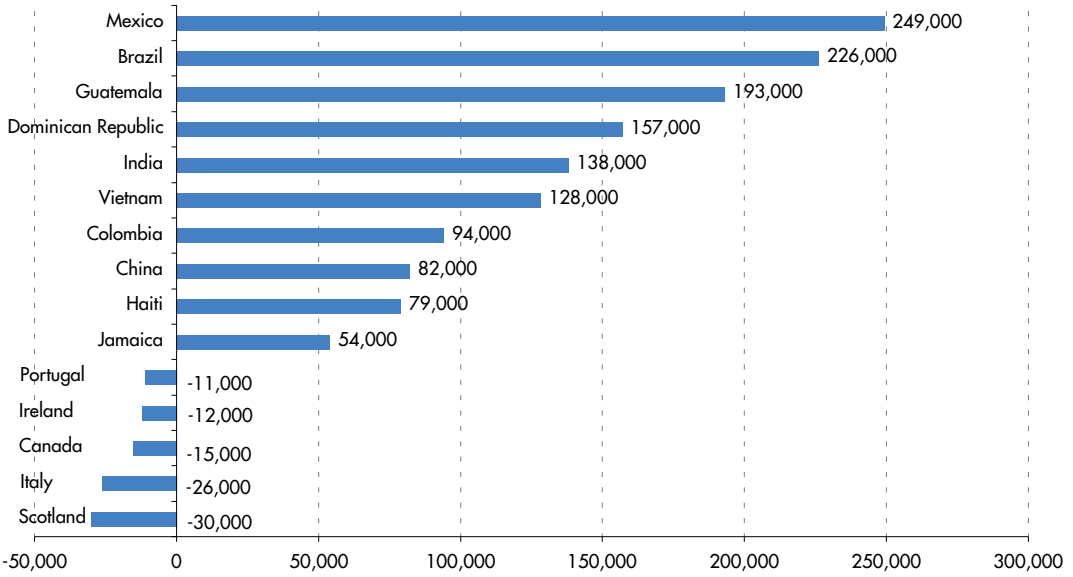
Source: New England Board of Higher Education analysis of U.S. Census Bureau data.

Fig. 3: Change in Population Ages 25 to 34, 1990 to 2004, Top Five and Bottom Five States

Rank	State	1990	2004	1990-2004 Percentage Change
1st	Nevada	222,027	354,894	60%
2nd	Utah	274,898	399,210	45
3rd	Arizona	634,899	830,117	31
4th	Idaho	152,800	184,610	21
5th	Colorado	611,849	717,277	17
	United States	43,175,932	40,031,938	-7%
46th	Vermont	95,257	69,580	-27
47th	New Hampshire	204,823	148,953	-27
48th	Alaska	112,965	81,152	-28
49th	Maine	205,235	145,686	-29
50th	Connecticut	583,882	409,393	-30%

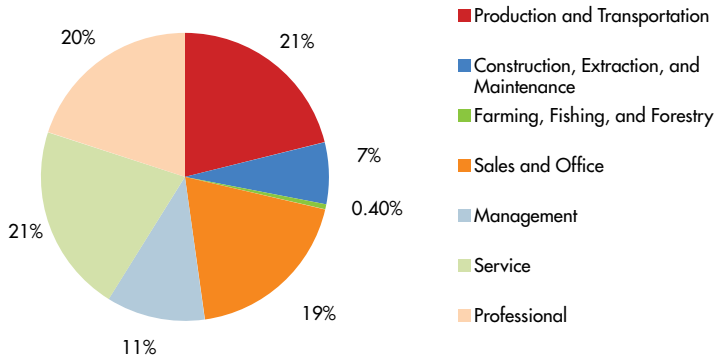
Source: University of New Hampshire Carsey Institute analysis of U.S. Census Bureau data; www.carseyinstitute.unh.edu.

Fig. 4: Change in Population of Immigrant Groups in New England by Country of Origin, 1990 to 2000



Source: New England Board of Higher Education analysis of Federal Reserve Bank of Boston data; www.bos.frb.org.

Fig. 5: Occupational Status of Immigrants in New England, 2000

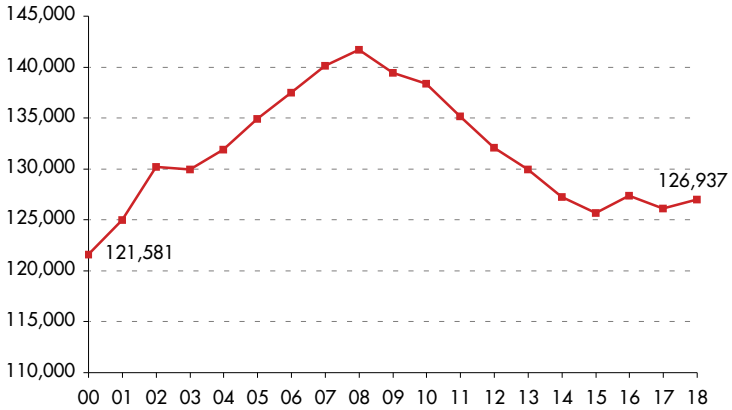


Source: New England Board of Higher Education analysis of Federal Reserve Bank of Boston data;www.bos.frb.org.

HIGH SCHOOL SUCCESS

New England's high school graduating classes will shrink over the next 10 years due to sheer demography. Meanwhile, only about 25 of every 100 public school 9th-graders in the region will graduate from high school, then enroll in and graduate from college.

Fig. 6: Public High School Graduates in New England, Projected 2000 to 2018



Source: New England Board of Higher Education analysis of Western Interstate Commission for Higher Education (WICHE) data.

Fig. 7: New England Public High School Graduates by Race, Projected 2007 to 2018

	2006-07	2017-18	Projected % Change
Connecticut			
American Indian	103	159	54%
Asian	1,271	2,858	125%
Hispanic	3,885	5,166	33%
African-American	4,355	4,067	-7%
White	26,511	22,422	-15%
Maine			
American Indian	66	94	42%
Asian	155	259	67%
Hispanic	114	202	77%
African-American	241	540	124%
White	12,310	9,841	-20%
Massachusetts			
American Indian	219	490	124%
Asian	3,260	5,074	56%
Hispanic	5,042	5,948	18%
African-American	5,057	4,614	-9%
White	46,978	40,093	-15%

	2006-07	2017-18	Projected % Change
New Hampshire			
American Indian	29	61	110%
Asian	213	874	310%
Hispanic	315	912	190%
African-American	152	378	149%
White	11,886	9,902	-17%
Rhode Island			
American Indian	51	120	135%
Asian	299	335	12%
Hispanic	1,513	2,713	79%
African-American	944	1,240	31%
White	7,240	5,828	-20%
Vermont			
American Indian	33	24	-27%
Asian	114	213	87%
Hispanic	88	873	892%
African-American	43	47	9%
White	6,339	4,786	-25%

Source: New England Board of Higher Education analysis of Western Interstate Commission for Higher Education (WICHE) data.

For more trends and indicators, visit www.nebhe.org/research.

Fig. 8: Public High School Graduation Rates, 2003-04

	Fall 2000 9th-Graders	2003-04 High School Graduates	Percent Graduating in Four Years
Connecticut	45,525	34,573	76%
Maine	17,134	13,278	78
Massachusetts	78,201	58,326	75
New Hampshire	17,578	13,309	76
Rhode Island	12,819	9,258	72
Vermont	8,595	7,100	83
New England	179,852	135,844	76
United States	3,963,294	2,762,309	70%

Source: National Center for Higher Education Management Systems (NCHEMS); www.higheredinfo.org.

Fig. 9: New England High School Graduation Rates by Race/Ethnicity and Gender, 2002-03

	All Students	Male	Female	Native American	Asian American	Hispanic	African-American	White
Connecticut	79%	77%	82%	26%	NA	52%	61%	85%
Maine	74	71	73	NA	30	NA	NA	73
Massachusetts	72	68	76	30	66	41	53	79
New Hampshire	78	NA	NA	NA	NA	NA	NA	NA
Rhode Island	72	68	75	NA	55	55	61	75
Vermont	81	NA	NA	NA	60	NA	NA	81
United States	70%	65%	73%	47%	77%	56%	52%	76%

Source: New England Board of Higher Education analysis of Editorial Projects in Education (EPE) Research Center data, *Diplomas Count; www.edweek.org/rc.*

Fig. 10: Population Ages 20-24 with a High School Credential: International Comparison, 2003

	Percentage with a High School Credential
Korea	97%
Slovak Republic	94
Norway	94
Czech Republic	91
Canada	88
Finland	86
Sweden	86
United States	**86**
Ireland	85
Hungary	85
New Zealand	84
Austria	84
Belgium	81
France	79
Australia	79
Greece	78
United Kingdom	77
Denmark	76
Germany	73

Note: The term "high school credential" includes diplomas and similar awards representing completion of secondary school as well as alternative routes to completion such as GEDs in the United States. Figure reflects only OECD-member countries, which include 23 European countries as well as Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States.

Source: National Center for Public Policy and Higher Education analysis of Organisation for Economic Co-operation and Development (OECD) data.

Fig. 11: Education Pipeline: High School Graduation, College Participation and Success

For every 100 public high school 9th graders...

	Graduate from High School	Enter College the Following Fall	Return to the Same College for Sophomore Year	Graduate College within 150% Time
Connecticut	76	46	35	24
Maine	77	38	28	20
Massachusetts	75	47	36	26
New Hampshire	76	42	31	24
Rhode Island	72	40	29	20
Vermont	83	36	28	22
United States	**69**	**39**	**27**	**18**

Note: 150% percent of time means that students attending four-year institutions graduate within six years and students attending two-year institutions graduate within three years.

Source: National Center for Higher Education Management Systems analysis of US Department of Education data.

COLLEGE READINESS

CONNECTION looks at state-by-state indicators of college readiness, including: children living in poverty, preschool funding and attendance, K-12 course-taking, student-teacher ratios, NAEP and SAT performance, AP scores, high school graduation and college enrollment.

