THE NEW ENGLAND JOURNAL OF HIGHER EDUCATION

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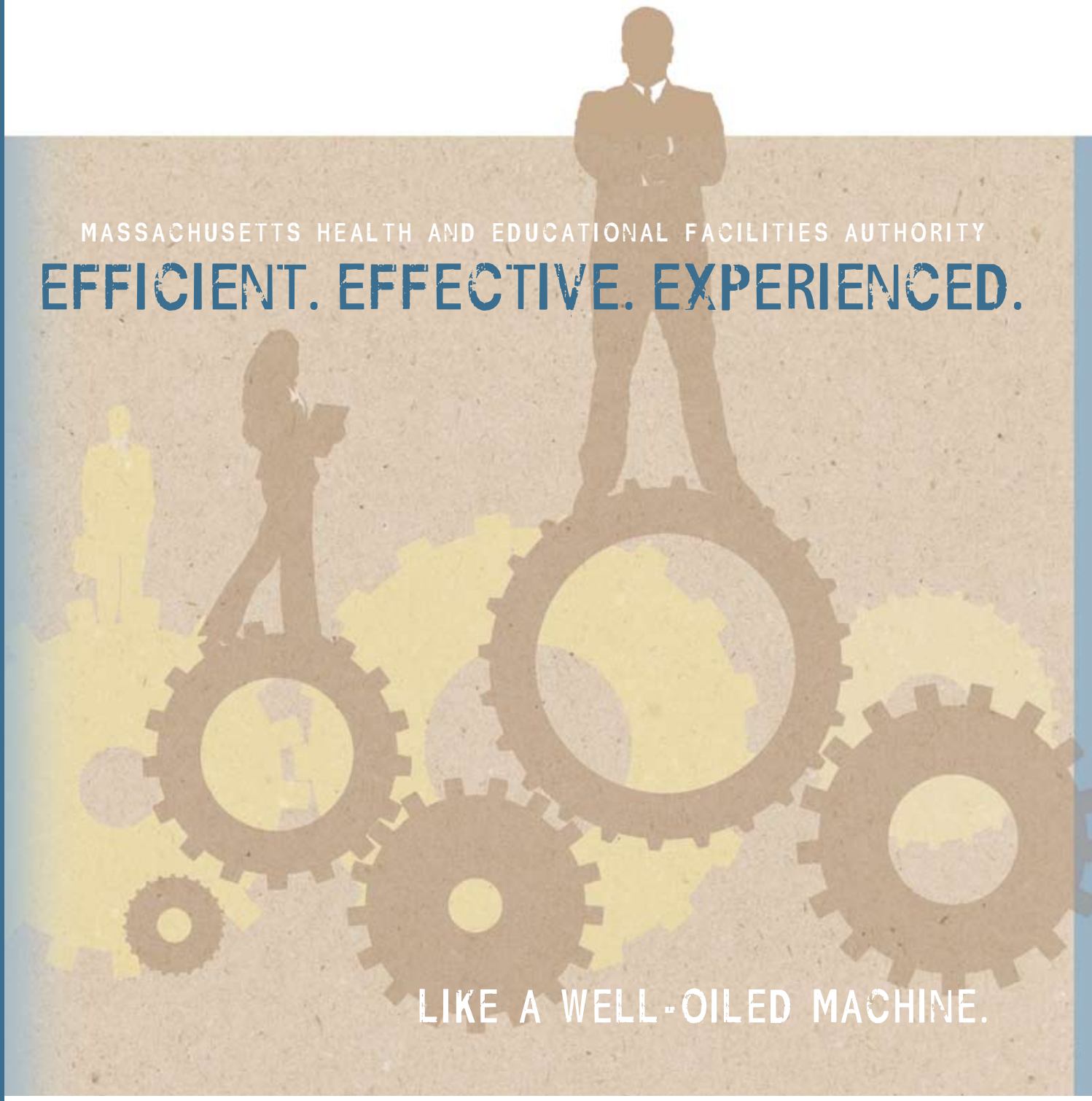

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COMMENTARY & ANALYSIS

Two Vermont Colleges Look to Boost Student Retention

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Spring 2009

FORUM: INTERNATIONALIZATION

The New England Journal of Higher Education asks experts to explore issues and debates in the internationalization of higher education.

SPECIAL REPORT

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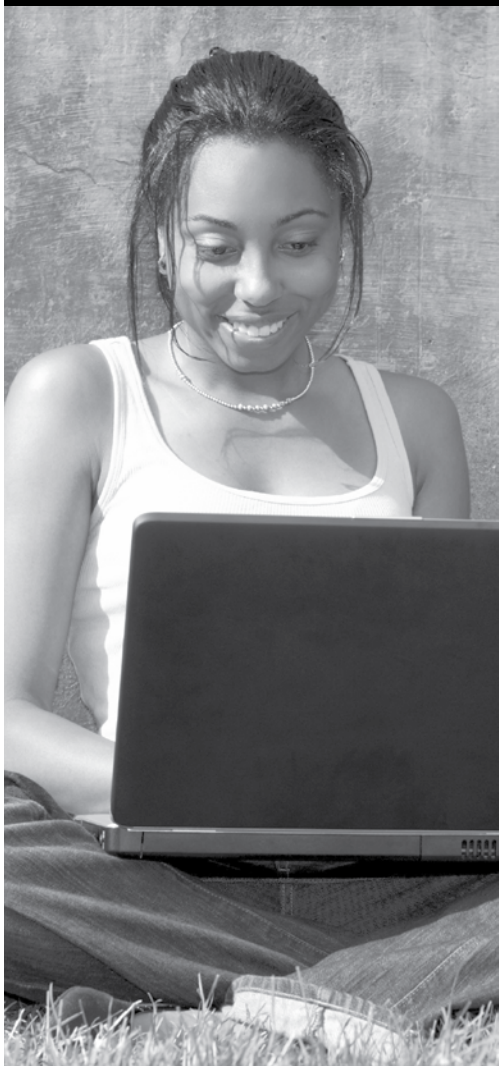

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EDITOR'S MEMO

Spring in Our Step

This issue of *The New England Journal of Higher Education* has two main foci. One is the journal's annual special report on "Trends & Indicators in Higher Education." The other is our Forum on the relationship of New England higher education to a world it once sat atop.

New England's daily papers offer a drumbeat of recession … pink slips … a spike in families seeking free and reduced-price school lunches … a dive in high-priced business lunches … a rise in professors and others taking pay cuts to save the jobs of co-workers … an up-tick in out-of-work professionals buskering in the Boston subways … more pink slips.

NEJHE's trends report, on the other hand, offers a baseline. Ours is a longer-term, quantitative check on where higher education stands, or stood, before the economic crash gutted university endowments by 30% or more [see Roger Goodman on "Thriving Through Recession," p. 13], but also before recent stimulus legislation promised a needed federal boost to scientific research and financial aid funds.

Our trends data, rich as usual, are complemented this year with a thought-provoking typology of "multiple pathways" to success and College Board measures of college readiness, among other features.

For this issue's Forum, we asked authors to write short but hard-hitting pieces on a specific angle of their choice related to the internationalization of higher education. It's a world New England once dominated, but no more.

We tossed out a range of possible angles for our authors: How healthy is New England's international "balance of trade" in foreign enrollment and study abroad? How might that balance be tipped by the global financial crisis? Will new colleges popping up from Baghdad to Shanghai be casualties of the global meltdown? What does an effective international partnership look like after all the hands have been shaken and photos taken? How deep is the chasm between international curriculum, including the old-fashioned notion of junior year abroad, and the new-fashioned rhetoric about preparing *global citizens*?

Some angles remain for future exploration. Are the international collaborations taking shape on New England campuses linked meaningfully to the ethnic and immigrant communities in New England cities and towns?

A few years ago, Maine officials began equipping students in grades 7 and 8 with laptops to prepare them for the information economy. Is it time now for the New England states to require students to study Mandarin, for example, to prepare them for the global economy?

This issue's two foci come together in many ways. Our Trends & Indicators data show 48,000 foreign students are enrolled on New England campuses with a $1.5 billion economic impact on the region. Plus, small New England colleges are among U.S. leaders in the percentage of their undergraduates studying abroad at any given time.

But as our Forum authors note, even with its robust tradition of international exchange, New England faces new and old challenges. Too many exchanges still benefit mostly relatively well-off students, whether they are leaving the United States for study abroad or traveling here from foreign countries. And too many students expect an experience abroad to amount to one long party.

Yet, some U.S. students are taking the opportunity of study abroad to learn and help others in new ways. Through the nonprofit organization Engineers Without Borders, for example, engineering students and faculty are building water-distribution systems in undeveloped countries such as Honduras. Contributors and correspondents to the user-generated website Glimpse.org, "have done everything from exploring gay nightlife in Jordan to visiting a prosthetic foot factory in India to voyaging with Maori fishermen in New Zealand."

To be sure, the questions facing New England higher education are endless; so are the challenges. That's a familiar trend. What's new to the equation, however, is Barack Obama. From his ethnic-sounding name that xenophobic talkmeisters and political opponents tried to exploit during the campaign, to his vows of engagement, rather than confrontation, with other nations, Obama indeed offers change. Perfect timing for U.S. higher education and the world? Let's hope.

***John O. Harney** is executive editor of The New England Journal of Higher Education. Email: jharney@nebhe.org*

New England Goes to D.C.

As they form their White House brain trusts, new presidents tend to mine two places for talent: their home states and New England—especially New England's universities, and especially Harvard. Among early Obama appointees with key New England connections:

Lawrence Summers, the former Harvard University president and Clinton administration Treasury secretary who was an early promoter of stimulus legislation, became Obama's director of the National Economic Council.

The first female dean of Harvard law school, **Elena Kagan** was named solicitor general to represent the federal government in cases before the Supreme Court.

Harvard professor of science and international affairs **Ashton Carter**, an authority on arms control, was tapped as the Pentagon's chief weapons buyer.

Harvard professor of environmental policy **John Holdren** was named director of the Office of Science and Technology Policy.

Human genome researcher **Eric Lander**, a founding director of the Broad Institute of Harvard and MIT, became co-chair of Obama's Council of Advisors on Science and Technology (along with Holdren and former National Institutes of Health director Harold Varmus).

George Mitchell, the former Maine senator and U.S. Senate majority leader known among other things for brokering peace in Northern Ireland, was named Obama's special envoy for the Middle East.

In late March, Obama nominated **Harold Hongju Koh**, Yale Law School dean and critic of Bush administration anti-terror policies, to be the State Department's legal adviser.

Expect more New Englanders to land key posts as the administration fills the hundreds of senior positions in Defense, State, Education and other government agencies that had not been filled by April 1 due to the administration's tough vetting policies.

Another Wellesley Pick

Secretary of State Hillary Clinton is not the only Wellesley College alumna to be tapped by the new president. Katie Johnson, who graduated from Wellesley in 2003 with a bachelor's degree in political science, will serve as Obama's personal secretary, maintaining the president's daily schedule and meeting with VIPs who visit the White House.

At Wellesley, Johnson was an intern on Mrs. Clinton's 2000 Senate campaign and an intern for the Massachusetts Democratic Party. She then served as special assistant to Rahm Emanuel, Obama's chief of staff, when the former Illinois congressman chaired the Democratic Congressional Campaign Committee during the 2006 midterm elections. In 2007, Johnson joined the Obama presidential effort under campaign manager David Plouffe.

Financial Crisis Deepens

The financial crisis facing New England colleges and universities has only deepened, bringing agony to the region's campuses and a bit of creativity as well. A sampling:

• University of Connecticut President Michael J. Hogan asked administrative managers to take March 1 as a day at work without pay and did so himself as part of an effort to address a more than $12 million cut in state support and expected further cuts in fiscal 2010, which begins July 1.

• The University of Vermont announced it would cut varsity baseball and softball following the 2009 season.

• Among tuition increases proposed across the region, the University of Maine hiked undergraduate tuition for state residents by 9.6% for 2009. If funding continues to decrease, UMaine projects similar tuition increases in 2010.

• Becker, Merrimack, New England Conservatory and all seven New Hampshire community colleges were among the few New England colleges that announced tuition *freezes* in this year of scarce resources for both colleges and families.

• Massachusetts Gov. Deval Patrick announced a plan to distribute $162 million in federal stimulus money among public higher education institutions, thus averting proposed sharp fee increases that had spurred protests. Total fees already dwarf tuition at UMass.

• A survey by Brown University's Taubman Center for Public Policy found the majority of Rhode Islanders favored the $787 billion stimulus bill enacted in February, but voiced concern that the relief would not impact them quickly enough.

And indeed, Rhode Island was among a handful of states nationally that faced a threat of losing millions of new dollars for education if it could not meet the stimulus legislation's provision requiring states to prove they have maintained funding for education since 2006. Rhode Island's support for public higher education dropped by nearly $30 million in recent years. Ocean State officials planned to seek a waiver from the provision in order to get the stimulus funds.

• Some bright news on investment in higher education: a University of New Hampshire report finds that the university contributes $1.3 billion annually to the state's economy and plays an important role in enhancing culture, public policy and access to technology in the Granite State.