Fig. 12: Indicators of College Readiness: A State-by-State Comparison

	Conn.	Maine	Mass.	N.H.	R.I.	Vt.	New England	United States
Percentage of Children in Poverty, 2005	12%	17%	14%	9%	19%	15%	NA	19%
Children in Households where Householder Has a Bachelor's Degree or Higher, 2005	39%	27%	39%	36%	31%	34%	NA	27%
State Preschool Programs, 2005								
Percent of 3- and 4-year-olds enrolled	17%	14%	15%	NA	NA	58%	NA	20%
State spending per child enrolled	$6,663	$1,997	$4,848	NA	NA	$2,488	NA	$3,551
NAEP Achievement Levels, 2005								
4th Grade Math	43%	39%	49%	47%	31%	44%	NA	35%
4th Grade Reading	38%	35%	44%	39%	30%	39%	NA	30%
8th Grade Math	35%	30%	43%	35%	24%	38%	NA	29%
8th Grade Reading	34%	38%	44%	38%	29%	37%	NA	29%
8th Grade Writing, 2002	45%	36%	42%	NA	29%	41%	NA	NA
Expenditures per Student in Public K-12 Schools, 2004-05	$11,874	$10,723	$11,681	$9,555	$10,641	$11,661	NA	$9,644
Student-Teacher Ratios in Public K-12 Schools, 2005	14:1	12:1	15:1	14:1	11:1	11:1	NA	NA
The number of high school juniors and seniors per 1,000 scoring 3 (out of 5) or higher on an AP subject test.	217	129	210	99	106	150	NA	NA
PSAT Participation, 2006								
Percent of 11th Graders Taking PSAT	78%	74%	72%	64%	83%	55%	73%	NA
Percent of 10th Graders Taking PSAT	57%	98%	45%	32%	83%	16%	54%	NA
SAT Performance, 2006								
Participation Rate	84%	73%	85%	82%	69%	67%	NA	NA
Mean Critical Reading Scores	512	501	513	520	495	513	511	503
Mean Math Scores	516	501	524	524	502	519	518	518
Mean Writing Scores	511	491	510	509	490	502	507	497
Percent of Seniors with College-Ready Transcripts	40%	42%	41%	40%	40%	45%	NA	36%
High School Graduation Rate, 2004	76%	78%	75%	76%	72%	83%	76%	70%
Percentage of High School Graduates Entering College the Fall after Graduation, 2004	61%	50%	63%	55%	56%	43%	59%	56%

Notes: For Maine, preschool data refer to 4 year olds only; New Hampshire and Rhode Island have no distinct state preschool programs. NAEP Achievement Levels represent the percent of students that scored proficient on the National Assessment of Educational Progress or NAEP exams.
In order to have a "College-Ready Transcript" students must have taken at least four years of English, three years of math, and two years of natural science, social science and foreign language before graduating from high school.

Sources: U.S. Census Bureau, www.census.gov; National Institute for Early Education Research; Editorial Projects in Education Research Center; Collegeboard, www.collegeboard.com; The National Center for Public Policy and Higher Education; Kids Count, Annie Casey Foundation; National Education Association.

For more trends and indicators, visit www.nebhe.org/research.

COLLEGE ACCESS

New England college and university enrollment topped 875,000 in 2005, but the region's once-disproportionate share of total U.S. enrollment continued to drop to 5 percent.

Fig. 13: Percentage of High School Graduates Enrolling in College the Fall after Graduating High School, 2004

	High School Graduates 2004	First-Time Freshmen Enrolled Directly from High School Enrolled Anywhere in the U.S. Fall 2004	Percent of High School Graduates Going Directly to College
Connecticut	41,202	25,154	61%
Maine	16,050	7,965	50
Massachusetts	69,051	43,806	63
New Hampshire	15,780	8,737	55
Rhode Island	11,201	6,229	56
Vermont	8,470	3,679	43
New England	161,754	95,570	59
United States	3,053,563	1,699,635	56%

Source: New England Board of Higher Education analysis of National Center for Higher Education Management Systems (NCHEMS) data; www.higheredinfo.org.

Fig. 14: Index of Change in Higher Education Enrollments: International Comparison, 1995 to 2003

(1995=100)

		Change in Enrollment Accounted for by	
	Change in Total Enrollment	Change in Size of Relevant Age Group	Change in Rate of Participation from Relevant Age Group
Hungary	229	89	232
Greece	189	105	180
Iceland	183	106	174
Czech Republic	170	93	174
Korea	159	84	175
Sweden	146	95	155
Mexico	146	109	134
Ireland	142	110	128
Portugal	133	95	140
Australia	129	103	126
United Kingdom	126	97	131
Finland	125	100	126
Denmark	122	90	137
Spain	121	93	127
Norway	117	92	126
Belgium	116	97	122
United States	112	107	105
Germany	104	85	119
France	103	94	110
Austria	93	67	101

Note: All data is taken from 1995 and 2003 except data for Austria which is from 1995 and 2002. Figure reflects only OECD-member countries, which include 23 European countries as well as Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States.

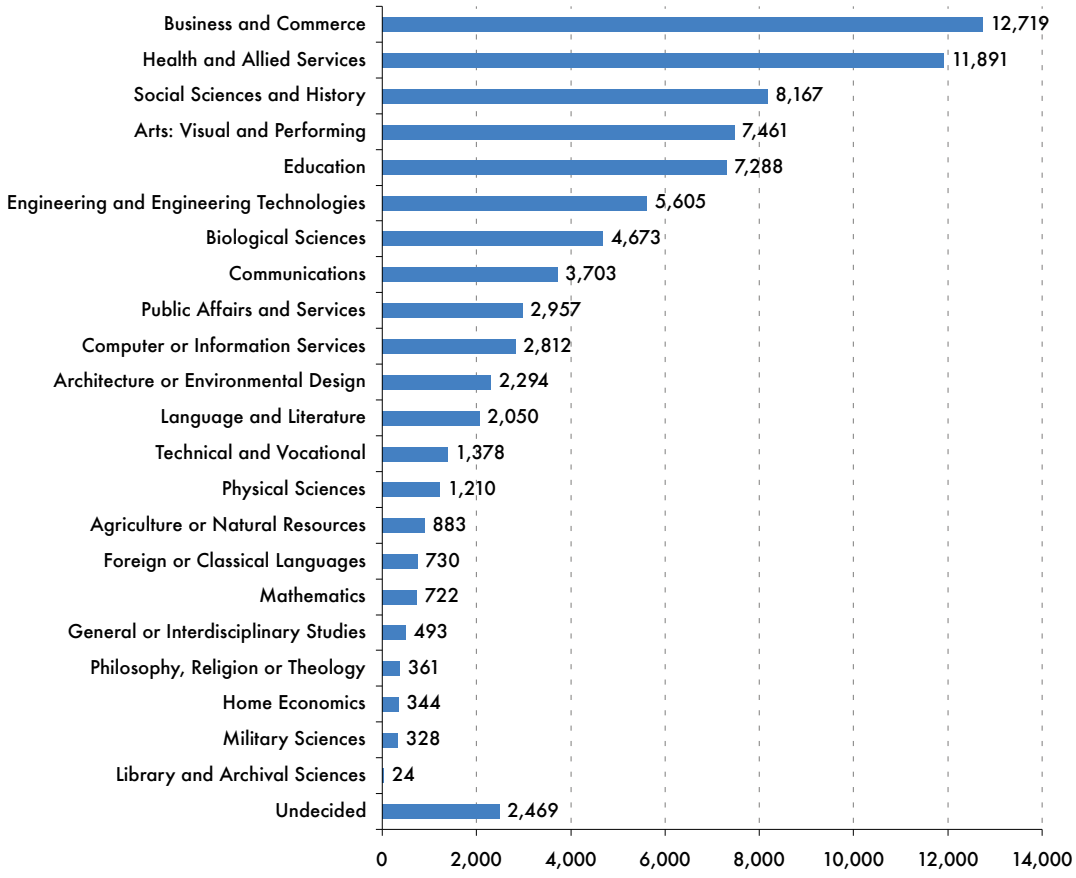
Source: National Center for Public Policy of Higher Education analysis of Organisation for Economic Co-operation and Development and U.S. Census Bureau data.

Fig. 15: Migration of First-Time Freshmen to and from New England, 2004

		Destination State						
State of Origin	Total Freshmen from State	CT	ME	MA	NH	RI	VT	Total Enrolling in New England
Connecticut	25,152	14,513	159	2,393	593	949	417	19,024
Maine	7,965	145	4,974	759	404	106	248	6,636
Massachusetts	43,803	1,670	545	29,869	1,818	1,826	907	36,635
New Hampshire	8,737	235	310	1,237	4,781	209	364	7,136
Rhode Island	6,229	244	39	776	204	4,011	83	5,357
Vermont	3,679	91	149	373	266	81	1,592	2,552
Total from New England	95,565	16,898	6,176	35,407	8,066	7,182	3,611	77,340

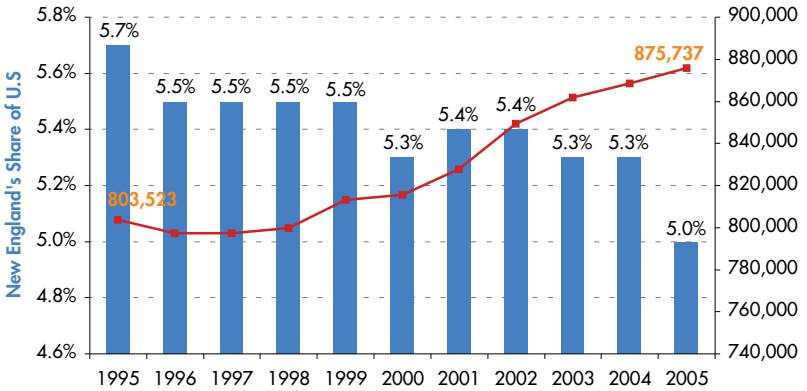
Source: New England Board of Higher Education analysis of Postsecondary Education Opportunity data; www.postsecondary.org.

Fig. 16: Intended College Majors of College-Bound Seniors in New England, 2006



Source: The College Board, www.collegeboard.com.

Fig. 17: Total Enrollment at New England Colleges and Universities and New England's Share of U.S. Enrollment, 1995 to 2005



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

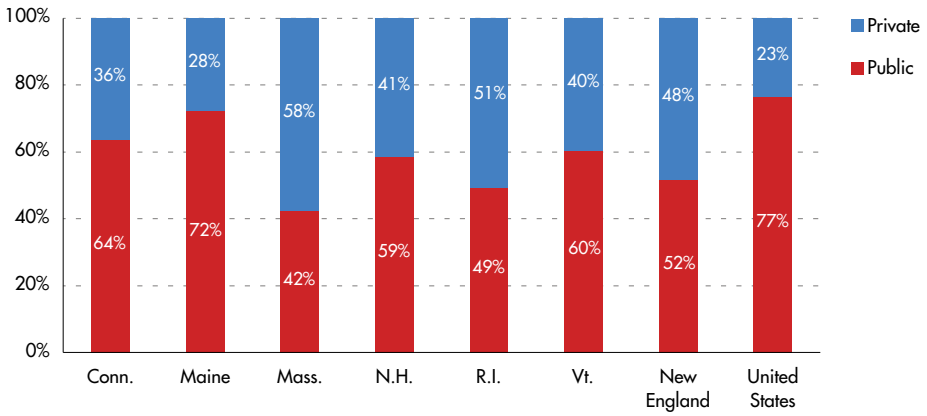
Fig. 18: Higher Education Enrollment in New England by Type of Institution and Full-Time Status, 2005

	All Institutions			Public Institutions			Private Institutions		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Connecticut	175,680	114,080	61,600	111,705	64,609	47,096	63,975	49,471	14,504
Maine	65,551	40,689	24,862	47,519	27,446	20,073	18,032	13,243	4,789
Massachusetts	443,316	305,271	138,045	187,913	106,411	81,502	255,403	198,860	56,543
New Hampshire	69,893	47,646	22,247	41,007	25,589	15,418	28,886	22,057	6,829
Rhode Island	81,382	58,906	22,476	40,008	22,715	17,293	41,374	36,191	5,183
Vermont	39,915	28,933	10,982	24,090	15,581	8,509	15,825	13,352	2,473
New England	875,737	595,525	280,212	452,242	262,351	189,891	423,495	333,174	90,321
United States	17,350,000	10,483,000	6,867,000	13,283,000	NA	NA	4,068,000	NA	NA
New England as a % of United States	5.0	5.7	4.1	3.4	NA	NA	10.4	NA	NA

Note: U.S. totals are projected by the U.S. Department of Education. Full-time and part-time breakdowns for public and private institutions were not available.

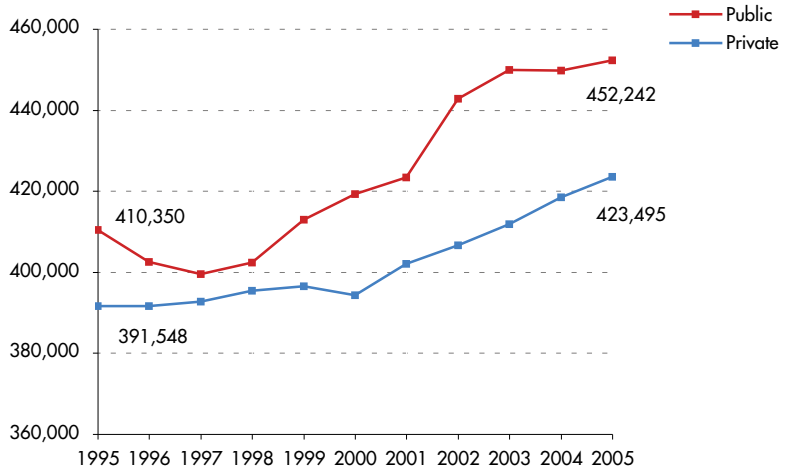
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 19: Distribution of Higher Education Enrollment, Public vs. Private, 2005



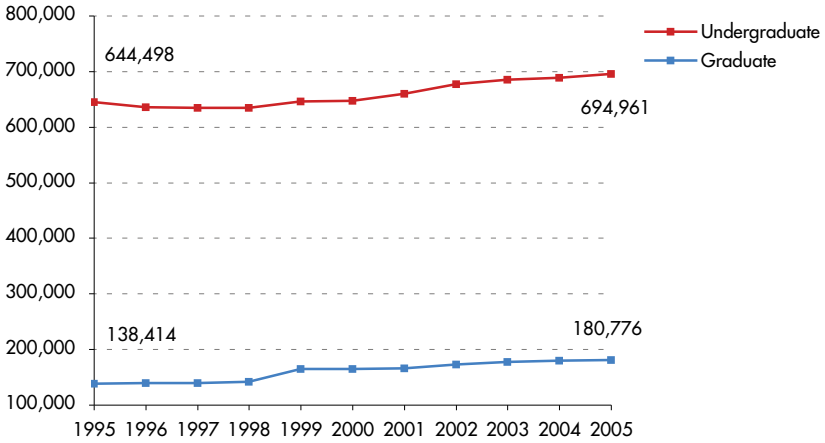
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 20: Public vs. Private College Enrollment in New England, 1995 to 2005



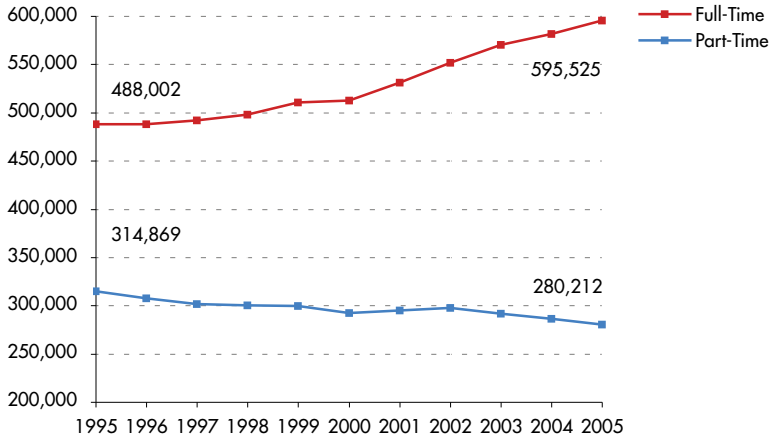
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 21: Undergraduate vs. Graduate Enrollment in New England,1995 to 2005



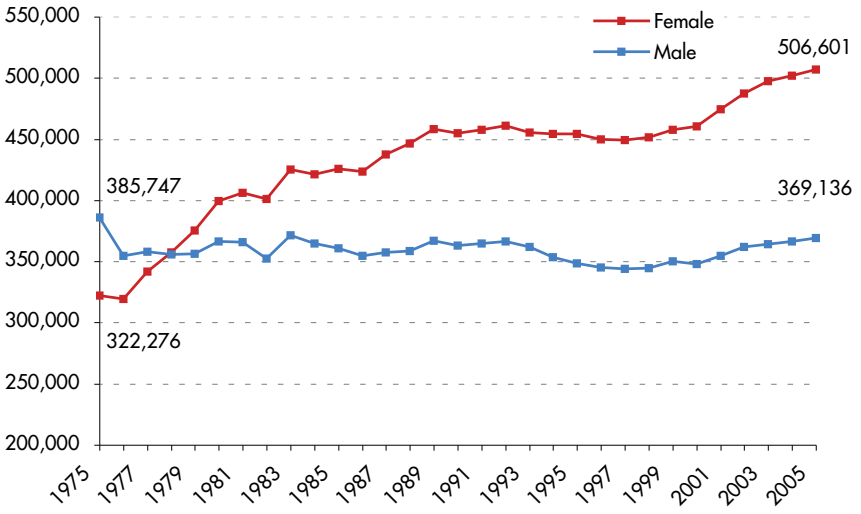
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 22: Full-Time vs. Part-Time College Enrollment in New England, 1995 to 2005



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 23: Total Higher Education Enrollment by Gender in New England, 1975 to 2005



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 24: New England Institutions with the Largest Undergraduate Enrollments, Fall 2005

Institution Name	Full-time	Part-time	Total
University of Massachusetts Amherst	18,054	1,340	19,394
Boston University	17,384	1,310	18,694
Northeastern University	14,730	3,063	17,793
University of Connecticut	15,296	816	16,112
Community College of Rhode Island	5,765	10,277	16,042
University of Rhode Island	9,766	1,780	11,546
University of New Hampshire	10,911	603	11,514
Boston College	9,561	400	9,961
University of Vermont	8,652	1,207	9,859
Harvard University	7,097	2,628	9,725
Central Connecticut State University	7,445	2,233	9,678
Johnson & Wales University	8,399	938	9,337
University of Maine	7,617	1,562	9,179
University of Massachusetts Boston	5,768	3,190	8,958
University of Southern Maine	4,788	3,834	8,622
University of Massachusetts Lowell	5,695	2,614	8,309
Southern Connecticut State University	6,697	1,612	8,309
Middlesex Community College (Mass.)	3,453	4,555	8,008
Bridgewater State College	6,435	1,416	7,851
Bunker Hill Community College	2,388	5,449	7,837
University of Massachusetts Dartmouth	6,449	1,070	7,519
Rhode Island College	5,310	2,167	7,477
Salem State College	5,468	1,828	7,296
Bristol Community College	3,097	3,776	6,873
Massasoit Community College	3,207	3,499	6,706
Total 25 Largest Institutions	194,315	65,617	259,932

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

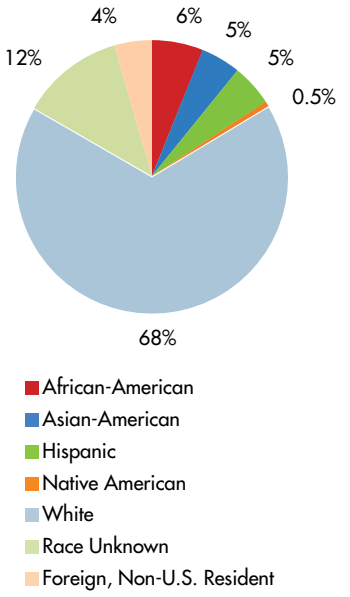
Fig. 25: New England Cities with the Largest Total College Enrollments, 2005

City	Number of Colleges & Universities	Total Enrollment
Boston, Mass.	33	135,314
Cambridge, Mass.	8	52,960
Providence, R.I.	5	46,200
New Haven, Conn.	4	32,694
Amherst, Mass.	3	28,110
Storrs, Conn.	1	28,083
Worcester, Mass.	8	26,764
Newton, Mass.	6	19,210
Warwick, R.I.	2	19,145
Lowell, Mass.	2	18,674
Springfield, Mass.	4	17,026
Kingston, R.I.	1	15,095
Burlington, Vt.	4	14,764
Durham, N.H.	1	14,564
New Britain, Conn.	2	14,217
Manchester, N.H.	6	13,712
Portland, Maine	4	11,541
Waltham, Mass.	2	10,754
Wellesley, Mass.	3	10,556
Medford, Mass.	1	10,441

Note: Total enrollment includes full- and part-time undergraduate, graduate and non-degree students.

Source: New England Board of Higher Education Annual Survey of New England Colleges and Universities, 2006.

Fig. 26: Enrollment at New England Colleges and Universities by Race/Ethnicity, 2005



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

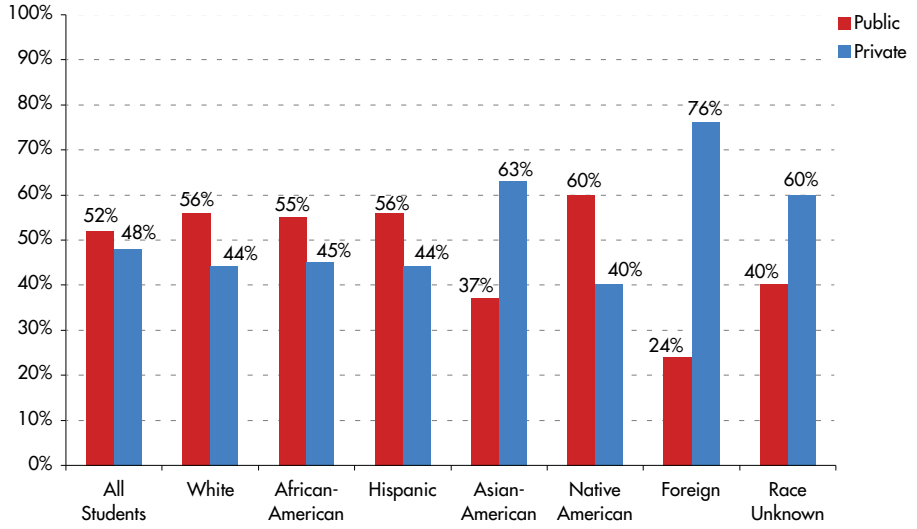
Fig. 27: Minority Enrollment by State and Race/Ethnicity, 1995 and 2005