War of the Rose

Lately, the economic crisis has also threatened some campus art museums, including in the most high-profile instance, the Rose Art Museum at Brandeis University.

In January, Brandeis announced it would close the museum that opened in 1961 and auction off portions of its $350 million collection, as part of a plan to meet general university financial needs. The news was greeted with a storm of protests and clarifications. On the university's own Rose webpage, three alumni who are museum professionals charged that the university's "statements reveal a

fundamental misunderstanding of the crucial role of art and art museums, not only at Brandeis but at colleges and universities throughout the country."

The authors added that "art collections held at these museums—held in trust for future generations of students, and for the public at large—must never be treated as financial assets to be liquidated as expediency and cyclical financial conditions dictate" and that "by announcing this extreme measure, Brandeis University has shaken confidence in its educational mission, threatened a covenant established with thousands of donors, and set a sad and troubling example to other institutions."

In February, Brandeis President Jehuda Reinharz tried to clarify, telling the *Boston Globe*: "We're not saying we're closing the Rose Art Museum. . . . We're saying we're turning it into a gallery and a teaching site for the faculty of the fine arts. We don't want to be in the public museum business." Reinharz noted that while the trustees had authorized sale of the art collection, pieces would probably only be sold as financially necessary. And in any case, the same economics threatening the Rose with closure had also depressed art prices.

The saga continued into March when the Rose family urged Reinharz and the trustees to restore the use, budget, staffing and activities of the Rose until a final decision is issued by a court. The family's statement said, "Repurposing the museum is closing by another name. It would not be the Rose. Any other understanding of the university's current plan is disinformation."

Beyond New England, the main campus-based guardians of history and culture tend to be public land-grant universities. And indeed the University of Connecticut in March reduced hours at its William Benton Museum of Art and its Connecticut State Museum of Natural History, to help plug UConn's projected $35 million budget gap for 2009-10. But in New England, nearly 100 college-affiliated museums tend to be at the region's private colleges from Dartmouth College's acclaimed Hood Museum of Art to the MIT Museum's Hall of Hacks to the Rose. [See "Treasure Troves," Alan R. Earls, *Connection*, Fall 1998].

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But even if silver helps ward off germs, nanosilver particles may be dangerous to your health in other ways. University of Connecticut scientists are studying how ingestion and inhalation of minute amounts of silver particles can affect human cells and may diminish the functioning of the immune system in some people.

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New England 2025

MICHAEL K. THOMAS

This annual "Trends & Indicators" issue of *NEJHE* tracks some long-simmering challenges facing New England higher education, such as high prices, low state investment and still-mighty, but slowed, research funding. Recent economic events have added to the uncertainty. The challenges and uncertainty require leaders of higher education, government and business to forge a strategic and long-term vision for institutional and workforce success.

First, states need specific goals and a more precise definition of success in terms of higher education performance. The New England states have typically exceeded the national average in the percentage of individuals with an associate degree or higher. Yet projections show that the New England states are poised to have shrinking levels of postsecondary attainment, based on very low overall population growth, projected decreases in the number of high school graduates, out-migration and other factors.

Moreover, growth prospects for New England's workforce will increasingly depend on minorities, working adults, first-generation college-goers and students from low-income families. Yet the opportunity and ability of such groups to access and obtain postsecondary credentials, and to participate meaningfully in the region's economy is in question. Without significant changes, New England will continue to have the lowest rate of workforce growth in the United States, as it has over the past 15 years.

While the United States ranks first internationally in the percentage of 55- to 64-year-olds holding a college degree, we rank 10th in the percentage of young adults holding a college degree—one of only two industrialized nations where older adults are more educated than younger ones. To regain its leadership role internationally, the nation would have to increase the number of degrees granted by 14.5 million over the next 15 years.

For New England, that would mean generating 665,000 additional college degrees by 2025, or 41,500 more degrees each year. That increase would have to occur despite having 20,000 fewer high school graduates during the same period due to demographic shifts.

This is not breaking news. New England leaders of education and government frequently talk about the importance of increasing the number of degree holders to remain competitive. Yet only one New England state has set specific statewide targets.

Maine has proposed a measurable statewide goal for increasing the percentage of adults (ages 25 to 64) who have a college degree, which will require an additional 39,500 degree holders beyond the projected or "natural" growth rate by 2019. To its credit, Maine has identified several key policy and programmatic changes to achieve the goal and stands out among the New England states for its leadership and sustained effort.

Each New England state needs specific goals relative to increasing attainment and educating new degree holders. This will require building a shared understanding as to how a state produces degree holders and which aspects of production are most critical. It entails data-driven analysis of K-12 and higher education performance, demographic projections, migration patterns and peer comparisons (regional, national and international) to move from general aspirations to specific plans, strategies and results.

Clearer goals and better data can bring a more realistic assessment of state and institutional capacity for degree production—and at a vital time. With recent and substantial losses in the personal net worth of families, including home values and retirement accounts, the demand for public higher education will continue to grow. Add to that the desperate need to increase participation of adult, low-income and minority students—populations who have typically accessed higher education through low-cost public institutions.

The six New England states must learn to be more innovative, efficient and productive in increasing the number of postsecondary degree holders. New England *must be goal- and data-driven and work smarter* to increase degree attainment, particularly for underrepresented populations.

Technology must play a key role as states look at revised academic calendars, innovative program formats, new course delivery options, investments in distance learning and college programs integrated with the senior year of high school and with adult learning. We'll also need a significant re-envisioning of the role of the region's two-year institutions, where an expanded amount of degree production will have to match the current surge in applications.

As a colleague recently reminded me, "Never waste a good crisis." Despite present and daily challenges, now is the time to more fully define where higher education in New England is going—and find new, bold and realistic avenues to get us there.

Michael K. Thomas *is president and CEO of the New England Board of Higher Education and publisher of* The New England Journal of Higher Education. *Email: mthomas@nebhe.org*

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The *Community's* Colleges

JOAN MENARD

Interest in state colleges and universities, and especially in community colleges, is surging thanks to the economic downturn. And why not? The average annual tuition and mandatory fees for state residents at New England community colleges is $3,698, compared with $8,602 at in-state public four-year colleges and $31,680 at the region's private four-year institutions, according to the latest data from the College Board.

The average family pays 25% to 34% of its income for a year of tuition at a New England community college and 29% to 39% at New England public four-year institutions, compared with 78% to 96% at private four-year institutions.

In New England, 43 community colleges enroll nearly 200,000 students. These "open door" institutions educate New England's "underserved" students, including high school dropouts, GED-earners and underprepared high school graduates, first-generation college students, low-wage workers and adults seeking "retraining" or a few classes for a job promotion.

Dual-enrollment programs between high schools and community colleges and transfer agreements between community colleges and four-year institutions present an education continuum that puts students on a path to knowledge and good jobs and saves families money.

Among examples of the hybrids, Connecticut's Great Path Academy is a "middle college high school" offering students in grades 10 to 12 the opportunity to earn college credits tuition-free in state-of-the-art facilities at Manchester Community College and through internships at local companies.

Half of undergraduates who start at a community college with the intention of one day earning a bachelor's degree and one-fourth who start with the intention of obtaining only an associate degree go on to transfer to a four-year institution within six years, according to the U.S. Department of Education. In fact, some Midwestern four-year liberal arts colleges look to New England community colleges specifically to recruit transfers.

It makes good economic sense for many students to fill general education requirements at lower-cost public institutions and then complete their majors at institutions that offer the best academic programs for their interests. One approach is to guarantee students admission to a four-year college at the time they are admitted to a community college. Massachusetts public four-year colleges and universities provide a tuition discount for Massachusetts community college students enrolled in a designated transfer program.

Community colleges are essential not only to their communities, but to the region's businesses.

At Bristol Community College in Massachusetts, the One Family Scholars Program helps mothers at risk of becoming homeless to attend college or training with the hope of obtaining jobs that will allow them to earn a family living wage. Northern Essex Community College has been a pioneer in helping returning veterans access college, while Mount Wachusett Community College will house a privately funded, live-in rehabilitation center for wounded combat veterans and their families.

In February, Connecticut Community Colleges supported National Entrepreneurship Week with special activities such as "preliminary elevator speech" competitions to develop concise descriptions of a business idea to potential investors, sessions on "Getting Green in Business" and credit-awareness seminars.

Affordable tuition prices, however, don't cover costs at community colleges. In Maine, for example, where community college enrollment grew 20% this spring, tuition covers only 25% of the cost of education. Community college officials hope the recently enacted federal stimulus bill will help them cover the full cost of education by providing funds for equipment, curricula and faculty in high-demand technical fields.

To be sure, community colleges face profound challenges. A recent Center for American Progress report calls the two-year colleges "stepchildren" of higher education, though they account for almost 40% of total college enrollment. The paper notes lagging degree completion among two-year college students, more than half of whom work jobs while they go to school. It also finds two-year colleges students are less likely than their peers at four-year colleges to be of traditional college-going age of 18 to 24, more likely to be minorities and more likely to come from poorer families.

And in some states, the same economic forces that are leading new students to community colleges in droves are also hampering state funding, forcing some of these "open door" institutions to reject thousands of applicants.

These are our *community* colleges. Community spirit will be required now more than ever to keep them vibrant, forward-looking and open to all who are willing to learn.

Joan Menard *is chair of the New England Board of Higher Education. She is a Massachusetts state senator representing the First Bristol and Plymouth district and has served in the Massachusetts Legislature for 30 years. Email: catherine.donaghey@state.ma.us*

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ROGER GOODMAN

The constant flow of alarming economic and business news, rapidly declining endowments and potential disruption to the student-loan industry have all beaten down optimism about higher education's financial and strategic outlook. In January 2009, Moody's Investors Service for the first time in its history assigned a negative outlook to the higher education industry (both private and public universities).

Universities large and small have announced budget cuts, layoffs, salary freezes, capital spending slowdowns and other initiatives to batten down the hatches for the recession. Concern for the financial position of colleges and universities is well-founded, given the large degree of uncertainty about the future of the U.S. and global economy. Clearly, 2009 will be a year of re-evaluation of underlying assumptions for endowment management, tuition pricing strategies and risk management. Given the critical economic development role of higher education, sound management skills and governance oversight will be particularly critical to ensure that universities are drivers in helping the nation emerge from recession and are themselves well-positioned to survive and thrive.

Moody's negative outlook on the industry is fundamentally driven by four key issues:

- the impact of job losses and greater economic uncertainty on enrollment decisions of families and students, rising financial aid needs and more limited financing options (student loan, home equity, etc.);
- investment losses in the endowment which affect not only funds available for operations, but also credit strength, capital spending and potential for fundraising from wealthy donors;
- limited liquidity of cash and investments as many investments in hedge funds, private equity, and venture capital are locked up; and
- access to debt financing in capital markets that is more challenging and costly (higher interest rates and bank fees), exacerbated by colleges' use of variable-rate debt.

Tuition Tipping Point?

With the vast majority of colleges reliant on tuition, fees and auxiliary charges for greater than 80% of revenues, the largest long-term risk remains that the industry reaches a tipping point in a long trend line of rising net tuition revenue.

While the trend has not been disrupted by prior recessions, this cycle could prove different. First, tuition and room and board charges are at their highest levels, and in many cases, sticker prices are beginning to exceed $50,000 per year, raising some psychological barriers to hiking tuition still further. Even private and public colleges that do not charge this high amount have nevertheless repeatedly raised tuition well in excess of the growth in family incomes. Second, while households have faced declining net worth due to investment losses in the past, we have not seen such dramatic investment declines combined with large declines in home-equity values at the same time. As a result, the percent loss in household net worth is the largest we have seen in decades. Because few families pay tuition solely from annual income, household net worth and access to loans (student loans and others) may be a better proxy for the ability of families to afford tuition.

Enrollments are likely to shift from higher-cost private institutions to lower-cost publics.

Given these issues, challenges will be somewhat greater for private colleges and universities than for their public counterparts. Enrollments are likely to shift from higher-cost private institutions to lower-cost publics, generally helping public universities. However, state budgets are extremely weak, and public universities will likely face some of the deepest cuts in appropriations in recent memory. Although stimulus bill spending may soften the cuts in the new term, the outlook for appropriations will likely remain weak for some time. While they are accustomed to adjusting to falling state support, the combination of rising demand and falling appropriations will certainly cause budget stress, especially in FY2010.

With all the concerns about the risk of fundamental change in the industry, Moody's has repeatedly emphasized the importance of sound management and governance to weather the downturn and prepare institutions for change. Colleges are often not well-structured to rapidly adjust to changing environments. They are typically highly decentralized organizations driven by consensus

decision-making. These characteristics are particularly difficult to sustain in an environment that has been changing as rapidly as the economic, investment and capital markets have been.

Having generous financial aid policies isn't enough if families don't understand them.

Following are some principles and actions that are consistent with good financial management and stewardship of higher education institutions during a severe recession. These principles would also help prepare colleges and universities to be more nimble organizations in the future.

Plan conservatively and measure results.