		Enrolled Students				As % of 18- to 24-Year-Old Population 2005	% Change in Enrollment 1995-2005
		1995	% of Total	2005	% of Total		
Connecticut	African-American	11,695	7.4%	17,107	9.7%	12%	46%
	Asian-American	5,433	3.4%	7,139	4.1%	3	31
	Hispanic	7,914	5.0%	13,217	7.5%	15	67
	Native American	523	0.3%	637	0.4%	1	22
	White	121,955	76.8%	116,797	66.5%	63	-4
	Race Unknown	5,706	3.6%	14,365	8.2%	NA	152
Maine	African-American	329	0.6%	967	1.5%	1	194
	Asian-American	683	1.2%	955	1.5%	1	40
	Hispanic	279	0.5%	688	1.1%	1	147
	Native American	609	1.1%	921	1.4%	1	51
	White	41,468	74.8%	55,664	84.9%	95	34
	Race Unknown	11,487	20.7%	5,082	7.8%	NA	-56
Massachusetts	African-American	19,888	4.8%	29,724	6.7%	7	50
	Asian-American	21,284	5.1%	27,289	6.2%	6	28
	Hispanic	15,597	3.8%	23,520	5.3%	10	51
	Native American	1,387	0.3%	1,623	0.4%	0.3	17
	White	278,215	67.2%	273,027	61.6%	71	-2
	Race Unknown	53,292	12.9%	61,764	13.9%	NA	16
New Hampshire	African-American	635	1.1%	1,132	1.6%	1	78
	Asian-American	859	1.4%	1,524	2.2%	2	77
	Hispanic	658	1.1%	1,415	2.0%	1	115
	Native American	215	0.4%	314	0.4%	1	46
	White	46,405	77.3%	52,419	75.0%	93	13
	Race Unknown	10,037	16.7%	11,436	16.4%	NA	14
Rhode Island	African-American	2,962	4.0%	4,232	5.2%	6	43
	Asian-American	2,455	3.3%	2,970	3.6%	4	21
	Hispanic	2,536	3.4%	4,546	5.6%	12	79
	Native American	236	0.3%	306	0.4%	1	30
	White	56,926	76.2%	55,854	68.6%	71	-2
	Race Unknown	7,063	9.5%	10,781	13.2%	NA	53
Vermont	African-American	336	1.0%	654	1.6%	1	95
	Asian-American	484	1.4%	806	2.0%	1	67
	Hispanic	405	1.2%	760	1.9%	2	88
	Native American	137	0.4%	237	0.6%	1	73
	White	30,151	87.0%	33,597	84.2%	95	11
	Race Unknown	2,351	6.8%	3,060	7.7%	NA	30
New England	African-American	35,845	4.4%	53,816	6.1%	7	50
	Asian-American	31,198	3.8%	40,683	4.6%	4	30
	Hispanic	27,389	3.3%	44,146	5.0%	10	61
	Native American	3,107	0.4%	4,038	0.5%	0.4	30
	White	575,120	70.2%	587,358	68.0%	74	2
	Race Unknown	89,936	11.0%	106,488	12.2%	NA	18
United States	African-American	1,473,700	10.3%	2,164,683	12.5%	12	47
	Asian-American	797,400	5.6%	1,108,693	6.4%	4	39
	Hispanic	1,093,800	7.7%	1,809,593	10.5%	15	65
	Native American	131,300	0.9%	176,138	1.0%	1	34
	White	10,311,200	72.3%	11,422,770	66.1%	68%	11%

Note: Table does not include enrollment at military academies. African-American, Asian-American, Native American and White totals reflect non-Hispanic population. Does not include the category non-resident alien. United States data for 2004.

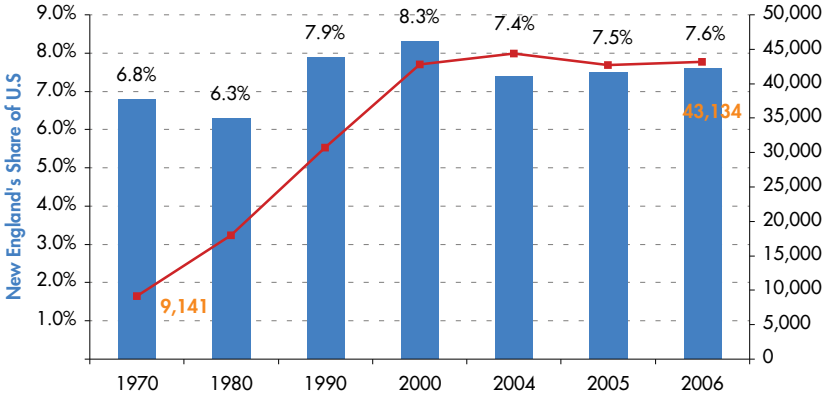
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 28: Public vs. Private College Enrollment in New England by Race/Ethnicity, 2005



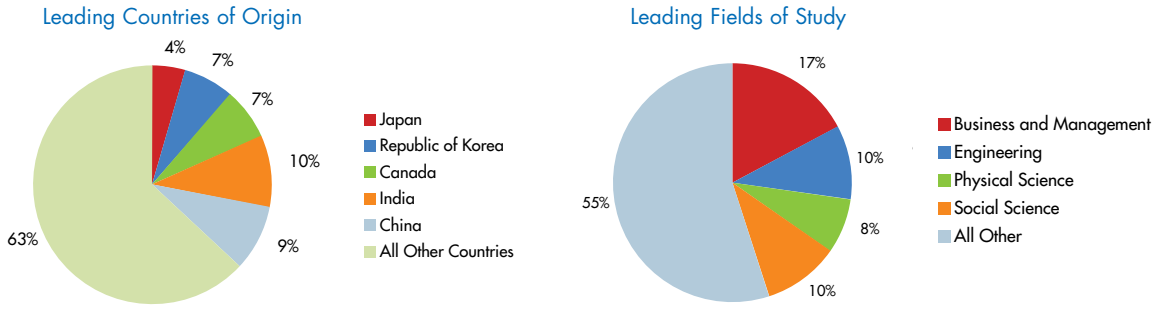
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 29: Foreign Enrollment at New England Colleges and Universities and Share of U.S. Foreign Enrollment, 1970 to 2006



Source: New England Board of Higher Education analysis of Institute of International Education data; www.iie.org.

Fig. 30: Foreign Students in New England by Countries of Origin and Fields of Study, 2006



Source: New England Board of Higher Education analysis of Institute of International Education data; www.iie.org.

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Fig. 31: Estimated Economic Impact from International Students, 2005-06

	Number of Foreign Students	Tuition & Fees	Living Expenses & Dependents	U.S. Funding	Total Contribution Minus U.S. Support
Connecticut	7,185	$163,702,490	$150,910,126	$111,438,463	$203,174,153
Maine	1,474	27,861,598	22,239,242	15,362,472	34,738,368
Massachusetts	28,007	718,149,959	653,638,136	502,804,385	868,983,710
New Hampshire	2,031	49,581,656	41,657,911	30,137,483	61,102,084
Rhode Island	3,477	81,659,964	70,220,672	40,541,771	111,338,866
Vermont	960	27,789,625	16,780,660	12,945,316	31,624,970
New England	43,134	$1,068,745,291	$955,446,747	$713,229,890	$1,310,962,149
United States	564,766	$9,444,000,000	$10,511,000,000	$6,463,000,000	$13,492,000,000

Source: New England Board of Higher Education analysis of Institute of International Education data; www.iie.org.

Fig. 32: New England Institutions Enrolling More than 1,000 Foreign Students, 2006

U.S. Rank	Institution	Foreign Enrollment	Total Enrollment	Foreign Students as a % of Total Enrollment
8th	Boston University	4,542	30,957	15%
15th	Harvard University	3,669	25,017	15
30th	Massachusetts Institute of Technology	2,736	10,206	27
51st	Yale University	2,019	11,483	18
54th	Northeastern University	1,980	22,604	9
65th	University of Massachusetts Amherst	1,843	25,093	7
80th	University of Connecticut	1,599	23,185	7
118th	Johnson & Wales	1,200	23,185	5
132nd	University of Bridgeport	1,093	3,626	30
140th	Brown University	1,025	8,261	12
	Total of Above Institutions	**21,706**	**183,617**	**12%**
	Total of All New England Institutions	**43,134**	**875,737**	**5%**
	Above Institutions as a Share of All New England Institutions	**50%**	**21%**	

Source: New England Board of Higher Education analysis of Institute of International Education data; www.iie.org.

Fig. 33: New England Institutions with More than 10% of Undergraduates Studying Abroad, 2005

Institution	Undergraduates Studying Abroad	Total Undergraduate Enrollment	Percentage of Students Studying Abroad
Bates College	308	1,743	18%
Middlebury College	410	2,455	17
Smith College	399	2,642	15
Dartmouth College	565	4,110	14
Bowdoin College	217	1,666	13
Tufts University	647	5,051	13
Connecticut College	242	1,900	13
Wesleyan University	323	2,700	12
Mount Holyoke College	251	2,100	12
Trinity College	254	2,137	12
Williams College	232	2,000	12
Wheaton College	175	1,550	11
Gordon College	185	1,700	11
Worcester Polytechnic Institute	302	2,851	11

Source: New England Board of Higher Education analysis of Institute for International Education data;www.iie.org.

COLLEGE SUCCESS

Only 22 percent of students graduate from New England community colleges within three years of starting—and substantial gaps exist among racial/ethnic groups. And just 45 percent graduate from New England four-year state colleges (excluding land grants) within six years.

Fig. 34: Graduation Rates by State, Race/Ethnicity and Type of Institution, 2005

	Foreign	Black, non-Hispanic	American Indian or Alaskan Native	Asian or Pacific Islander	Hispanic	White, non-Hispanic	Race/Ethnicity Unknown	Total
Public Two-Year								
Connecticut	36%	9%	14%	11%	9%	15%	13%	13%
Maine	47	19	24	26	19	35	27	33
Massachusetts	24	10	11	13	10	20	14	18
New Hampshire	NA	4	NA	6	4	31	18	29
Rhode Island	33	7	13	9	7	10	9	10
Vermont	10	NA	NA	NA	NA	60	2	21
New England	26	16	23	16	11	23	14	22
Public Four-Year								
Connecticut	33	34	43	35	30	41	34	39
Maine	56	33	20	50	50	48	46	56
Massachusetts	50	39	59	42	31	50	41	50
New Hampshire	40	43	33	54	17	53	48	40
Rhode Island	50	27	50	35	23	48	38	50
Vermont	NA	NA	17	25	43	47	28	NA
New England	48	36	37	40	30	47	39	45
Public Land Grant								
Connecticut	59	57	67	71	71	73	73	72
Maine	55	44	30	33	39	54	NA	53
Massachusetts	74	56	45	62	60	67	61	66
New Hampshire	53	65	100	57	68	74	61	73
Rhode Island	14	42	67	56	43	58	49	56
Vermont	69	75	25	82	67	65	63	65
New England	60	55	45	63	59	66	61	65
Private Four-Year								
Connecticut	76	63	79	82	66	70	73	74
Maine	77	72	73	86	60	72	50	73
Massachusetts	72	64	65	83	72	74	72	74
New Hampshire	71	76	72	85	79	66	69	68
Rhode Island	82	65	68	86	77	67	81	76
Vermont	86	53	69	79	62	70	40	67
New England	74%	64%	69%	83%	71%	74%	71%	74%

Note: The graduation rate is the percentage of students who complete an associate degree (at two-year institutions) within three years or a bachelor's degree (at four-year institutions) within six years.

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

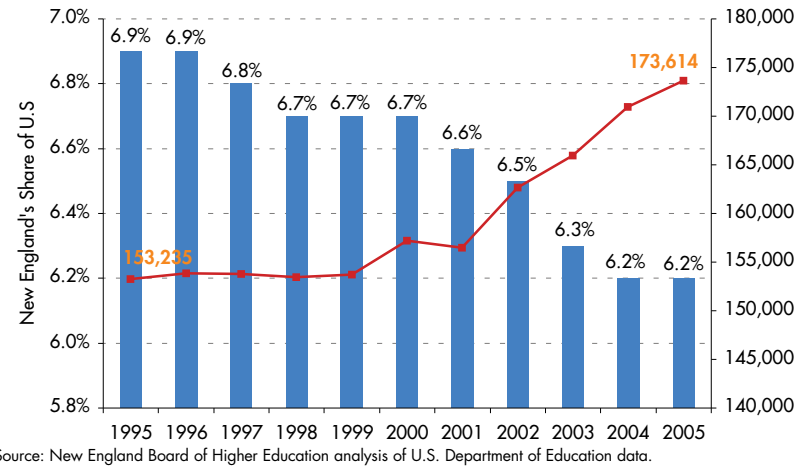
Fig. 35: Graduation and Transfer Rates by State and Type of Institution, 2005

	Public Two-Year		Public Four-Year		Public Land Grant		Private Four-Year	
	% Graduating	% Transferring to other Institutions	% Graduating	% Transferring to other Institutions	% Graduating	% Transferring to other Institutions	% Graduating	% Transferring to other Institutions
Connecticut	13%	17%	39%	5%	72%	20%	74%	12%
Maine	33	11	56	17	53	NA	73	3
Massachusetts	18	20	50	16	66	NA	74	16
New Hampshire	29	NA	40	NA	73	NA	68	2
Rhode Island	10	22	50	NA	56	NA	76	3
Vermont	21	5	NA	NA	65	NA	67	3
New England	22%	20%	45%	6%	65%	NA	74%	13%

Note: The graduation rate is the percentage of students who complete an associate degree (at two-year institutions only) within three years or a bachelor's degree (at four-year institutions) within six years. Figures are based on cohorts entering in 1999 (four-year institutions) or 2002 (two-year institutions). New England figures are based on the aggregate numbers of all institutions of a given type, rather than an average of the states' graduation rates.

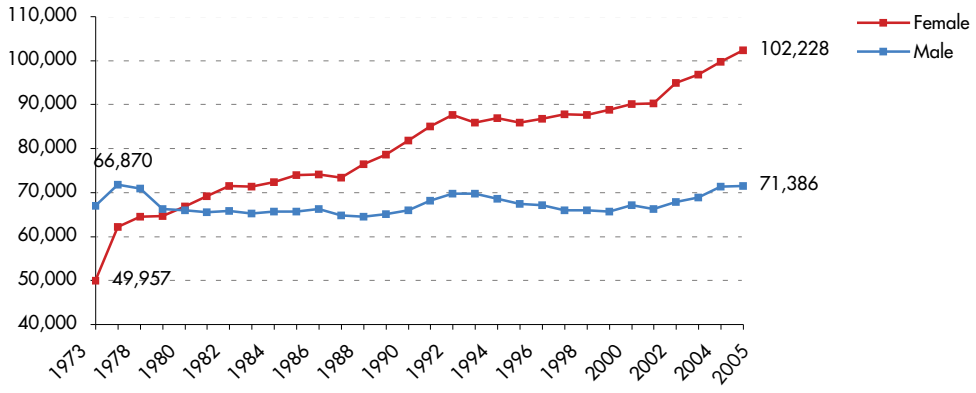
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 36: Total Degrees Awarded at New England's Colleges and Universities and New England's Share of U.S. Degrees, 1995 to 2005



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 37: Degrees Awarded in New England by Gender, 1973 to 2005



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

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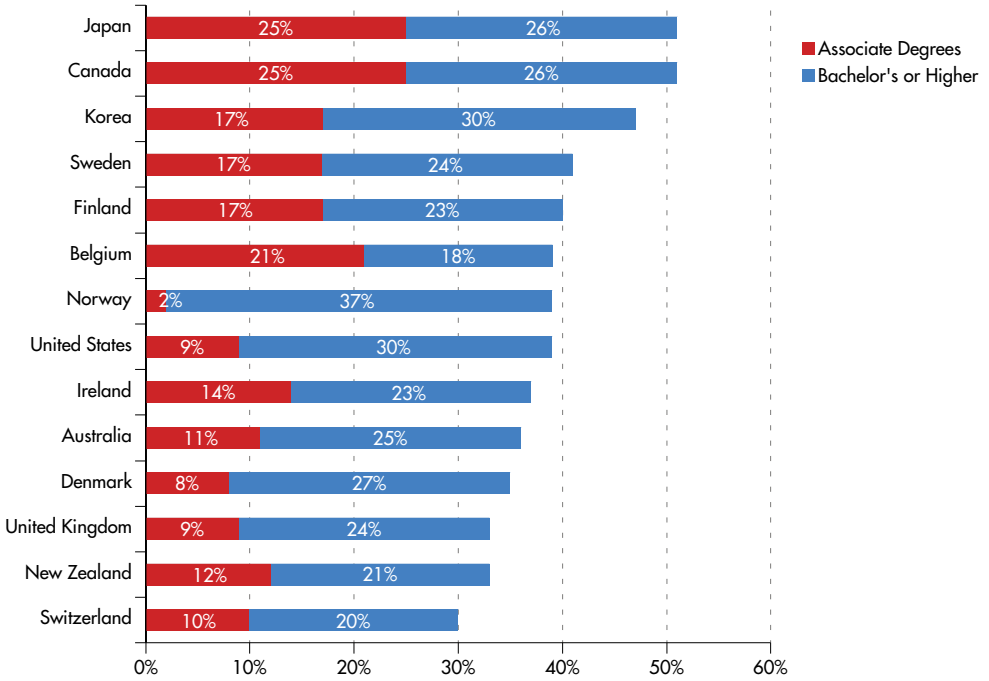
Fig. 38: Percentage of 25- to 34-Year-Olds with Postsecondary Degrees: International Comparison, 2003



Note: Figure reflects only OECD-member countries, which include 23 European countries as well as Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States.

Source: Organisation for Economic Co-operation and Development.

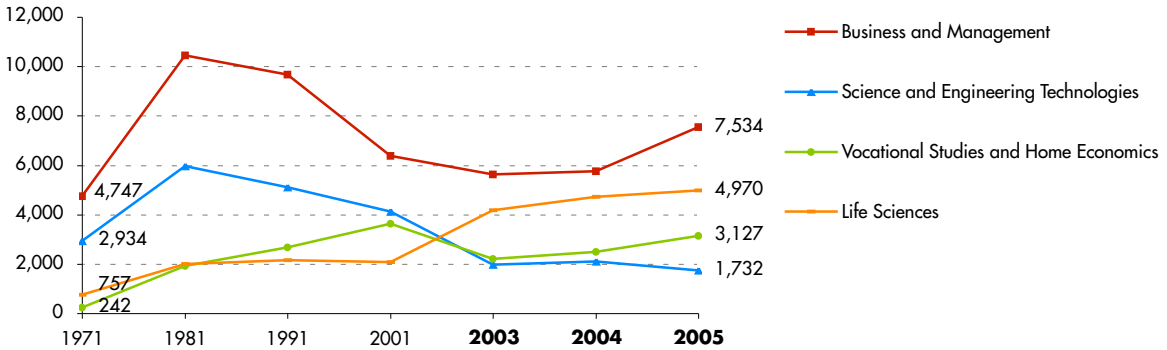
Fig. 39: Associate Degrees Awarded to Men, Women, Minorities and Foreign Students, 2005

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	5,022	1,665	3,357	112	681	25	115	507	3,332	250
Maine	2,374	863	1,511	17	17	32	15	15	2,167	111
Massachusetts	11,595	4,193	7,402	523	942	47	446	687	7,899	1,051
New Hampshire	3,498	1,275	2,223	21	58	11	42	88	2,852	426
Rhode Island	3,573	1,663	1,910	102	234	6	103	214	2,638	276
Vermont	1,271	506	765	6	12	10	22	15	1,120	86
New England	27,333	10,165	17,168	781	1,944	131	743	1,526	20,008	2,200
% of New England Associate Degrees		37%	63%	3%	7%	0.5%	3%	6%	73%	8%

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 40: Associate Degrees Awarded at New England Colleges and Universities Showing Selected Fields of Study, 1971 to 2005

Total Associate Degrees Awarded 1971: 16,782; **2005:** 27,333



Note: Disciplines not listed include: Arts and Music, Education, Social Service Professions, Communication and Librarianship, Engineering, Psychology, Social Sciences, Geosciences, Law, Interdisciplinary or other Sciences, Physical Sciences, Architecture and Environmental Design, Humanites, Religion and Theology, Math and Computer Sciences and unknown disciplines. These unlisted disciplines awarded 9,970 degrees in 2005.

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

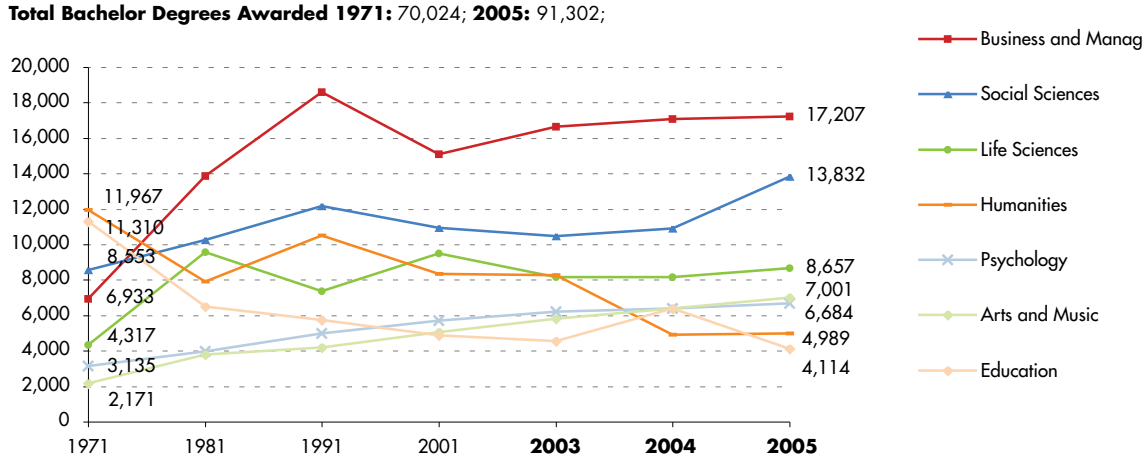
Fig. 41: Bachelor's Degrees Awarded to Men, Women, Minorities and Foreign Students, 2005

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	16,617	7,027	9,590	523	1,116	74	729	824	12,138	1,213
Maine	6,500	2,635	3,865	513	70	50	110	66	5,477	214
Massachusetts	45,714	19,115	26,599	2,209	2,432	172	3,265	1,965	30,410	5,261
New Hampshire	8,107	3,425	4,682	162	154	47	260	165	6,404	915
Rhode Island	9,472	4,070	5,402	265	424	34	449	354	6,929	1,017
Vermont	4,892	2,163	2,729	99	53	13	106	101	4,237	283
New England	91,302	38,435	52,867	3,771	4,249	390	4,919	3,475	65,595	8,903
% of New England Bachelor's Degrees		42%	58%	4%	5%	0.4%	5%	4%	72%	10%

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 42: Bachelor's Degrees Awarded at New England Colleges and Universities by Selected Fields of Study, 1971 to 2005

Total Bachelor Degrees Awarded 1971: 70,024; **2005:** 91,302;



Note: Disciplines not listed include: Communication and Librarianship, Math and Computer Sciences, Engineering, Vocational Studies and Home Economics, Science and Engineering Technologies, Social Service Professions, Physical Sciences, Architecture and Environmental Design, Geosciences, Religion and Theology, Interdisciplinary or other Science, Law and unknown disciplines. These unlisted disciplines awarded 28,818 degrees in 2005.