- Devise multiple fully developed budgets that include scenarios of shortfalls in enrollment, on-target enrollment and enrollment that exceeds target.
- Measure financial performance of individual programs and departments. While financially weak departments do not necessarily need to be closed, clarity of information can better inform future decisions for investment and ability to scale back.
- Prepare off-the-shelf ways to reduce expenses if necessary, even if cuts have not yet been made.

Build transparency and a service orientation.

- Meet tremendous demand for better information from policymakers, families, donors and investors.
- Build trust and potential for enhanced government support by improving clarity and transparency.
- Market and describe financial aid available to families. Having generous financial aid policies isn't enough if families don't understand them. Institutions risk losing students because of perception of affordability, rather than reality.
- Develop robust conflict-of-interest policies that are publicized and followed throughout the organization from the board level to the academic departments.
- Encourage service-oriented information and guidance about program quality and career opportunities for all stakeholders, including current and former students, not just prospective students being recruited.

Revisit risk-management approach.

- Explore unknown risks. The credit crisis has exposed risks that were previously thought to be de-minimis; what else is out there?
- Introduce risk-management process (including enterprise risk management) to board's agenda. It is the board's responsibility to ensure that universities have examined exposures to risks, including counterparty risk in financial transactions and reputation risk of programs and research.

Reasons for Optimism

Despite the challenges, universities are remarkably resilient organizations and are a crucial part of the road to economic recovery. Long-term demand for higher education is unlikely to change substantially. Education remains a key tool to individual economic success and employment. Promising industries such as green energy and biotechnology are heavily reliant on the academic research engine.

Universities also have considerable financial flexibility. They have generally invested heavily in capital over the past decade and should have room to delay or cancel capital projects. Quasi-endowments and other reserves have grown very rapidly over the past decade and despite the potential decline of 30% or more in endowment values in FY2009, overall wealth levels would generally retreat by only about six years (to values in 2003).

Operationally, we expect there to be significant opportunities for cost reduction and improved efficiencies in budgeting at most universities. The actions, which may include slight increases in average class size or greater use of adjunct faculty, could relieve pressure on rising tuition rates. Lastly, while philanthropy is likely to slow, universities have some of the most committed and loyal donors in the nonprofit world, which should position them well to minimize declines and rebound more rapidly. As long as managers and trustees of universities balance the need to protect institutions from the risks of the recession and the need to invest and be participants in economic recovery, higher education should remain a core competitive advantage for New England and a key part of recovery.

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Many Sizes Fit All

Considering multiple pathways to higher learning

EPHRAIM WEISSTEIN AND DAVID JACOBSON

The need to dramatically increase the number of young people who gain the credentials and skills necessary to succeed in 21st century America has never been clearer. One of the most promising ideas for achieving this goal is to establish "multiple pathways" for learners that lead to a variety of high-quality postsecondary options.

As New England examines recent trends and indicators in postsecondary education, it is an appropriate time to take stock of the prospects for the multiple pathways approach and consider the issues that arise as policymakers, educational institutions and communities look at ways to broaden educational opportunities for learners.

The underlying premise of the multiple pathways idea is that by offering a wider variety of high-quality learning options—in settings that include colleges, community organizations and workplaces—we will see an increase in the number of students, especially those from low-income families, who are prepared for careers, citizenship and continued learning.

Various estimates have placed the national high school graduation rate as low as 68%. The prospects are worse for students from traditionally underserved populations: high school students from families with income in the bottom 20% dropped out of school at six times the rate of those from higher brackets. In recognition of these problems, there has been a great deal of interest nationally in defining and implementing multiple pathways.

Current proposals to create multiple pathways fall into three main categories, representing three overlapping approaches.

The first approach can be described as "High Standards, Defined Pathways." According to the New Commission on the Skills of the American Workforce (and its staff director Marc Tucker), the "first step" is for states to create board-qualifying examinations. The New Commission's report, *Tough Choices or Tough Times*, proposes that upon passing the exams, students would proceed to one of two pathways, determined by which of two passing scores they receive. Students who attain the first passing score would go directly to a community or technical college. Students who achieve the second passing score would have the option of continuing in an academically demanding upper-secondary program that would include, for example, Advanced Placement and International Baccalaureate courses.

Robert Schwartz, academic dean of the Harvard Graduate School of Education, has proposed a somewhat different version. He suggests that states design exit assessments around the American Diploma Project benchmarks in reading, writing and math as high school graduation standards. These are considered more rigorous and focused than many state standards. Although all students would need to pass the state exit exams, Schwartz proposes four new pathways that communities could construct as alternatives to the traditional high school-to-college route to prepare students for the exams and to provide continued learning and work opportunities after graduation. These would include a blended-institutions pathway modeled on early college and dual-enrollment programs; a "2+2" model based on nationally recognized and funded Tech Prep programs that leads to a credential in a technical area; a work-based model (employer- or union-led) in which the learning takes place primarily in workplaces; and a service model that includes military service or AmeriCorps service.

Despite their differences, the New Commission's and Schwartz's proposals share a common emphasis on requiring all students to meet some version of high standards and in creating a limited number of defined pathways.

The second approach to multiple pathways has been developed by Jeannie Oakes and other California scholars in a project based at UCLA called "Multiple Perspectives on Multiple Pathways." The project recommends creating a variety of theme-based schools and career pathways to improve education in California. Themes could include career-related areas such as health and law as well as non-occupational themes like the environment or the performing arts. There would be three essential components for each theme-based pathway: a college preparatory academic core; a professional/technical core based on real-world standards; and field-based learning opportunities.

The third approach also emphasizes creating more small schools and programs as a way of giving students a varied mix of options. Proponents of this approach, which we call "Alternative Schools and Programs," suggest that in creating new small schools, communities should include so-called "alternative" or "transfer" schools specifically designed for students who are not succeeding in traditional environments. Successful alternative schools typically integrate strong youth development strategies into teaching and learning and all aspects of the school and make social services readily available, often within the building itself. The National Youth Employment Coalition and the American Youth Policy

Forum, among others, have published reports describing this concept, and New York City has created an Office of Multiple Pathways to implement many components of this model.

All three approaches share the idea that the traditional high school, as currently structured, is not meeting the needs of many students and thus will need to be reconfigured to create multiple pathways systems. In a report prepared for the Nellie Mae Education Foundation, we reviewed six options that are likely to be considered in any comprehensive multiple pathways initiative. (See Table 1.) These options serve as potential building blocks that can be combined to create additional learning options for students.

Implementing an ambitious multiple pathways strategy requires a mix of favorable federal, state and local conditions. Currently, there are a number of potential barriers to the idea of multiple pathways. Tracking student progress toward graduation based on four-year cohorts, as required by the federal No Child Left Behind law, and the continuing disconnect between high school graduation and college entrance requirements, are two significant examples.

Table 1: Pathway Options at a Glance

Category	Exemplars
Small Learning Communities (SLCs) • Break large high schools into smaller units within existing buildings based on themes such as social justice or specific occupations • Typically strive to increase rigor, relationships and relevance by establishing more intimate connections	Talent Development High School (national) Career Academies (national)
Small Schools (general population) • More autonomous than SLCs • Standalone buildings or separate schools within larger buildings	University Park Campus School (Worcester, Mass.)
Alternative Small Schools • Cater to students who have left the K-12 system or transferred from a more traditional high school where they did not succeed • Many students have fallen one or more years behind their graduating class and are statistically at risk of dropping out • Tend to place greater emphasis on youth development principles and provide more "wraparound"—or social support—services than other small schools	Diploma Plus (national)
High School/College Blends • Blur the line between high school and postsecondary education and training • Students earn a significant number of college credits while still in the program with the goal of earning a two-year or four-year college degree	Gates Foundation's Early College High Schools (national) Middle College High School at LaGuardia Community College (Queens, New York) College and Career Transition Initiative (national) Tech Prep (national) Gateway to College Program (national)
GED/Adult Basic Education • Help students ages 16 and older, no longer in traditional high school, improve their academic and career skills, earn a high school diploma or GED, and transition into postsecondary education/training and work	Adult Career Development Center (Richmond, Va.) GED Plus (generic design adopted by the U.S. Labor Department)
Experiential/Work-Based • Emphasize applied learning and youth development strategies • Typically operates outside the traditional K-12 system • The first three examples help young people earn high school diplomas or GEDs and explore and develop skills in specific occupations while the last two generally serve youth who have already earned a high school credential and are interested in developing specific career/technical skills or pursue service that might lead to a career • An occupationally focused program that helps students ages 16 and older, no longer in traditional high school, earn GED or in some cases a high school diploma	Los Angeles Conservation Corps YouthBuild (national) Manchester Craftsman Guild (Pittsburgh) Jobs Corps (national) Year-Up (national) City Year (Boston)

State policy will also influence where and how multiple pathway systems flourish. In New England, Rhode Island is currently implementing nontraditional ways of assessing student work, and New Hampshire is working with the Nellie Mae Education Foundation to help redefine high school through the Expanded Learning Opportunities initiative, which allows students to earn credit for work done outside the classroom.

Communities interested in developing multiple pathways would be well-served by creating institutions like the "community education boards" that Paul Hill and colleagues propose in their book, *It Takes a City*. These boards would function as new community authorities overseeing and aligning all a community's resources, not just schools, to ensure that all children's needs are met to help them progress toward a productive adulthood. Hill and colleagues envision the boards as broadly representative, including elected or appointed public members and *ex officio* representatives of community institutions, including major private charities, public libraries, museums and faith-based and community-based organizations.

Financing such a system would require blending funding streams, including public school funds and local public social service monies for children's programs. Just as the board would oversee the equitable use of education funds, it would also allocate public human service funds based on local priorities.

The notion of multiple pathways is at a relatively early stage, and there are not yet well-developed models to study and emulate. We have seen over the past few decades, however, that piecemeal reform efforts bring piecemeal results. We must begin to acknowledge the fact that people learn in a variety of ways, in a variety of settings and at various rates. The approaches and strategies we've described take those notions into account and make a compelling case for establishing multiple pathways to a variety of high-quality postsecondary options, each with appropriate and recognized standards. By bringing together the gamut of organizational, political and community resources, we can profoundly improve public education across New England and beyond.

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Needed in School Teaching: A Few Good Men

A Massachusetts institute aims to close teaching gender gap

VALORA WASHINGTON

There is a definitive gender gap in our institutions of higher education, with female students making up significant majorities of undergraduate enrollments nationally—more than 60% at many colleges and universities. In addition, U.S. Department of Education statistics show that male students (no matter their race or socioeconomic group) are less likely than female students to fulfill the requirements to earn their bachelor's degrees. Among those who do, fewer men complete their degrees in four or five years.

With fewer men enrolling in and completing college, our campuses are out of balance. This leads inevitably to a lack of men in college and university education departments, which impacts the availability of men as role models in elementary and secondary schools.

The number of male school teachers is at a 40-year low. According to MenTeach.org, an advocacy organization for the recruitment of men in education, men comprise fewer than 3% of preschool and kindergarten teachers and just 19% of elementary and middle school teachers. For male teachers of color, the statistics are even more uneven. Teachers of color (women and men) make up 16% of the total teaching population, and nearly 42% of public schools have no teachers of color employed at all, according to the National Education Association.

At the CAYL Institute in Cambridge, Mass., we released a report once again confirming that male teachers are an "endangered species." The report, *Where Are the Men? Promoting Gender Diversity in the Massachusetts Early Childhood Workforce*, details some of the reasons men are not becoming teachers and what Massachusetts can do to help solve this problem.

There was a time in our country's history when the majority of elementary school teachers were men. In the mid-19th century, men took over the realms of industry and business, and left the teaching profession in droves.

It is easy to see why they left:

Gender stereotypes are still rampant. Images of "women's work" and "men's work" continue into the 21st century. To some, men who work with children, especially young children, are not seen as "real men."

Economics. According to the Bureau of Labor Statistics, median annual earnings of kindergarten, elementary, middle and secondary school teachers ranged from $43,580 to $48,690 in May 2006; the lowest 10% earned $28,590 to $33,070; the top 10% earned $67,490 to $76,100. Median annual earnings for preschool teachers were $22,680, while median annual earnings for someone with a bachelor's degree were $65,198.

In 2005, the Wellesley Centers for Women released the *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce*. The report found, unsurprisingly, that within most workforce sectors, higher-qualified individuals received increased compensation, but that is not the case for all early childhood teachers. A teacher at a private "preschool center" who has a bachelor's degree in the field is paid less than a comparably educated public school preschool teacher. The report found that in 2005, preschool center teachers with a degree earned an average of $11.91 per hour compared to the lowest paid, full-time public school preschool teachers, who earned an average of $28 per hour.

What discourages many potential teachers is the prospect of accumulating tens of thousands of dollars in loans and debt, only to make less than $30,000 a year as a preschool teacher.

Fear of abuse allegations. Men who take care of young children may be perceived to be pedophiles or sex offenders. This is incredibly hurtful to men who have established themselves in the field, and compromises efforts to recruit new young men to teaching.