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 43: Master's Degrees Awarded to Men, Women, Minorities and Foreign Students, 2005

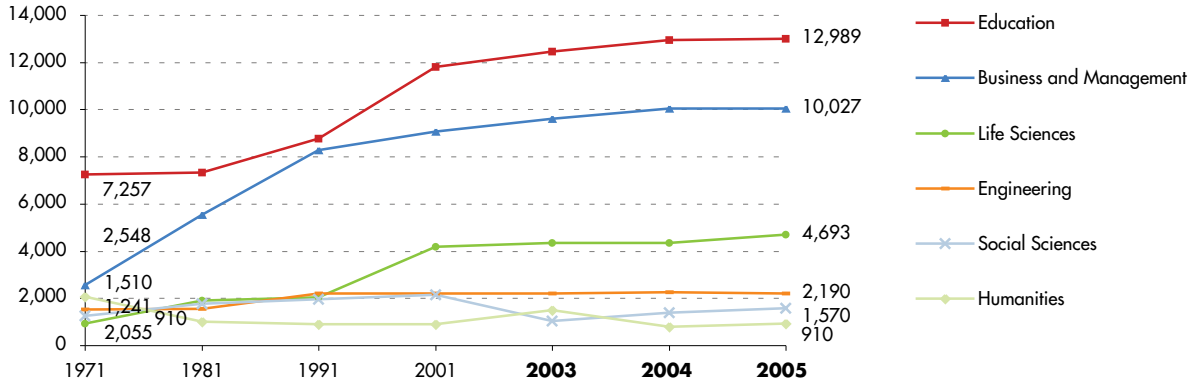
	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	8,851	3,516	5,335	1,192	428	17	334	286	5,678	916
Maine	1,648	473	1,175	60	8	10	7	16	1,420	127
Massachusetts	27,663	11,080	16,583	3,894	1,468	93	1,420	856	14,443	5,489
New Hampshire	2,751	1,132	1,619	330	32	6	78	43	1,803	459
Rhode Island	2,223	896	1,327	372	63	7	61	55	1,396	269
Vermont	1,684	665	1,019	121	38	10	33	37	1,170	275
New England	44,820	17,762	27,058	5,969	2,037	143	1,933	1,293	25,910	7,535
% of New England Master's Degrees		40%	60%	13%	5%	0.3%	4%	3%	58%	17%

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

For more trends and indicators, visit www.nebhe.org/research.

Fig. 44: Master's Degrees Awarded at New England Colleges and Universities by Selected Fields of Study, 1971 to 2005

Total Masters Degrees Awarded: 1971: 19,113; **2005:** 44,820;



Note: Disciplines not listed include: Physcial Science,Geosciences, Math and Computer Science, Psychology, Science and Engineering Technologies, Interdisciplinary or other Sciences, Religion and Theology, Arts and Music, Architecture and Environmental Design, Communication and Librarianship, Law, Social Service Professions, Vocational Studies and Home Economics, unknown Disciplines. These unlisted disciplines awarded 12,441 degrees in 2005.

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

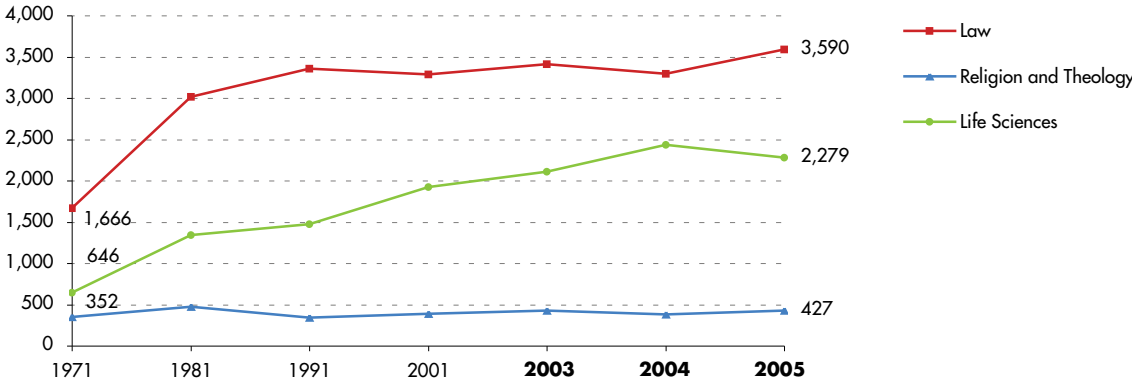
Fig. 45: First-Professional Degrees Awarded to Men, Women, Minorities and Foreign Students, 2005

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	1,014	541	473	23	58	4	82	47	764	36
Maine	217	81	136	0	2	1	9	1	200	4
Massachusetts	4,305	2,082	2,223	158	249	13	657	175	2,581	472
New Hampshire	183	103	80	8	3	0	14	8	133	17
Rhode Island	318	142	176	5	15	1	29	13	214	41
Vermont	259	110	149	1	10	0	25	9	205	9
New England	6,296	3,059	3,237	195	337	19	816	253	4,097	579
% of New England First-Professional Degrees		49%	51%	3%	5%	0.3%	13%	4%	65%	9%

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 46: First-Professional Degrees Awarded at New England Colleges and Universities by Fields of Study, 1971 to 2005

Total First-Professional Degrees Awarded: 1971: 2,664; **2005:** 6,696



Source: New England Board of Higher Education analysis of U.S. Department of Education data.

For more trends and indicators, visit www.nebhe.org/research.

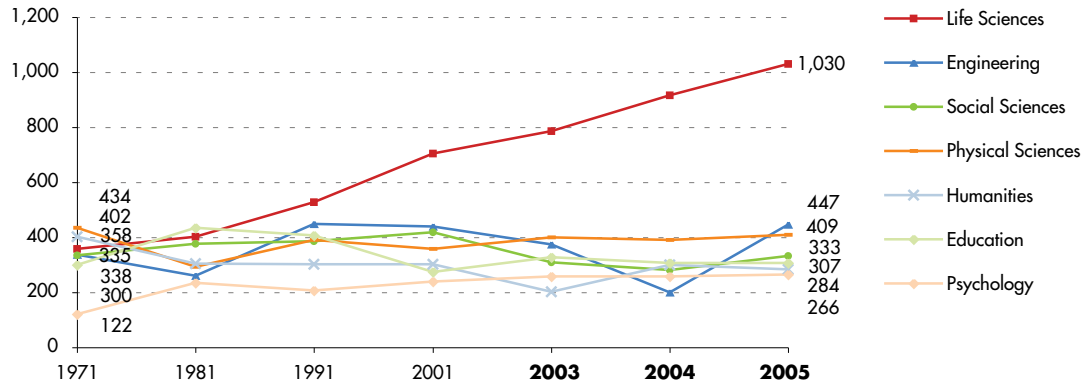
Fig. 47: Doctorates Awarded to Men, Women, Minorities and Foreign Students, 2005

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	675	318	357	233	17	1	26	19	288	91
Maine	40	21	19	10	0	0	0	0	30	0
Massachusetts	2,676	1,391	1,285	776	71	7	123	62	1,264	373
New Hampshire	167	87	80	31	2	0	12	1	112	9
Rhode Island	243	123	120	88	7	1	8	5	65	69
Vermont	62	25	37	9	0	0	1	0	50	2
New England	3,863	1,965	1,898	1,147	97	9	170	87	1,809	544
% of New EnglandDoctorates		51%	49%	30%	3%	0.2%	4%	2%	47%	14%

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 48: Doctorates Awarded at New England Colleges and Universities by Selected Fields of Study, 1971 to 2005

Total Bachelor Degrees Awarded 1971: 2,624; **2005:** 3,863;



Note: Disciplines not listed include: Geosciences, Math and Computer Science, Science and Engineering Technologies, Interdisciplinary or other Sciences, Religion and Theology, Arts and Music, Architecture and Environmental Design, Business and Management, Communication and Librarianship, Law, Social Service Professions, Vocational Studies and Home Economics, unknown Disciplines. These unknown disciplines awarded 787 Degrees in 2005.

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

FINANCING HIGHER EDUCATION

Total yearly charges for resident students, including room and board, average nearly $40,000 at New England's private four-year institutions and $18,000 at the region's public institutions—far above national rates.

Fig. 49: Average Expenses, New England vs. the United States, Academic Year 2006-07

				Resident			Commuter		
	Tuition & Fees for State Residents	Additional Charges for Out-of-State Residents	Books & Supplies	Room & Board	Transportation	Other	Room & Board	Transportation	Other
New England									
Two-year public	$3,363	$6,143	$779	NA	NA	NA	$6,251	$1,108	$1,600
Four-year public	7,658	11,128	848	7,611	522	1,257	6,495	923	1,493
Four-year private	28,386	NA	896	9,726	573	1,141	8,132	871	1,223
United States									
Two-year public	$2,272	$4,208	$850	NA	NA	NA	$6,299	$1,197	$1,676
Four-year public	5,836	9,947	942	6,960	880	1,739	6,917	1,224	2,048
Four-year private	22,218	NA	935	8,149	722	1,277	7,211	1,091	1,630

Note: Room & board costs for commuter students are average estimated living expenses for students living off-campus but not with parents.

Source: Table 5, Average Student Expenses, by College Board Region, 2006-2007 (Enrollment-Weighted). *Trends in College Pricing* 2006.

Fig 50: Tuition and Mandatory Fees, Academic Years 2005-06 and 2006-07 with Percent Change

	2005-06	2006-07	Percent Change		2005-06	2006-07	Percent Change
Connecticut				**New Hampshire**			
Two-year public	$2,536	$2,672	5%	Two-year public	$5,195	$5,207	0.2%
Four-year public	6,758	7,140	6	Four-year public	8,569	9,114	6
Four-year private	26,971	28,525	6	Four-year private	25,520	26,881	5
Maine				**Rhode Island**			
Two-year public	2,814	3,060	9	Two-year public	2,470	2,686	9
Four-year public	6,082	6,583	8	Four-year public	6,371	6,756	6
Four-year private	24,714	25,914	5	Four-year private	25,091	26,400	5
Massachusetts				**Vermont**			
Two-year public	3,543	3,586	1	Two-year public	4,990	5,230	5
Four-year public	7,262	7,585	4	Four-year public	9,298	9,800	5
Four-year private	27,795	29,335	6%	Four-year private	24,393	25,593	5%

Note: Figures for public institutions show rates for state residents. All data are enrollment-weighted averages, intended to reflect the average costs that students face in various types of institutions.

Source: Table 6, Tuition and Fees by Region and Institution Type, in Current Dollars, 1994-1995 to 2005-2007 (Enrollment-Weighted). *Trends in College Pricing 2006,*

Americans pay an average of $242 each in annual state taxes to support public higher education and student aid in their states. New Englanders, however, pay just $177.

Fig. 51: Appropriations of State Tax Funds for Higher Education Operating Expenses, Fiscal 2007

	Appropriations	1-Year % Change	10-Year % Change	Per-Capita Appropriations	U. S. Rank 2007	Appropriations Per $1,000 of Personal Income	U.S. Rank 2007	FY05 Appropriations Per FTE Student	U. S. Rank 2005
Connecticut	$883,116,000	6%	63%	$251.97	23rd	$4.98	42nd	$9,150	7th
Maine	259,089,000	4	42	196.05	38th	6.05	32nd	5,982	28th
Massachusetts	996,025,000	3	21	154.73	46th	3.35	49th	7,712	15th
New Hampshire	123,966,000	6	49	94.28	50th	2.36	50th	3,296	49th
Rhode Island	184,466,000	3	45	172.78	45th	4.61	45th	6,169	30th
Vermont	85,217,000	4	55	136.59	49th	3.98	47th	3,019	50th
New England	2,531,879,000	4	39	177.4		4.01		7,025	
United States	$72,183,609,000	7%	55%	$241.56		$6.59		$5,833	

Note: FY05 appropriations per FTE data obtained via NCHEMS Information Center; www.higheredinfo.org/analyses.

Source: New England Board of Higher Education analysis of data from Illinois State University Center for Higher Education and Education Finance; www.coe.ilstu.edu/grapevine.

Fig. 52: Estimated Student Aid by Source, United States, Academic Year 2005–06

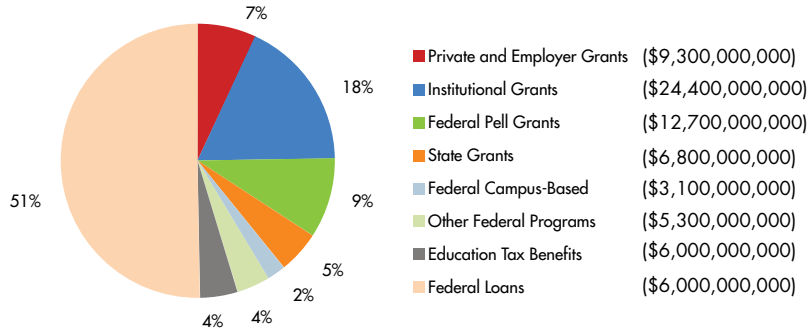


Fig. 53: Federal Student Financial Aid Programs-Total Expenditures or Allocations and Number of Recipients

	Pell Grants		College Work-Study		Perkins Loans		Supplemental Educational Opportunity Grants	
	2004-05 Expenditures	2005 Total Recipients	2006-07 Allocations	2005 Total Recipients	2006-07 Allocations	2005 Total Recipients	2006-07 Allocations	2005 Total Recipients
Connecticut	$85,784,175	38,071	$10,992,259	9,858	$27,718,005	7,769	$8,594,479	13,290
Maine	52,487,447	21,698	7,921,003	6,910	19,977,371	8,133	6,892,992	11,071
Massachusetts	179,657,875	76,150	44,986,492	37,976	117,061,371	39,510	29,744,752	40,318
New Hampshire	31,368,834	14,209	6,689,631	6,664	15,485,287	6,786	5,296,006	8,689
Rhode Island	30,920,528	13,694	7,948,842	7,112	29,377,750	10,745	7,075,045	13,330
Vermont	21,073,898	9,202	5,777,589	5,751	13,906,418	5,985	5,302,910	5,324
New England	401,292,757	173,024	84,315,816	74,271	223,526,202	78,928	62,906,184	92,022
United States	$13,149,939,760	5,308,433	$973,980,287	810,803	$2,090,942,986	748,735	$770,750,080	1,408,652
New England as a % of United States	3.1%	3.3%	8.7%	9.2%	11%	10.5%	8.2%	6.5%

Note: Spending on federal campus-based programs is reported as 2006-07 allocations. Spending on Pell Grants is reported as 2004-05 expenditures. For Perkins loans, a school must request and have approved for each award year a "level of expenditure" authorization that represents the maximum amount it may expend from its revolving Federal Perkins Loan fund.

Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 54: Total Grant Aid Awarded by State, 1994-95, 1999-2000, 2003-04, 2004-05

	1994-95	1999-00	2003-04	2004-05	5-Year % Change	10-Year % Change
Connecticut	$20,905,000	$37,401,000	$36,773,000	$36,773,000	-2%	76%
Maine	7,090,000	10,852,000	12,561,000	12,984,000	20	83
Massachusetts	61,945,000	103,301,000	79,735,000	79,526,000	-23	28
New Hampshire	1,493,000	1,506,000	3,653,000	3,648,000	142	144
Rhode Island	6,340,000	6,098,000	12,296,000	13,945,000	129	120
Vermont	11,984,000	13,997,000	18,177,000	16,884,000	21	41
New England	$109,757,000	$173,155,000	$163,195,000	$163,760,000	-5%	49%
United States	2,868,941,000	4,150,033,000	6,166,416,000	6,684,049,000	61%	133%

Note: Figures may not include aid funds provided through entities other than the principal state student aid agency.

Source: National Association of State Student Grant and Aid Programs; www.nassgap.org

For more trends and indicators, visit www.nebhe.org/research.

Fig. 55: State Need-Based Aid as a Percent of Federal Pell Grant Aid, 2005

	State Need-Based Grant Total	Federal Pell Grant Total	State Need-Based Aid as a Percent of Federal Pell Grant Aid
Connecticut	$36,433,000	$85,784,175	43%
Maine	12,984,000	52,487,447	25
Massachusetts	79,503,000	179,657,875	44
New Hampshire	3,643,000	31,368,834	12
Rhode Island	13,821,000	30,920,528	45
Vermont	16,791,000	21,073,898	80
New England	$163,175,000	$401,292,757	41
United States	4,411,086,752	13,149,939,760	34%

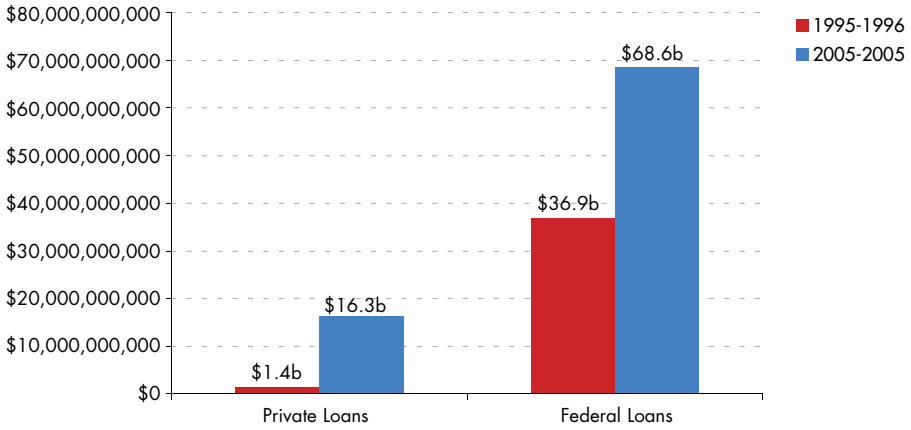
Source: New England Board of Higher Education anlaysis of data from National Association of State Student Grant and Aid Programs; www.nassgap.org and U.S. Department of Education data.

Fig. 56: Percentage of Family Income Needed to Pay for College by Income Groups, 2005

	% of All Family Income Needed to Pay	% Lowest Income Quintile	% 2nd Income Quintile	% 3rd Income Quintile	% 4th Income Quintile	% Highest Income Quintile
Connecticut						
Public Two-Year	25%	66%	26%	16%	11%	7%
Public Four-Year	33	85	34	21	14	9
Private Four-Year	76	208	78	45	30	19
Maine						
Public Two-Year	30	73	34	21	14	9
Public Four-Year	37	86	40	27	18	11
Private Four-Year	78	205	85	49	32	21
Massachusetts						
Public Two-Year	25	64	27	16	11	6
Public Four-Year	34	88	37	23	15	9
Private Four-Year	83	225	89	50	32	19
New Hampshire						
Public Two-Year	29	70	31	20	14	9
Public Four-Year	33	79	35	23	16	10
Private Four-Year	60	152	65	39	27	17
Rhode Island						
Public Two-Year	30	77	32	20	13	8
Public Four-Year	39	98	41	26	17	11
Private Four-Year	85	227	91	53	34	22
Vermont						
Public Two-Year	31	74	34	22	14.7	9.2
Public Four-Year	41	98	45	30	20	12
Private Four-Year	65	166	71	42	28	18
United States						
Public Two-Year	24	58	27	17	11	7
Public Four-Year	31	73	34	23	15	9
Private Four-Year	72%	183%	78%	47%	31%	18%

Source: The National Center for Higher Education Management Systems (NCHEMS); www.higheredinfo.org.

Fig. 57: Private vs. Federal Student Loan Volume, 1995-96 and 2005-06



Source: Institute for Higher Education Policy (IHEP) analysis of College Board data.

Fig. 58: Average Student Debt at Public and Private Four-Year Institutions by State, Class of 2005

	All Four-Year		Public Four-Year		Private Four-Year	
	Average Debt	U.S. Rank	Average Debt	U.S. Rank	Average Debt	U.S. Rank
Connecticut	$19,440	12th	$15,787	37th	$21,769	12th
Maine	20,239	7th	19,185	7th	22,284	9th
Massachusetts	18,169	21st	14,326	46th	19,953	28th
New Hampshire	22,793	1st	21,469	3rd	24,672	3rd
Rhode Island	20,798	4th	16,200	29th	22,216	10th
Vermont	19,482	11th	18,875	9th	20,564	21st

Source: New England Board of Higher Education analysis of data from The Project on Student Debt; www.projectstudentdebt.org.

Fig. 59: New England's Ten Largest College Endowments, Fiscal 2006

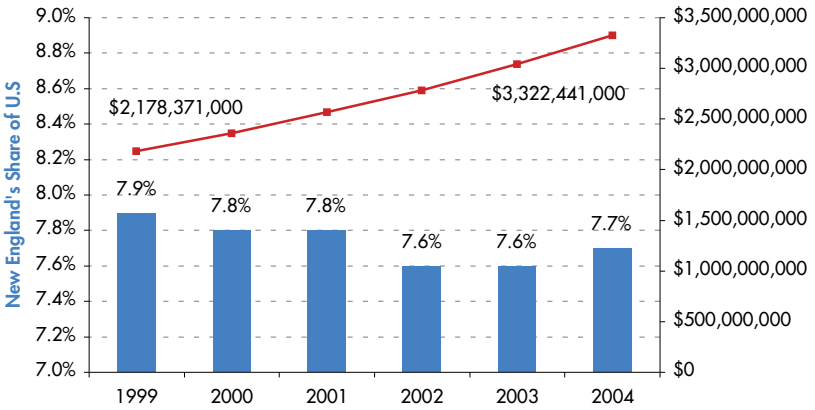
U.S. Rank	New England Rank	Institution	Market Value at End of Fiscal 2005	% Change from Fiscal 2004
1st	1st	Harvard University	$28,915,706,000	14%
2nd	2nd	Yale University	18,030,600,000	18
6th	3rd	Massachusetts Institute of Technology	8,368,066,000	25
21st	4th	Dartmouth College	3,092,100,000	14
26th	5th	Brown University	2,166,633,000	18
37th	6th	Williams College	1,462,131,000	8
39th	7th	Boston College	1,447,887,000	14
42nd	8th	Wellesley College	1,412,410,000	11
44th	9th	Amherst College	1,337,158,000	16
51st	10th	Tufts University	1,215,413,000	44%

Source: New England Board of Higher Education analysis of National Association of College and University Business Officers data; www.nacubo.org.

UNIVERSITY RESEARCH

New England universities performed $3.3 billion worth of research and development in 2004, and the region's share of all U.S. university R&D inched up to 7.7 percent—still a far cry from its 10 percent share in the mid-1980s.