What Needs To Be Done

We encourage proactive measures to recruit and retain male teachers. This effort must begin in elementary school and extend through the college years. We can do this by:

Personally inviting middle school and high school males to "teach for a day" or shadow a teacher. Young men today need to know that teaching and caring for our youngest learners is a viable career choice. A great example of this is the work of Just Holm, preschool manager for the city of Cambridge and 2008 CAYL Schott Fellow. In January 2008, Holm approached the Massachusetts Office of Workforce Development about designing a special program to recruit and hire young men to work in preschool programs offered in the city during the summer. At the end of the summer, 131

male students applied to work in preschool programs and 35 were placed. All the male students successfully finished their placement and the evaluation from the centers was overwhelmingly positive. Year-round placement was offered to two male students who continue to work in recruiting new students for the 2009 summer program. Efforts like this help in two ways: they raise the awareness among young men about a potential career path and they prepare early educators to better work with men under their employ, an issue that men have expressed concerns about in focus groups.

Increasing the intellectual content of teacher education. A recent report from eight national partners on higher education and the field of early childhood concluded that early childhood higher education programs are facing adaptive pressures and dynamics for which they are unprepared. While advocacy is growing to mandate bachelor's degrees for teachers and administrators of pre-kindergarten children, schools, colleges and departments of education are finding they do not have the capacity to meet growing community needs as they are understaffed and under-resourced at all levels. While innovations continually emerge from individual institutions and some state governments, much of the dialogue is occurring among early educators and the college units that support them. This discourages the best and the brightest men and women in the field.

Generating broad-based, bipartisan support for a "GI Bill for Teaching," involving scholarships and other financial incentives. What discourages many potential teachers is the prospect of accumulating tens of thousands of dollars in loans and debt, only to make less than $30,000 a year as a preschool teacher.

Recruiting and retaining more men in the field of early care and education is vital to the future success of our children. When boys and girls lack the first-hand experience and knowledge of men who are caring and nurturing, the message they receive is that it is not an important trait for men. It is an unfortunate truth that men commit the majority of violence in our country, often toward each other. Until we demonstrate that men can teach, be productive and help our children succeed, everyone will lose.

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Urban Interventions

When a university tries to help a city school

JOSEPH M. CRONIN

Once upon a time, the relationship of Boston universities to the city's school system was simply to accept worthy candidates into the freshman class and produce a few dozen new teachers each year to fill staff vacancies. When did this change, and what are the new expectations of colleges and universities?

For the past five decades, I have had a chance to observe university-city relations from several perspectives, as a Harvard and Boston University professor, as a state secretary of education and a senior fellow at the New England Board of Higher Education, the Nellie Mae Education Foundation and the research and consulting firm Eduventures.

One chapter in my recent book *Reforming Boston Schools 1930-2006* deals with university efforts to improve city schools. Other chapters analyze the efforts of corporations, foundations, civil rights groups, unions and others on the chessboard of educational reform and improvement.

For many decades, universities stayed away from Boston schools. Boston trained its elementary teachers at its own normal school, which became Boston State College and eventually was taken over by the University of Massachusetts Boston. In prior centuries, Harvard College produced the largest number of high school "masters" but beginning in the 1930s, Boston College, Tufts and others sent graduates to teach in Boston.

What lured area universities into Boston was the new commitment to cities in the 1960s, first by the Ford Foundation and then by Lyndon Johnson's War on Poverty and Congressional approval of the Elementary and Secondary Education Act, precursor to No Child Left Behind. Universities were asked to help revise the curriculum, design new models, advise on racial integration and improve specialized services to city children.

This was not easy for city school administrators who bridled at public criticism by university professors. City school principals did not always accept the wisdom of faculty who lived in suburbs and appeared to look down on lifelong city dwellers. Boston College early on enjoyed great credibility and in 1967 hosted a study by education deans of ways to modernize the evaluation and selection of principals and headmasters.

Boston University under its president, John Silber, offered on three occasions to take over the management of Boston public schools. Silber asked former Brookline Superintendent Robert Sperber to lead a Higher Education Partnership with Boston and establish a Boston Leadership Academy with both school of education and school of management faculty. BU contributed four scholarships each year for top graduates of 17 city high schools as part of a commitment to the city.

Northeastern University partnered with several Boston public schools and during one of the city school system's periodic financial crises prepared a report on how to find $20 million in savings. UMass Boston for several decades worked with Dorchester High School. In all, more than 30 colleges and universities in Eastern Massachusetts agreed to become partners with the Boston schools for teacher training, research, enrichment and other special projects.

The Harvard University partnership with Roxbury High School was among the first to founder, since too few South Bostonians would attend an all black school under court-ordered desegregation. Harvard soon after welcomed Boston administrators to its Principals' Center. Harvard subsequently led senior faculty to help devise ways to better analyze student achievement data and help instructional leadership teams. Eventually, Harvard's faculty included no fewer than seven individuals who had worked in Boston schools for part of their careers.

Partnerships must include mutual respect among university and city partners, a major commitment to stay many years and a willingness to evaluate and revise ineffective strategies.

The MIT partnership with the Umana School (East Boston) lasted a few years, but did not survive a mix-up in expectations and the loss of technology equipment. MIT deans and faculty launched more than a dozen projects, many in science and technology, to raise the aspirations of city students.

BU in 1988 assumed responsibilities for the public schools of Chelsea, Mass., which abuts Boston, and developed early childhood programs, selected a series of superintendents and substantially raised SAT and other achievement scores. Boston College formed close partnerships with Boston's Brighton High School and many nearby elementary schools. In recent years, BC expanded these links by adding access to health and social services needed by the children and their family as a prerequisite to success in school.

In Massachusetts and elsewhere, universities are often seen as vendors of expertise. The hope, especially in New York City, East Palo Alto and other cities, is that universities can become "turnaround agents" and rescue underperforming public schools. This is a genuine challenge, since universities are stocked with very independent faculty members with a mix of teaching, student advising and research responsibilities. Many faculty, until recent years, lacked school experience dealing with the challenges of urban diversity. Some schools of education and management will be able to respond, but universities are usually better at taking on specific tasks rather than total school reinventions.

Another weakness of universities is the shortfall of graduates in critical areas such as science and mathematics and the teaching of students for whom English is a new language. This is one of the reasons Teach for America and several teacher-residency programs have generated strong support in cities such as Boston, Chicago and Denver. So far, these programs have attracted high-achieving college graduates who had been unwilling to enroll in school of education programs.

Universities contributed thousands of hours to trying to help Boston schools improve. With what effect? When he became Boston superintendent in 1995, Thomas Payzant found too many isolated interventions that did not raise student achievement scores. He criticized "projectitis" and asked colleges to work in concert with his Whole School Improvement projects school by school. Steve Leonard, turnaround headmaster at the Jeremiah Burke High School, dismissed his "too many partners" and invited several universities to help with very focused assignments essential to school improvement.

University partnerships must include a clear statement of objectives, mutual respect among university and city partners, a major commitment to stay many years (as BU did in Chelsea), and a willingness to evaluate and revise ineffective strategies. Boston Mayor Tom Menino in 2007 asked five of the city's largest universities each to commit resources to two underperforming schools in Boston to help raise student and school performance. Soon, it should be clear which universities have found the key to effective school-system partnerships.

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New England's State of College Readiness

Adding up academic knowledge, success in college-level courses, SAT performance, and college and career planning

ROXANNA P. MENSON, THANOS PATELIS AND ARTHUR DOYLE

In continuing its mission of connecting students to college success, the College Board is developing a multi-indicator system that provides educators with a comprehensive view of their students' college readiness. The information used to measure progress toward college readiness comes from the College Board's nationally administered assessments such as the SAT and Advanced Placement (AP) exams. These indicators are validated by research that links them to college performance and success. This system currently reflects four indicators of college readiness: academic knowledge and skills, success in college-level courses, advanced academic skills and college and career planning skills.

The academic knowledge and skills gained through rigorous coursework prepare students for college success. Students who take four or more years of English, three or more years of math, three or more years of natural sciences and three or more years of social sciences/history—collectively known as the core courses—are better prepared for college than students who do not. One way to measure the impact of rigorous coursework on college readiness is to compare performance on the SAT for students who reported taking the core curriculum versus students who did not. Those who took the core courses scored higher on average than those who did not.

A second indicator of college readiness is success in college-level courses taken in high school. To succeed in college-level courses, students must demonstrate in-depth subject area knowledge, higher-order thinking skills, strong study skills and research skills. Students who succeed in college-level courses in high school are more prepared for college-level coursework than those who do not. One way to assess the level of success on this indicator is to examine trends in the number of students obtaining an AP grade of three or higher on at least one AP exam. Research consistently shows that students who score a 3 or higher on an AP exam typically experience greater academic success in college and improved graduation rates than their non-AP student peers.

Advanced academic skills are a third indicator of college readiness. Students who have developed strong reasoning, problem-solving, analysis and writing skills are more prepared for college than those who have not. One way to assess advanced academic skills is SAT performance. Decades of research studies show that the SAT is a very strong predictor of first-year college performance. The College Board's 2008 SAT Validity Studies concluded that the SAT continues to be an excellent predictor of how students will perform in their first year of college. The best predictor of first-year college GPA is a combination of high school GPA with SAT scores.

Even an academically prepared student may not persist and succeed in college without sufficient college and career planning skills. Understanding college and career options, the college admissions process and options for paying for college collectively prepare students for college success. One way to measure these non-cognitive skills is by evaluating data on students' aspirations, intended majors and score-sending patterns collected from the SAT Questionnaire.

The College Board has prepared more than 40 tables and charts exploring New England trends in academic preparation, success in AP courses, SAT performance and college and career planning, which may be viewed at **www.nebhe.org/collegeboardtrends**.

Some highlights from the College Board data:

Academic Knowledge and Skills

- In 2008, the number of SAT test-takers in New England who reported having core academic preparation grew by 19%, while the number reporting non-core academic preparation decreased by 16%. Students having core academic preparation continue to perform better on the SAT than those who do not, widening the performance gap between the two groups. Students with core academic preparation scored, on average, 46 points higher in critical reading, 47 points higher in mathematics and 49 points higher in writing.
- The percentage of New England's SAT test-takers reporting that they had taken four or more years of English, three or more years of math, three or more years of natural sciences, and three or more years of social sciences/history, grew from 78% in 2004 to 83% in 2008.

Success in College-Level Courses

- In 2008, 79,650 New England students took 135,015 AP examinations. Since 2004, the number of New England exam-takers has increased by 31%.
- The number of New England students earning a grade of 3 or higher on AP exams has increased by 32% since 2004.
- In 2008, the five most popular AP subject examinations in New England (with the percentage of total AP examination shown in parentheses) were as follows:

1. History: United States (14%)
2. English Literature and Composition (13%)
3. Mathematics: Calculus AB (10%)
4. Biology (8%)
5. English Language and Composition (8%)

- When the top five subject areas are examined in conjunction with the most popular college majors, it appears students are most interested in fulfilling college core coursework in high school so they can focus more of their studies in college on subjects directly related to their majors.

Advanced Academic Skills

- The percentage of New England students taking the SAT reached 80% in 2008, compared with a national participation rate of 45%.
- The SAT mean scores for New England have decreased since 2004, a pattern that is consistent with increasing student participation rates.

College and Career Planning Skills

- The four most popular intended majors in New England in 2008 (with percent of test-takers shown in parentheses) were as follows:

1. Business Management, Marketing and Related Support Services (16%)
2. Health Professions and Related Clinical Services (16%)
3. Education (8%)
4. Visual and Performing Arts (8%)

- In 2008, 5% of all New England SAT test-takers reported 'Undecided' for their intended major, down from 7% in 2004. The data suggest that more students are entering college with a clearer career path than in the past.
- Nearly 70% of New England students send at least one SAT score report to New England institutions; 32% send score reports *only* to New England institutions.
- The percentage of students outside New England sending at least one SAT score report to New England institutions has increased 1% since 2004.
- Since 2004, the percentage of New England students choosing not to send any score reports to institutions has decreased 1.1%, while this percentage nationally *increased* 2.9%.

All in all, the data suggest that New England high schools and students have made great strides towards college readiness in the past five years. A larger number of New England students are striving to attain the academic knowledge and skills needed to be successful in college as evidenced through increased participation in rigorous coursework. More New England high school students are participating in the SAT and choosing to send their scores to institutions suggesting increased interest in attending college. The increased participation within the AP Program and the subsequent increased success rates (as evidenced by achieving grade 3 or higher on at least one AP examination) among students suggest that more New England students are getting a head start on college-level work.

Readiness Data on the Web

The College Board has prepared more than 40 tables and charts exploring New England trends in academic preparation, success in AP courses, SAT performance and college and career planning.

Visit: www.nebhe.org/collegeboardtrends

The New England Board of Higher Education and the College Board enjoy longstanding collaboration on important education issues. Today's deepening use of the AP, PSAT/NMSQT and SAT programs provides valuable data to support the work of the education community and the formation of education policies that will strengthen New England in increasingly competitive and challenging global economic environments.

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Two Vermont Colleges Look to Boost Student Retention

Creating a Retention Quilt

Southern Vermont College reports on results from the trenches

ALBERT DECICCIO, ANNE HOPKINS GROSS AND KAREN GROSS

The academic literature is clear: students with a college degree earn more and lead healthier, more productive lives than their non-degree counterparts. Moreover, the early weeks on campus profoundly affect the likelihood of students persisting through to graduation. With its significant enrollment of first-generation and underrepresented students, Southern Vermont College took a new road to meet the challenge of first-semester (and first-year) retention.

Many variables impact student retention: academic offerings, residential programming and the overall culture of the institution. New students need to feel part of the institution and connect to one another, to faculty and to the campus community.

To establish connectivity on campus, SVC focused on two strategies: 1) connecting with students *before* they arrive on campus and 2) intentionally linking pre-orientation initiatives with both orientation and events planned for students during the semester. Rather than one-time events arranged by Academic Affairs or Student Life, SVC aimed to create a quilt of events during a 12-week period. SVC's retention work, we believed, had to be "of a piece," by linking typically disparate activities through shared themes, teamwork and coordination among departments.

Pre-Arrival Engagement

In the past, new SVC students received an information packet from Student Life and registered in one of two ways: on campus during a designated, summer pre-orientation day, or when they arrived for orientation.

We adopted a different approach for academic year 2008–2009. In mid-summer, divisional chairpersons wrote personalized letters to students about the fall schedule and proposed selected courses for students to consider. Two weeks later, the chairpersons followed up with phone calls or emails to discuss fall schedules. This process engaged students and faculty in a dialogue well before the start of classes, preparing them for the living and learning community we seek to cultivate.

Closer to the start of the fall semester, SVC's provost wrote to students about an initiative that would begin at orientation when they would be presented with Natalie Bober's *A Restless Spirit: The Story of Robert Frost*. A chapter was enclosed, referencing Frost's apprehension as a young man when asked to read his poetry and to present his ideas about teaching writing. Undertaking both tasks helped build his confidence. The letter acknowledged that many new SVC students might feel anxious like Frost, perhaps questioning whether they would meet the expectations of being first-year college students.

Students were asked to read the chapter, reflect upon Frost's experiences, and write a one-page statement explaining their feelings as they prepared to transition from high school to college.

Parent Programming

For new students and their families, particularly first-generation parents, orientation can be stressful. There are mixed emotions about seeing a child off on this new adventure.

We sensed that the traditional "parent lecture" and "student panel" on separation at the start of school were not working well—as evidenced by questions, follow-up calls, and interactions between parents and the college or parents and students. As previous semesters started, some students called home to say college was not for them and they were homesick. A new approach was needed.

Forging a partnership with a local theater company, we commissioned the director to write six skits to be performed by professional actors and SVC student-leaders. The brief skits, touching on issues such as roommate concerns, lack of parental supervision, academic success, being overwhelmed with the newness of college and helicopter parents, were performed for new students and again for parents. Afterward, the dean of students led discussions with help from the director of counseling services. Later that day, faculty and staff led parent-to-parent conversations in small groups to enable parents to connect with one another and members of our community.

The first day of orientation concluded with a dinner and a new SVC activity, "Bookends of Your Education." Each incoming student was presented with the Frost book, hand-signed by faculty and staff within the campus community—from the president to dining hall servers—again connecting students to staff. Each student was then personally welcomed into the community by team members.

During orientation, students visited the Robert Frost Stone House and Museum in nearby Shaftsbury where Frost wrote "Stopping by Woods on a Snowy Evening." Over lunch, the students discussed Frost's poetry, his experiences, and the written reflections they prepared.

Post-Orientation

Several post-orientation events were designed to create a continuum that enhanced campus connectivity, including a formal welcoming event, "Convocation," held during the first week of classes. In his address, "Aims of Education," the provost spoke of higher education as an entree into an ongoing human conversation to which everyone at SVC is invited to contribute. Students were encouraged to exchange simple, even handmade, gifts with one another—symbolic of a community of give and take.

A fireside chat series enabled faculty, staff and students to talk openly and informally about life at SVC.

The theater company re-appeared during the second week of classes for a reading of Wendy Wasserstein's play, *Third*. The play, about plagiarism and profiling, was introduced by Wasserstein's sister who lives in the area. This reading was followed by a discussion among the audience and the actors and, one week later, a discussion among students and faculty.

At semester's end, the provost led a class on Frost's poetry and his life. The conversation detailed how, through his life experiences and challenges, Frost changed from being self-oriented to becoming community-oriented. As students prepared to return home for the holiday break, this gave them a context in which to ponder their own experiences, challenges and changes.

These activities were augmented by other efforts. A case management team focused on students who were struggling—academically or behaviorally—and strategized outreach. We also had an active retention committee that recommended, among other ideas, a fireside chat series that enabled faculty, staff and students to talk openly and informally about life at SVC. The series led to several actions to enhance fall retention, including introducing a formal intramural sports program and offering regular transportation to and from Bennington.

What the Data Show

SVC has examined the effect of new approaches for first-semester retention by looking at the percentage of first-year students who left the college at the end of their fall semester and the percentage who then registered for the following spring semester.

Table 1: Retention of First-Year Students at SVC

Percentage of First-Year Students Who Left SVC by the End of Fall Semester	
Fall 2005	Fall 2008
20%	3%
Percentage Who Registered the Following Spring Semester	
Spring 2006	Spring 2009
80%	91%

The data indicate that efforts have been instrumental for creating connectivity and building community at the start of this academic year. This economy presents added retention challenges, like unanticipated financial hardships due to parental job loss, loan reductions and diminished off-campus work opportunities. Nevertheless, the data show we are weathering the storm.

Anecdotal evidence suggests higher student satisfaction than in previous years. More students are attending athletic events and participating in activities sponsored by Student Life. Faculty report fewer student complaints about noise in the residential halls. SVC will administer the National Survey of Student Engagement this spring to see if what is now anecdotal will be buttressed by data. We are also examining retention from the first year to the second year. All of these data are being looked at in light of national norms at similar institutions.

Despite excellent progress on fall to spring retention, to paraphrase Frost, we have miles to go before we sleep. For now, we can conclude: strategies that are "of a piece" create a cohesive quilt covering new students' needs and concerns. And for retention, that has made all the difference.

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First-Generation, Low-Income Students

Strategies for success at Lyndon State College

DONNA DALTON, CAROL A. MOORE AND ROBERT WHITTAKER

Lyndon State College is a small, four-year public college in the rural Northeast Kingdom of Vermont. In an effort to improve our first-year retention rate, two years ago we began to analyze which students return to Lyndon for their second year of college. We were surprised that more than 60% of our students were first-generation college students and more than 30% were both first-generation and low-income (FGLI) based on Pell eligibility. With further analysis, we found the first- to second-year retention rate for FGLI students was 54%, compared with 60% for the rest of the population.

With a $100,000 year-long Project Compass planning grant from the Nellie Mae Education Foundation, we established a task force to collect data and identify strategies for improving the success of FGLI students. Funded by the foundation and managed by the New England Resource Center for Higher Education, Project Compass aims to help a select group of public New England colleges and universities improve the success rate of their most underserved students. Project Compass is guided by the premise that by developing systemic initiatives to increase the retention rates of the most underserved students, colleges can increase the chance of success for all students.

During the planning year, we realized Lyndon needed a three-pronged approach to understand and address our retention challenge. First, we needed to become acquainted with the large body of internal and external research on FGLI students. Second, we needed to examine existing pathways to success and explore what interventions could be created to fill the gaps in existing support structures. Finally, knowing that anything we did required the buy-in of the entire campus community—and in effect a shift in campus culture—we instituted a professional development series to begin a campus dialogue about how to serve the needs of FGLI students.

The series brought to Lyndon noted education scholars to give presentations and workshops for faculty and staff. Speakers included Vincent Tinto of Syracuse University, George Kuh of Indiana University, Betsy Barefoot of North Carolina's Policy Center on the First Year of College, and Massachusetts higher education consultant Peggy Maki. The series provoked greater interest in professional development related to best practices in pedagogy, assessment, advising and meeting the needs of FGLI students. The success of the planning year and the institutional commitment to change led the Nellie Mae Education Foundation to award Lyndon a $200,000 implementation grant to put in place the following strategies.

1. Data Management & Evidence Development. Our student data are not compiled in one location or in a common format that allows a complete analysis to determine trends, predictability of persistence or which current interventions have been effective. Until we streamline and coordinate student data, our data tracking, management and analysis capacities will remain limited.

2. Early Alert System. The literature notes that the first two weeks are critical in identifying and responding to indicators that an FGLI student is not on the pathway to success. We determined we needed a web-based early alert system that would streamline how we inform and coordinate a response among the faculty and staff most closely connected to the FGLI student (e.g., instructors, academic advisors, residence hall directors, directors of first-year experience, coaches).

3. College Advising & Mentoring Pilot. A pilot staff mentoring and faculty advising program was designed to address the needs of FGLI students and the inconsistencies in advising and support these students were experiencing. Faculty advisors focus on academic advising and academic adjustment. Staff mentors focus on cocurricular advising and social adjustments to college life.

4. Learning Communities Pilot. Currently, each section of the first-year seminar, developed as an introduction to Lyndon, is linked to another first-year course. But as Tinto noted during his campus visit, "a linked course does not a learning community make." In this first implementation year, we have worked with faculty and student mentors in five of these pairings to help them create true learning communities.

5. Basic Skills Pilot. To address the problem of FGLI students completing fewer college credits by the end of the first year, which is associated with greater attrition, we developed pilot courses that combine math and English basic skills with the required math and English courses, so students get credit while completing remedial work.

6. Professional Development. Professional development continues as a central focus of our Project Compass activities, bringing nationally known retention specialists to Lyndon.

7. Enhanced Campus Communication. To enhance communication across campus regarding pathways to FGLI student success, we initiated a half-day, kickoff event that brought faculty, staff and student leaders together before the start of the 2008 fall semester. We see this becoming an annual tradition critical to achieving the long-term goal of creating a "Learning Commons" defined by a recognition that all members of the diverse Lyndon community contribute to the overall educational experience and success of every student.

8. Community and High School Outreach. Lyndon has begun working with the region's high schools, technical centers, economic development agencies and the private sector to explore the extent to which we can create a "cradle-to-career" model intentionally linking a regional preK-16 education model to the region's economic and workforce development needs.

We are in the early stages of our work. By next fall, we expect to be in a better position to share emerging trends while making data-driven decisions relating to which strategies should be continued and which should be modified or dropped.

What has become apparent through our Project Compass planning year and the first year of implementation is that identifying and responding to the needs of FGLI students is an exercise in institutional change. Driving this change is an increasingly shared commitment among faculty and staff to help underserved students who have potential for success at the college level, and for whom Lyndon State College exists as a portal to opportunity that might not otherwise exist. We hope our work will enhance the growing knowledge base of how colleges and universities can better serve and embrace underserved populations and that it will provide replicable models.

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What is the status of New England higher education's "balance of trade" in foreign enrollment and study abroad? What challenges and opportunities are presented by new higher education institutions popping up from Dubai to Shanghai? Do existing international curricula meet the perceived need to prepare global citizens? How do other countries compare to the United States in terms of intangibles such as university culture and academic freedom? What do international partnerships really mean after the handshakes and photo opportunities?

The New England Journal of Higher Education asked a group of educators to consider these and other questions as they explored current issues and debates in the internationalization of higher education, globalization and the future of New England.

Campuses Abroad: Next Frontier or Bubble?

MADELEINE F. GREEN

There is enormous unmet demand for higher education around the world. In response, entrepreneurial U.S. colleges and universities are becoming increasingly mobile, setting up branch campuses and offering certifications and undergraduate and graduate degrees to students who may never set foot on the home campus in the United States. As a significant new addition to the familiar practices of receiving international students and scholars on campus, offering study-abroad programs and developing partnerships for academic and research cooperation, these initiatives have received a lot of attention in the media, creating the impression that this is the next frontier for U.S. higher education.

But is it? Although there is no precise count of the number of U.S. campuses and programs abroad, 10% of respondents to an American Council on Education (ACE) survey indicated that they had such initiatives, with a quarter of doctorate-granting universities doing so. The Australians and the British have moved very aggressively to recruit international students to their campuses and to set up "off-shore" operations, so much so that institutional leaders in both nations worry about their financial dependency on tuition revenue from international students on their home campuses and off-shore sites. Historically, the United States has focused more on recruiting international students to come to the United States than on delivering U.S. education abroad. To date, there is no compelling evidence that they should abandon this time-honored practice in favor of establishing campuses and delivering programs abroad.

A 2008 roundtable of U.S. leaders of campuses and programs abroad convened by ACE confirmed that although there are many good reasons to venture abroad, institutions should proceed with caution. Participants agreed that taking the long view of these initiatives is essential. The start-ups were labor-intensive and the break-even point is usually several years out. They noted the challenges of connecting the foreign operation to existing institutional programs, operations and structures and the myriad challenges of navigating the legal and financial systems of the host country. Working with partners on the ground requires bridging cultural differences and deciding where to draw the line, such as in matters of academic freedom. And indeed, the recent closing of George Mason University's campus in the Persian Gulf emirate of Ras al Khaymah confirms the academic and financial risks involved.