Fig. 60: Research and Development Expenditures at New England's Universities and Colleges and New England's Share of U.S. R&D Expenditures, 1999 to 2004



Source: New England Board of Higher Education analysis of National Science Foundation data.

Fig. 61: Regional Comparison of Research and Development Expenditures at Universities and Colleges, 1999 and 2004

				Per-Capita Expenditures		Per-Capita U.S. Rank	
	1999	2004	5-Year % Change	1999	2004	1999	2004
East North Central	3,911,237,000	6,219,787,000	59%	$86.6	$134.4	7th	6th
East South Central	1,238,078,000	2,000,732,000	62	72.7	112.7	9th	9th
Middle Atlantic	3,981,819,000	6,377,413,000	60	100.4	157.6	3rd	2nd
Mountain	1,739,467,000	2,636,345,000	52	95.7	126.5	5th	7th
New England	2,178,371,000	3,322,441,000	53	156.5	232.8	1st	1st
Pacific	4,831,179,000	7,504,172,000	55	107.3	154.7	2nd	3rd
South Atlantic	5,166,764,000	8,092,097,000	57	99.8	141.6	4th	4th
West North Central	1,830,109,000	2,763,597,000	51	95.1	138.6	6th	5th
West South Central	2,557,262,000	3,914,651,000	53	81.3	114.5	8th	8th
United States	27,530,968,000	42,945,081,000	56%	$97.8	$143.4		

Source: New England Board of Higher Education analysis of National Science Foundation data; www.nsf.gov.

For more trends and indicators, visit www.nebhe.org/research.

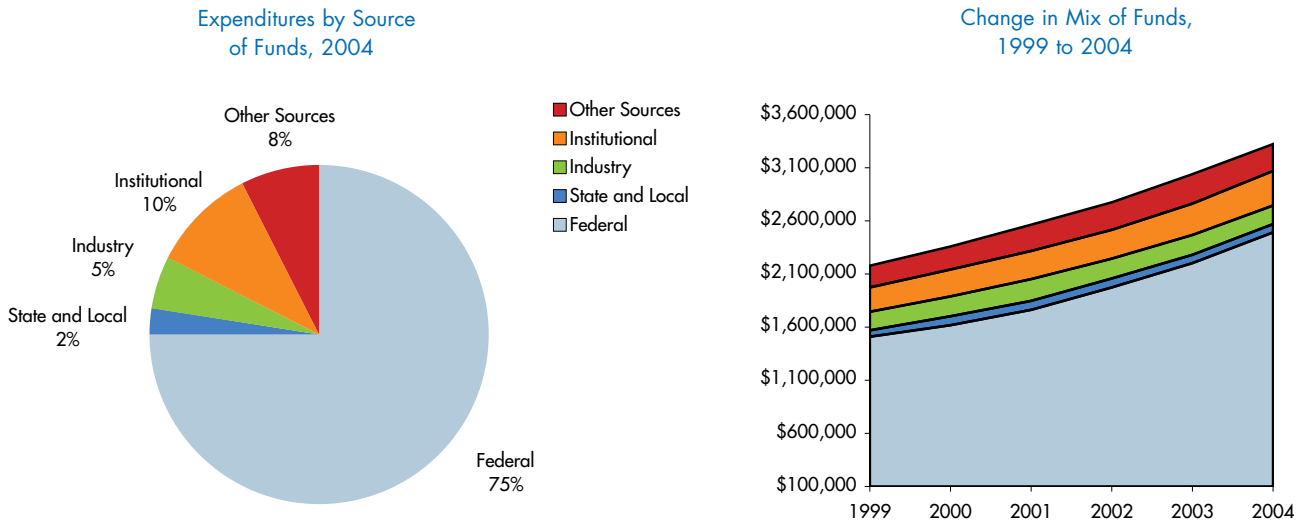
Fig. 62: Research and Development Expenditures at New England Universities and Colleges by Field, 2004

	Engineering	Physical Sciences	Environmental Sciences	Math and Computer Sciences
Connecticut	34,992,000	30,728,000	12,364,000	12,364,000
Maine	11,724,000	7,614,000	24,356,000	1,856,000
Massachusetts	331,064,000	252,105,000	164,309,000	100,258,000
New Hampshire	43,113,000	10,072,000	46,424,000	5,230,000
Rhode Island	24,725,000	13,828,000	32,339,000	14,149,000
Vermont	2,540,000	2,593,000	522,000	1,515,000
New England	448,158,000	316,940,000	280,314,000	135,372,000
United States	6,312,027,000	3,545,031,000	2,354,063,000	1,854,477,000
New England as a % of U.S.	7%	9%	12%	7%

	Life Sciences	Psychology	Social Sciences	Other Sciences	Total
Connecticut	521,682,000	22,984,000	13,583,000	966,000	649,663,000
Maine	33,706,000	1,338,000	5,436,000	1,323,000	87,353,000
Massachusetts	1,007,129,000	36,269,000	69,416,000	39,570,000	2,000,120,000
New Hampshire	147,033,000	6,408,000	5,365,000	13,556,000	277,201,000
Rhode Island	87,623,000	6,285,000	7,254,000	6,123,000	192,326,000
Vermont	100,613,000	848,000	232000	6,915,000	115,778,000
New England	1,897,786,000	74,132,000	101,286,000	68,453,000	3,322,441,000
United States	25,650,300,000	782,481,000	1,669,746,000	776,956,000	42,945,081,000
New England as a % of U.S.	7%	10%	6%	9%	8%

Source: New England Board of Higher Education analysis of National Science Foundation data.

Fig. 63: Research and Development Expenditures at New England Universities and Colleges by Source of Funds, 1999 to 2004



Source: New England Board of Higher Education analysis of National Science Foundation data.

Fig. 64: Research and Development Expenditures at New England Colleges and Universities by U.S. Rank and Source of Funds, 2004

U.S. Rank	Institution	All R&D Expenditures	Federal Government	State and Local Government	Industry	Institutional Funds	All Other Sources
12th	Massachusetts Institute of Technology	$543,448,000	$427,552,000	$185,000	$72,227,000	$11,854,000	$31,630,000
28th	Harvard University	454,495,000	399,764,000	1,850,000	5,877,000	0	47,004,000
29th	Yale University	422,828,000	330,837,000	577,000	14,394,000	26,121,000	50,899,000
61st	Boston University	240,867,000	219,054,000	399,000	8,575,000	0	12,839,000
74th	University of Connecticut (all campuses)	211,236,000	127,609,000	6,140,000	10,738,000	52,908,000	13,841,000
84th	Dartmouth College	173,266,000	123,109,000	3,289,000	4,780,000	28,431,000	13,657,000
88th	University of Massachusetts Worcester	169,090,000	126,162,000	27,018,000	5,904,000	1,106,000	8,900,000
104th	Brown University	130,741,000	84,126,000	111,000	1,785,000	40,105,000	4,614,000
105th	Tufts University	126,432,000	92,997,000	489,000	7,392,000	11,826,000	13,728,000
109th	University of Massachusetts Amherst	120,788,000	65,452,000	3,597,000	4,914,000	38,932,000	7,893,000
111th	University of Vermont	114,120,000	79,015,000	5,003,000	6,856,000	16,370,000	6,876,000
112th	Woods Hole Oceanographic Institution	114,087,000	100,456,000	116,000	72,000	9,138,000	4,305,000
118th	University of New Hampshire	103,935,000	67,917,000	4,034,000	6,032,000	19,312,000	6,640,000
132st	University of Maine	81,216,000	36,513,000	9,941,000	3,737,000	28,871,000	2,154,000
145th	University of Rhode Island	60,947,000	48,590,000	6,974,000	2,474,000	2,909,000	0
156th	Brandeis University	51,498,000	38,041,000	177,000	0	5,876,000	7,404,000
163rd	Northeastern University	47,283,000	30,659,000	1,633,000	8,316,000	6,675,000	0
180th	Boston College	32,158,000	22,907,000	50,000	1,251,000	4,175,000	3,775,000
Total, Above New England Institutions		$3,198,435,000	$2,420,760,000	$71,583,000	$165,324,000	$304,609,000	$236,159,000
Total, All U.S. Institutions		42,945,081,000	27,379,233,000	2,846,722,000	2,107,322,000	7,771,253,000	2,840,551,000
Above New England Institutions as % of U.S. Total		7.4%	8.8%	2.5%	7.8%	3.9%	8.3%

Source: New England Board of Higher Education analysis of National Science Foundation data; www.nsf.gov.

For more trends and indicators, visit www.nebhe.org/research.

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- Change in U.S. population of young adults, ages 25 to 34, from 1990 to 2004: **-7%**
- Change in New England population of young adults, ages 25 to 34, over the same period: **-24%**
- Number of University of Massachusetts Boston courses cancelled during the fall semester under a university policy requiring undergraduate courses to enroll at least 12 students, and graduate courses at least eight: **91**
- Increase in share of students at New England *public* four-year institutions who used loans to pay for college, 1992 to 2003: **93%**
- Increase in share of students at New England *community colleges* who did: **117%**
- Share of all student loans that were private, non-government-guaranteed loans in 1996: **4%**
- Share of student loans that are private today: **19%**
- Percentage of white Massachusetts residents who think conditions for minority groups in Massachusetts improved from 2001 to 2006: **45%**
- Percentage of black Massachusetts residents who think so: **16%**
- Percentage of black Massachusetts residents who expressed a "great deal" of confidence in public schools in 1998: **24%**
- Percentage in 2006: **11%**
- Ratio of average pay for employees of Goldman Sachs Group to average pay of Massachusetts high school teachers: **12-to-1**
- Average annual family income of first-time students at U.S. tribal colleges: **$13,998**
- Inflation-adjusted change in federal funding for tribal colleges since the passage of the Tribally Controlled College and University Assistance Act in 1978: **-30%**
- Approximate number of New England high schools whose sports teams use "Indian" nicknames, logos and mascots: **92**
- Number of NFL football players signed up for 2007 off-season business school programs aimed at helping them conserve and invest their earnings: **116**
- Number who are attending Harvard Business School under the NFL's tuition reimbursement program: **28**
- Approximate number of U.S. colleges that have pledged to stop using eggs from caged birds in their dining halls: **100**
- Top value of annual scholarship offered by Merrimack College to prospective civil engineering student who builds a catapult that can accurately throw an egg into a frying pan up to 60 feet away: **$15,000**
- Total jobs at Vermont's largest employer, IBM's Essex Junction plant: **6,000**
- Total jobs at Vermont's three largest higher education employers combined—UVM, Middlebury and Vermont State Colleges: **5,197**
- Total jobs at Massachusetts' largest employer, Stop & Shop Cos.: **22,201**
- Total jobs at Massachusetts three largest higher education employers combined—Harvard, MIT and Boston University: **41,953**

Sources: 1,2 University of New Hampshire Carsey Institute; 3 *The Mass Media* student newspaper; 4,5 MassINC analysis of National Center for Education Statistics data; 6,7 Institute for Higher Education Policy; 8,9,10,11 University of Massachusetts John W. McCormack Graduate School of Policy Studies; 12 *Boston Globe*; 13,14 American Indian College Fund; 15 New England anti-Mascot Coalition; 16,17 Harvard University; 18 The Humane Society of the United States; 19 Merrimack College; 20,21 *Vermont Business Magazine*; 22,23 *Boston Business Journal*

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