Critics of off-shore operations raise a different set of questions. Do campuses abroad represent a form of cultural imperialism? Do they contribute to capacity-building in the host country? Do they contribute to the internationalization of the home campus? Would all concerned not be better off if U.S. institutions partnered with institutions in that country to develop true reciprocity, rather than simply "exporting" U.S. higher education? Partnerships should provide benefits to all parties. The cooperative nature of collaborative teaching or research maximizes the impact on the students and faculty of the participating campuses. Although campuses and programs abroad may have a positive impact on the academic quality of the home campus and on the capacity of the host country, there are no guarantees.

The jury is still out on the future of off-shore operations and the impact of the global financial crisis. The financial straits most U.S. institutions find themselves in are likely to discourage risk-taking and any diversion of attention. But at the same time, the world is getting smaller and flatter. Hunkering down and looking inward is simply not an option for U.S. institutions.

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Reaching Beyond Elite International Students

PAUL LeBLANC

The desire and need for American higher education around the world is enormous, but it largely remains within the reach of just a small percentage of international students who are wealthy or lucky. They have the resources to come to America for study or to attend one of the increasing number of U.S. branch campuses abroad, but in both cases those students were already destined for lives of relative prosperity in their home countries and usually Western-leaning in their thinking and politics.

We need to find ways to reach out to those in the teeming middle rung of the international student population —those who need much more affordable versions of American degree programs or who may be able to spend just a small portion of their time in the United States or who have little hope of procuring a visa. Their largely wealthy peers, often members of a small elite or upper class, will live well whether or not they are educated by us. However, this less fortunate population can see their lives transformed through an American degree. They can compete for good-paying jobs and enjoy greater social and professional standing, thus improving their lives and their family's well-being.

We will increasingly serve them through online learning programs (now gaining more acceptance in many parts of the world), innovative partnerships, and more affordable models. Southern New Hampshire University is experimenting with all three. We recently gained approval for our online degree programs in China. We became the first American university to offer a full four-year business degree in Malaysia through a university partnership (under our supervision) approved by the Malaysian government. And our bachelor of applied science in hospitality administration (BASHA) program allows students to integrate nine months of required paid field work into their degree program (through our partnerships with major hotel chains) to help make the program more affordable.

Many universities are introducing similar programs. Be forewarned, the execution of such programs is challenging and requires a considerable investment of institutional resources. There is no doing this work on the

cheap. It will require the time and often the on-the-ground presence of leadership and staff, careful monitoring and ongoing quality control, and a full-time person in-country (a NEASC requirement). It requires patience–our China initiatives are just now getting traction after three years of work with full-time in-country staff and numerous visits. With hundreds of thousands of dollars invested, an office and three staff members in Beijing and occasional skepticism on campus and perhaps among a few board members, we are finally seeing dozens of students enroll in our online programs and groups of Chinese executives coming for summer programs.

I often had to remind people that we might fail. International markets are volatile and subject to everything from currency fluctuations to regulatory change to civil unrest. But when successful, these programs change lives for students and their families and shape their view of America.

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Academic Culture Shock

KARA A. GODWIN

The number of foreign students and scholars in the United States is at an all-time high. In 2007-08, U.S. colleges and universities hosted 623,805 international students, an increase of 7% over 2006-07, according to the Institute of International Education. Nearly 8% of these students studied in New England, where they contributed $1.5 billion to the regional economy. The number of foreign faculty and scholars increased at a similar rate to 126,123 with 9% residing in New England.

Administrators and policymakers agree that the contributions foreign students and scholars make to campus global diversity, local economies and America's academic competitiveness are worth the recruitment and visa challenges. Once foreign students and scholars are on campus, however, most U.S. institutions tend to be naïve about the impact of cultural differences on their core work of teaching and learning. While some faculty and administrators are aware that differences exist, they rarely consider how to incorporate that knowledge into the work or services they provide.

While international students and scholars face day-to-day cultural adjustments, of more concern are the often stark differences they encounter in the classroom and academic system. Based on academic norms in their home country, international students and scholars are frequently uncomfortable with the hallmark activities of U.S. higher education. American students are taught from a young age to participate and ask questions. They are encouraged and even rewarded for challenging authority. Americans expect informal student-teacher relationships, a broad choice of courses, group work and a myriad of campus support services and activities. Academic integrity rules are part of a shared value system dictating interactions among faculty, students and administrators.

In contrast, many international students and scholars come from predominately lecture-based academic traditions. The professor-student relationship is formal and involves little interaction. Instructors are viewed as authority figures, and students do not ask questions. Students typically study in a specialty field from early in their academic careers, and campus life centers around coursework with few extracurricular activities. In some contexts, behaviors that Americans generally define as cheating or plagiarism are acceptable and expected.

For the international student, the impact of these different approaches to teaching and learning may diminish individual engagement and academic success. The issue is compounded and more serious when the international scholar is also a graduate teaching assistant or a teaching member of the faculty whose expectations about instruction and learners are vastly different from those of students. For institutions, a failure to recognize, give weight to and provide support for international students and scholars in their most fundamental work means sacrificing student learning outcomes in the classroom and scholarly collaboration among faculty.

A few New England institutions have programs that help international students and instructors understand American academic culture. If the region is to reap the benefits of global diversity and its sizable international student-scholar community, institutions must assuage the cultural gap that is a detriment to their fundamental academic work.

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MOUs: A Kyoto Protocol?

MICHAEL E. LESTZ

Several years ago, when I was working at the University of Hawaii Manoa, I went with a group of faculty and administrators to Kyoto University to explore signing a memorandum of understanding (MOU) to create ties with this remarkable school. Our little delegation met with KU's vice president and director of international links who took out a folder listing the university's global partners and we heard an enlightening description of KU's path to forming such agreements.

When I looked at Kyoto's list and appreciated how they tied global links to the core mission of the university, I gasped. Hawaii's work in this realm was incoherent by comparison. At Manoa, MOUs were signed regularly, usually with some short-term benefit in view, and with inadequate consideration of how they would enhance the whole global project of the university. By contrast, all the schools Kyoto worked with—a brief list of mostly tier-one universities and colleges—first formed research or small exchange projects with KU faculty. If, after three or four years, the efforts yielded results—especially in the form of a productive research project—the relationship was formalized with a contract and the collaborating university or college went into the Kyoto University register of partners.

An example of the policy at work was the KU International Symposium series launched in 2001. KU's Organization for the Promotion of International Relations sponsored international showcases of investigations that came to fruition through university-to-university agreements or multilateral arrangements; they provided proof of the viability of partnerships and a chance to assess the research product of universities.

By focusing from the first on patient exploration of research opportunities, high-quality science and the publication and display of results, Kyoto ensured joint investment in existing exchanges that could be perpetuated and expanded. In the end, the University of Hawaii Manoa did sign an MOU with Kyoto in 2003 that fit KU's paradigm for such links.

So many MOUs languish in drawers, together with pictures of banquets where the hopeful partners pledged to work hard to give their new friendship "legs." When the tie atrophies, a common reason is that the partners were insufficiently familiar with each other's capacity as they put pen to paper and did not foresee adequately what new fiscal arrangements would be necessary to nurture the tie. An unsupported set of objectives can doom the best intentions to frustration. If, for example, the MOU foresees faculty exchanges, but emerges without sufficient departmental consultation to ensure that the transfer of personnel is realistic and in line with the career patterns of the faculty who would take part, the prospect of the agreement will not be bright.

The Kyoto University model, to the contrary, ensures a good result. When the parties come to the table to sign the agreement, there is a careful calibration of what the MOU can accomplish that derives from a preexisting array of bought and paid-for activities. The already achieved successes, such as language programs, laboratory-to-laboratory exchanges and multilateral research projects, prove a signing ceremony is a good idea.

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Extra Step for Study Abroad

KERALA TAYLOR AND NICHOLAS FITZHUGH

Let's face facts: study abroad is not always all it's cracked up to be. After all, the common perception of the study-abroad experience as a semester-long party has some basis in truth. This is not to say that students shouldn't have fun overseas, but how can we ensure that they break out of the famous "American bubble" and pursue meaningful cross-cultural experiences?

All too often, the common wisdom seems to be that if we can just get students on a plane, true learning will inevitably follow. As co-founders of Glimpse.org, which publishes stories written by young Americans about real life abroad, we know that is just not the case. While we receive many insightful, inspiring story submissions, we also get many disheartening ones —stories by students who have spent months abroad and whose most profound cultural insight is that Australians like to surf, or that Brits drive on the other side of the road, or that the French like strong cheese.

Glimpse.org, our user-generated, professionally edited website, acts as a catalyst for more meaningful overseas experiences. With some nice incentives thrown in (career training, online publication, contest prizes) we encourage students to get out there, to talk to people, to pursue cultural adventures. Our contributors and official correspondents have done everything from exploring gay nightlife in Jordan to visiting a prosthetic foot factory in India to voyaging with Maori fishermen in New Zealand. The first step is getting on that plane, but it's the extra step a student takes on the other end that makes all the difference.

Study abroad has enormous potential when it comes to fostering a new generation of "global citizens"; the challenge is ensuring that it lives up to its promise.

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Water of Life

ANTHONY ZUENA

Bernard Amadei, a civil engineering professor at the University of Colorado, recently wrote about the grandiose, steel-and-concrete wonders that serve as daily reminders of just how successful and prosperous the human race can be. "The world needs no more big structures that satisfy the needs of only one billion people in the Western world," Amadei wrote. "It needs a massive, sustained outpouring of compassion in action for the billions of impoverished, but resilient people asking to be seen, dreaming of a better life."

Thanks to Amadei's nonprofit humanitarian organization Engineers Without Borders-USA (EWB), engineers and engineering students across the United States are playing central roles in helping build a more sustainable future for those living in developing countries.

Recently, engineers from S E A Consultants Inc., and engineering students from EWB's Northeastern University chapter in Boston participated in designing and constructing a water-distribution project in the Honduran village of Los Planes. The group identified a cleaner, more reliable water source. Then, with the help of villagers, they built a pipeline from the source to the village and a distribution reservoir along with water service taps for each house in the village.

With a new water-distribution system in place, the quality of life for the villagers improved dramatically over the course of a few months through improved sanitation and the ability to irrigate modest crops. The system also helped strengthen the villagers' ability to maintain their community and their culture.

Thanks to organizations like EWB, more engineers and engineering students are taking part in global construction projects that make everyday life healthier and better for people in developing countries. While these projects require extensive design and technical research—and some colleges award credits to students who participate on EWB projects—the students are learning that skills such as compassion, resourcefulness and determination are also necessary. By looking beyond their own borders, our engineers of today and engineers of tomorrow are helping to dramatically improve our world.

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NEJHE's Trends & Indicators in Higher Education, 2009

NEJHE's "Trends & Indicators in Higher Education" features 64 tables and charts exploring New England's demography, high school performance and graduation, college enrollment, college graduation rates and degree production, higher education financing and university research.

Some highlights from Trends & Indicators in Higher Education, 2009:

• Since 1990, New England's population has grown by just 8%, compared with more than 59% for the Mountain states and 22% for the nation as a whole.

• More than three-quarters of New England 9th-graders graduate from high school in the expected four years time, compared with 69% nationally.

• Fewer than half of New England students who finish high school have completed the necessary courses and mastered the skills to be considered "college ready." However, the New England states perform above the national norm on most indicators of college readiness.

• Most college-bound high school seniors in New England name health or business fields as their intended college majors.

• New England's colleges and universities enrolled 904,000 students in 2007, but the region's once-disproportionate share of total U.S. enrollment stayed at just 5%.

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

• Women students outnumber men on New England college and university campuses by more than 134,000.

• More than 48,000 foreign students are enrolled on New England campuses comprising 7.7% of the national total.

• Only 20% of students graduate from New England community colleges within three years of enrolling—and the rate is even lower among minority groups.

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

• Nearly 60% of all higher education degrees awarded in New England are awarded to women.

• Total yearly charges, including room and board, top $42,000 at New England's private four-year institutions and $17,000 for most state residents at the region's public institutions—far above national figures.

• Americans pay an average of $257 each in annual state taxes to support public higher education and student aid in their states. New Englanders, however, pay just $188.

• More than 70% of family income is required to cover college costs at New England private colleges and universities. In some of the region's states, that figure nears 100%.

• New England universities performed $3.6 billion worth of research and development in 2007, but the region's share of all U.S. university R&D dropped slightly to 7.4%.

The data presented on the following pages are collected and analyzed annually by the New England Board of Higher Education. The data are drawn from a variety of sources, including the U.S. Department of 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.

The data are organized in part to correspond with the four goals of NEBHE's College Ready New England 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.*

Data compiled by former NEBHE research analyst Sue Klemer, now with North Shore Community College's Department of Planning and Research.

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New England is home to 14.3 million people. Since 1990, the region's population has grown by just 8%, compared with more than 59% for the Mountain states and 22% for the nation as a whole.

Fig. 1: Change in Population, 1990 to 2008, New England States and Other Regions

	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	% Change 1990 to 2008	% Change 2007 to 2008
Connecticut	3,287,116	3,411,714	3,428,208	3,448,261	3,467,932	3,475,351	3,478,714	3,487,896	3,489,868	3,501,252	7%	0.3%
Maine	1,227,928	1,277,179	1,284,663	1,293,667	1,302,729	1,307,904	1,311,044	1,313,355	1,315,398	1,316,456	7	0.1
Massachusetts	6,016,425	6,362,583	6,407,269	6,433,043	6,441,440	6,437,414	6,434,343	6,443,424	6,467,915	6,497,967	8	0.5
New Hampshire	1,109,252	1,240,361	1,256,625	1,270,701	1,281,260	1,292,064	1,300,530	1,308,824	1,312,256	1,315,809	19	0.3
Rhode Island	1,003,464	1,050,725	1,058,065	1,065,937	1,071,302	1,071,095	1,064,439	1,058,991	1,053,136	1,050,788	5	-0.2
Vermont	562,758	609,876	612,134	614,994	616,702	618,432	619,282	620,196	620,748	621,270	10	0.1
New England	13,206,943	13,952,438	14,046,964	14,126,603	14,181,365	14,202,260	14,208,352	14,232,686	14,259,321	14,303,542	8	0.3
Middle Atlantic	37,602,286	39,714,383	39,863,684	40,007,758	40,138,086	40,257,535	40,322,914	40,395,301	40,502,372	40,621,237	8	0.3
East North Central	42,008,942	45,222,278	45,438,238	45,604,725	45,760,422	45,920,683	46,035,658	46,164,570	46,287,995	46,395,654	10	0.2
West North Central	17,659,690	19,270,416	19,367,594	19,453,706	19,538,826	19,645,657	19,749,605	19,883,260	20,024,567	20,165,794	14	0.7
South Atlantic	43,566,853	51,959,428	52,755,709	53,548,217	54,275,570	55,146,742	56,053,745	56,981,100	57,746,662	58,398,377	34	1.1
East South Central	15,176,284	17,051,905	17,135,832	17,213,766	17,313,794	17,433,673	17,584,677	17,752,023	17,933,049	18,084,651	19	0.8
West South Central	26,702,793	31,547,006	31,947,311	32,363,447	32,749,743	33,164,865	33,605,760	33,983,499	34,655,422	35,235,521	32	1.7
Mountain	13,658,776	18,274,476	18,668,429	19,048,553	19,394,872	19,822,632	20,304,812	20,856,176	21,359,883	21,784,507	59	2.0
Pacific	39,127,306	45,179,606	45,816,042	46,359,872	46,858,236	47,298,080	47,695,026	48,114,358	48,521,061	49,070,441	25	1.1
United States	248,709,873	282,171,936	285,039,803	287,726,647	290,210,914	292,892,127	295,560,549	298,362,973	301,290,332	304,059,724	22%	0.9%

Note: Middle Atlantic includes New Jersery, 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; www.census.gov.

Fig. 2: Population of New England by Race, 2007

	White alone	Black or African-American alone	American Indian and Alaska Native alone	Asian-American alone	Native Hawaiian and Other Pacific Islander alone	Two or more races	Total
Connecticut	2,958,671	360,645	12,602	119,611	2,696	48,084	3,502,309
Maine	1,271,356	12,860	7,623	11,815	462	13,091	1,317,207
Massachusetts	5,576,368	447,879	19,489	315,114	5,250	85,655	6,449,755
New Hampshire	1,257,910	15,704	3,560	24,893	508	13,253	1,315,828
Rhode Island	937,845	67,040	6,276	29,114	1,291	16,266	1,057,832
Vermont	599,339	5,151	2,435	7,179	193	6,957	621,254
New England	12,601,489	909,279	51,985	507,726	10,400	183,306	14,264,185
United States	241,166,890	38,756,452	2,938,436	13,366,154	537,089	4,856,136	301,621,157

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

Source: New England Board of Higher Education analysis of U.S. Census Bureau data; www.census.gov.

Fig. 3: Components of Resident Population Change, 2000 to 2008

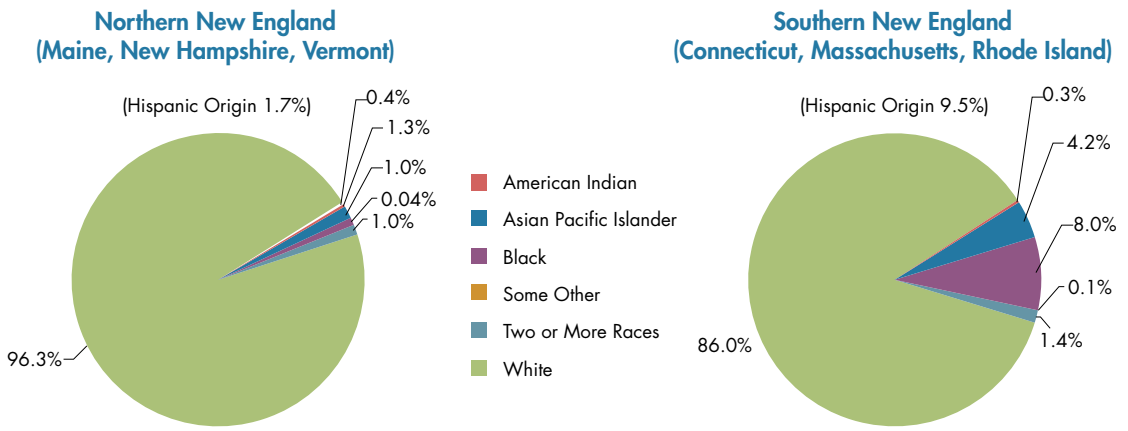
		Vital Events			Net Migration		
	Total Population Change*	Births	Deaths	Natural Increase	International**	Domestic	Total
Connecticut	95,648	349,142	240,639	108,503	102,954	-97,827	5,127
Maine	41,534	115,128	102,476	12,652	5,371	29,253	34,624
Massachusetts	148,854	654,936	455,424	199,512	212,930	-297,760	-84,830
New Hampshire	80,024	121,931	82,247	39,684	14,241	31,994	46,235
Rhode Island	2,469	103,887	79,787	24,100	24,945	-41,213	-16,268
Vermont	12,444	53,705	41,778	11,927	5,081	-1,535	3,546
New England	380,973	1,398,729	1,002,351	396,378	365,522	-377,088	-11,566
United States	22,635,122	34,126,003	20,001,837	14,124,166	8,114,516	NA	8,114,516

**Total population change includes a residual. This residual represents the change in population that cannot be attributed to any specific demographic component. See State and County Terms and Definitions at http://www.census.gov/popest/topics/terms/states.html*

*** Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: a) the net international migration of the foreign-born; b) the net migration between the United States and Puerto Rico; c) the net migration of natives to and from the United States; and d) the net movement of the Armed Forces population between the United States and overseas.*

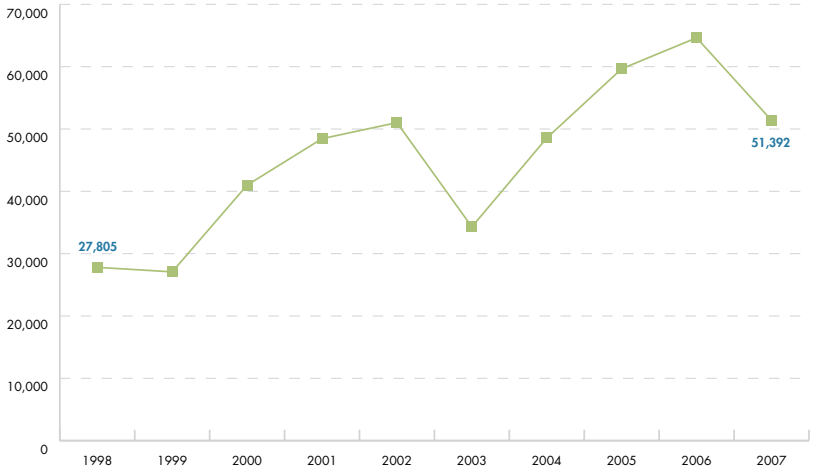
Source: New England Board of Higher Education analysis of U.S. Census Bureau data; www.census.gov.

Fig. 4: Racial Composition of Northern and Southern New England, 2007



Source: New England Board of Higher Education analysis of U.S. Census Bureau data; www.census.gov.

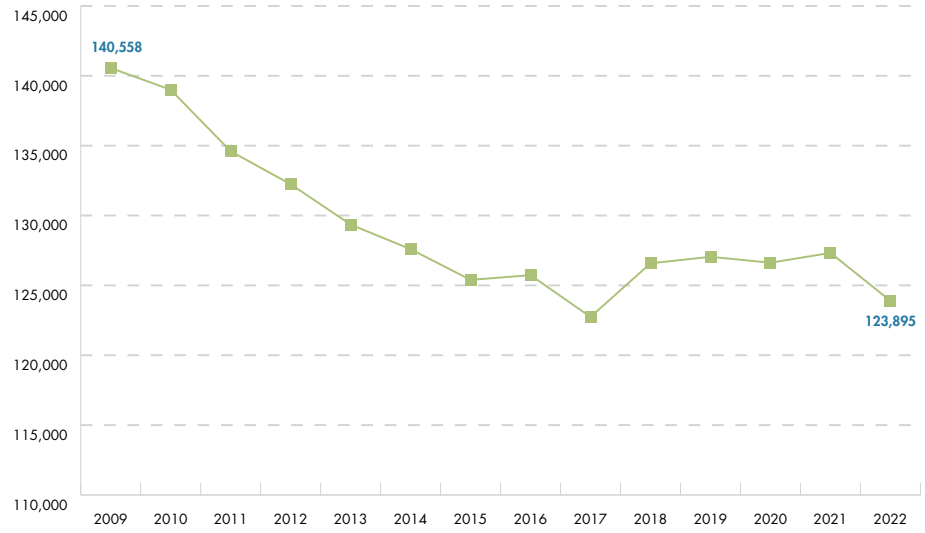
Fig. 5: Growth in the Number of Persons Obtaining Legal Permanent Resident Status in New England, 1998 to 2007



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

More than three-quarters of New England 9th-graders graduate from high school in the normal four years time, compared with 69% nationally.

Fig. 6: Public High School Graduates in New England, Projected 2009 to 2022



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

Fig. 7: New England Public High School Graduates by Race, Projected 2009 to 2022

	2008-09	2021-22	Projected % Change
Connecticut			
American Indian	94	431	359%
Asian	1,386	2,909	110%
Hispanic	4,343	6,260	44%
African-American	4,576	3,778	–17%
White	26,937	20,919	-22%
Maine			
American Indian	77	74	-4%
Asian	205	363	77%
Hispanic	153	336	120%
African-American	256	1,092	327%
White	12,019	10,258	-15%
Massachusetts			
American Indian	122	146	20%
Asian	2,789	3,641	31%
Hispanic	6,187	8,731	41%
African-American	4,515	3,556	-21%
White	45,848	34,412	-25%

	2008-09	2021-22	Projected % Change
New Hampshire			
American Indian	31	65	110%
Asian	283	1,163	311%
Hispanic	403	904	124%
African-American	198	603	205%
White	13,290	10,946	-18%
Rhode Island			
American Indian	59	63	7%
Asian	263	268	2%
Hispanic	1,488	1,964	32%
African-American	844	805	-5%
White	7,482	4,383	-41%
Vermont			
American Indian	33	10	-70%
Asian	130	277	113%
Hispanic	106	318	200%
African-American	99	279	182%
White	6,340	4,942	-22%

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

Fig. 8: Public High School Graduation Rates, 2006

	Fall 2002 9th-Graders	2005-06 High School Graduates	Percent Graduating within Four Years
Connecticut	46,840	36,222	77%
Maine	17,029	12,950	76
Massachusetts	82,071	61,272	75
New Hampshire	17,788	13,988	79
Rhode Island	13,863	10,108	73
Vermont	8,486	6,779	80
New England	186,077	141,319	76
United States	4,099,848	2,814,068	69%

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, 2005

	All Students	Male	Female	Native American	Asian-American	Hispanic	African-American	White
Connecticut	78.1%	74.9%	80.8%	25.9%	79.0%	53.5%	59.6%	84.2%
Maine	77.2	72.8	78.7	31.8	66.5	NA	NA	76.6
Massachusetts	74.7	69.0	75.5	37.3	68.8	49.0	50.8	78.2
New Hampshire	77.1	NA	NA	NA	NA	NA	NA	NA
Rhode Island	71.1	67.1	74.3	NA	47.8	52.5	58.6	75.9
Vermont	80.2	73.2	74.0	77.0	NA	NA	NA	74.6
United States	70.6%	67.8%	75.3%	50.6%	81.3%	57.8%	55.3%	77.6%

Source: New England Board of Higher Education analysis of Editorial Projects in Education (EPE) Research Center data, *Diplomas Count 2008*.

Fig. 10: High School Graduation Rates by OECD Country, 2006

	Percentage with a High School Credential
Germany	100%
Greece	100
Finland	95
South Korea	93
Japan	93
Norway	91
Czech Republic	90
Iceland	90
Finland	90
Switzerland	89
United Kingdom	88
Denmark	86
Italy	86
Hungary	85
OECD average	83
Slovak Republic	82
Canada	80
Poland	80
United States	77
Sweden	76
New Zealand	74
Luxembourg	72
Spain	72
Turkey	51
Mexico	42%

Notes: High School graduation rate is percentage of population of typical upper secondary graduation age (18 years old in United States) completing upper secondary education programs. OECD average based on all OECD countries with available data.

Source: Organisation for Economic Co-operation and Development (OECD), Education at a Glance; OECD Indicators 2008.

Fig. 11: Education Pipeline: High School Graduation, College Participation and Success, 2006

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	77	54	38	24
Maine	76	49	34	24
Massachusetts	75	54	40	29
New Hampshire	79	51	36	29
Rhode Island	73	40	30	21
Vermont	80	44	33	26
United States	69	42	28	20

Note: 150% 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 (NCHEMS); www.higheredinfo.org.

COLLEGE READINESS

Fewer than half of New England students who finish high school have completed the necessary courses and mastered the skills to be considered "college ready." However, the New England states perform above the national norm on most indicators of college readiness.

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

	CT	ME	MA	NH	RI	VT	New England	United States
Familes With Related Children Under 18 in Poverty, 2008	10%	15%	11%	8%	14%	12%	NA	15%
Children in Households Where "Household Head" Holds at Least a Bachelor's Degree, 2006	38%	28%	41%	37%	32%	35%	NA	27%
Children in Households Where "Household Head" Is a High-School Dropout, 2007	9%	8%	9%	7%	14%	6%	NA	16%
Children in Single-Parent Families, 2007	32%	30%	29%	32%	33%	31%		32%
Teens Who Are High-School Dropouts, 2007	7%	5%	5%	4%	6%	4%	NA	7%
State Preschool Programs, 2007								
Percent of 3- and 4-Year-Olds Enrolled	20%	16%	19%	NA	NA	61%	NA	25%
State Spending per Child Enrolled	$7,707	$1,877	$3,681	NA	NA	$4,577	NA	$3,642
NAEP Achievement Levels, 2007								
4th Grade Math	45%	42%	58%	52%	34%	49%	NA	39%
4th Grade Reading	41%	36%	49%	41%	31%	41%	NA	32%
8th Grade Math	35%	34%	51%	38%	28%	41%	NA	31%
8th Grade Reading	37%	37%	43%	37%	27%	42%	NA	29%
8th Grade Writing, 2007	53%	38%	46%	39%	32%	40%	NA	33%
Expenditures per Student in Public K-12 Schools, 2007	$14,533	$13,197	$15,438	$11,844	$12,030	$14,938	NA	$11,286
Student-Teacher Ratios in Public K-12 Schools, 2007	14.7	11.5	13.2	13.1	13.3	10.8	NA	15.5
Percent of 2007 Graduating Class who Scored 3 (out of 5) or Higher on an AP Exam at Some Point in High School	20%	18%	20%	15%	9%	20%	NA	15%
PSAT Participation, 2008								
Percent of 11th Graders Taking PSAT	78%	94%	75%	63%	53%	63%	74%	48%
Percent of 10th Graders Taking PSAT	56%	87%	47%	30%	43%	15%	50%	46%
SAT Performance, 2008								
Participation Rate	83%	87%	83%	74%	66%	64%	NA	45%
Mean Critical Reading Scores	509	469	514	521	495	519	NA	502
Mean Math Scores	513	466	525	523	498	523	NA	515
Mean Writing Scores	513	461	513	511	493	507	NA	494
Percent of Seniors with College-Ready Transcripts	40%	42%	41%	40%	40%	45%	NA	36%
High School Graduation Rate, 2006	77%	76%	75%	79%	73%	80%	76%	69%
Percentage of High School Graduates Going Directly to College, 2006	70%	65%	72%	65%	55%	55%	NA	62%

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, www.nieer.org; Editorial Projects in Education Research Center; Collegeboard, www.collegeboard.com; National Center for Higher Education Management Systems, www.higheredinfo.org; Kids Count, Annie Casey Foundation, www.aecf.org; National Assessment of Educational Progress (NAEP), www.nces.ed.gov/nationsreportcard.

COLLEGE ACCESS

Fig 13: Projection of High School Graduates and Nongraduates in New England and the United States

	Projection of Graduates and Nongraduates			
		Projected Outcomes 2007-08		
	9th-Graders 2004-05	Graduates	Nongraduates	Total Students Lost Each School Day
Connecticut	44,634	34,870	9,764	54
Maine	16,759	12,945	3,814	21
Massachusetts	64,321	48,023	16,298	91
New Hampshire	18,564	14,320	4,244	24
Rhode Island	12,722	9,047	3,675	20
Vermont	8,528	6,839	1,689	9
New England	165,528	126,044	39,484	219
United States	4,176,954	2,947,677	1,229,277	6,829

Source: New England Board of Higher Education analysis of Editorial Project in Education (EPE) Research Center data, *Diplomas Count 2008*.

Fig. 14: Percent of High School Graduates Enrolling in College the Fall after Graduating High School, 2007

	High School Graduates 2006-07	First-Time Freshmen Enrolled Directly from High School Anywhere in the U.S. Fall 2007	Percent of High School Graduates Going Directly to College
Connecticut	37,316	23,928	64%
Maine	13,415	6,808	76
Massachusetts	61,299	37,738	88
New Hampshire	14,261	8,757	77
Rhode Island	10,167	6,706	68
Vermont	6,953	3,753	62
New England	143,411	87,690	83
United States	2,956,147	1,491,162	50%

Source: New England Board of Higher Education analysis of National Center for Education Statistics and Western Interstate data; www.wiche.edu.

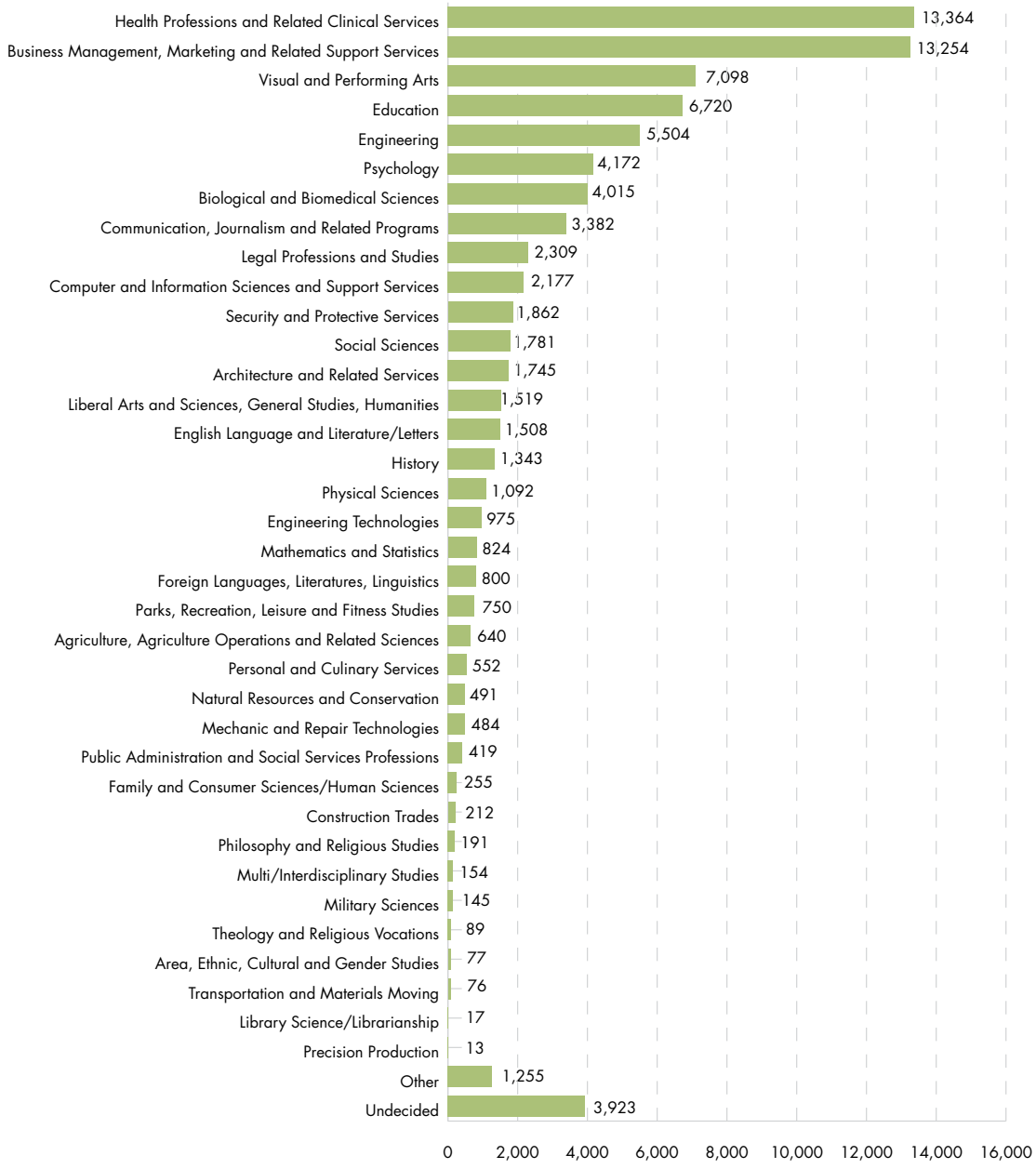
Fig. 15: Migration of First-Time Freshmen to and from New England, 2007

		Destination State						
State of Origin	Total Freshmen from State	CT	ME	MA	NH	RI	VT	Total Enrolling in New England
Connecticut	23,928	14,215	194	1,906	748	620	467	18,150
Maine	6,808	113	4,402	568	376	91	215	5,765
Massachusetts	37,738	1,518	614	24,262	2,168	1,661	951	31,174
New Hampshire	8,757	214	271	1,003	5,295	183	371	7,337
Rhode Island	6,706	202	41	588	194	4,838	88	5,951
Vermont	3,753	93	91	256	285	73	1,971	2,769
New England	87,690	16,355	5,613	28,583	9,066	7,466	4,063	71,146

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

Most college-bound high school seniors in New England name health or business fields as their intended college majors.

Fig. 16: Intended College Majors of College-Bound Seniors in New England, 2008



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

New England's colleges and universities enrolled 904,000 students in 2007. Nearly half of New England students attend private institutions, compared with about one-quarter nationally.

Fig. 17: Total Enrollment at New England Colleges and Universities and New England's Share of U.S. Enrollment, 1997 to 2007

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

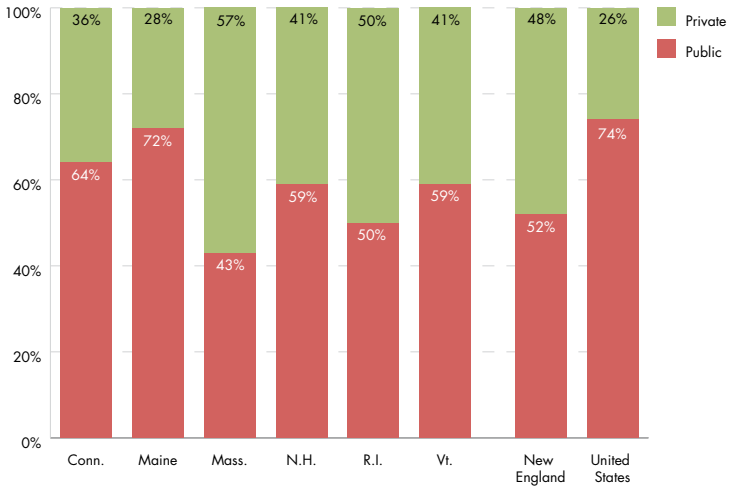
Fig. 18: Higher Education Enrollment in New England by Type of Institution and Enrollment Status, 2007

	All Institutions			Public Institutions			Private Institutions		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Connecticut	179,136	116,843	62,293	114,072	66,503	47,569	65,064	50,340	14,724
Maine	67,173	42,434	24,739	48,357	27,980	20,377	18,816	14,454	4,362
Massachusetts	462,236	317,988	144,248	198,187	112,000	86,187	264,049	205,988	58,061
New Hampshire	70,724	49,513	21,211	41,982	27,405	14,577	28,742	22,108	6,634
Rhode Island	82,970	61,030	21,940	41,503	24,442	17,061	41,467	36,588	4,879
Vermont	42,191	31,437	10,754	24,829	16,429	8,400	17,362	15,008	2,354
New England	904,430	619,245	285,185	468,930	274,759	194,171	435,500	344,486	91,014
United States	17,976,000	11,104,000	6,872,000	13,373,000			4,603,000		
New England as a % of United States	5.0	5.6	4.1	3.5	NA	NA	9.5	NA	NA

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

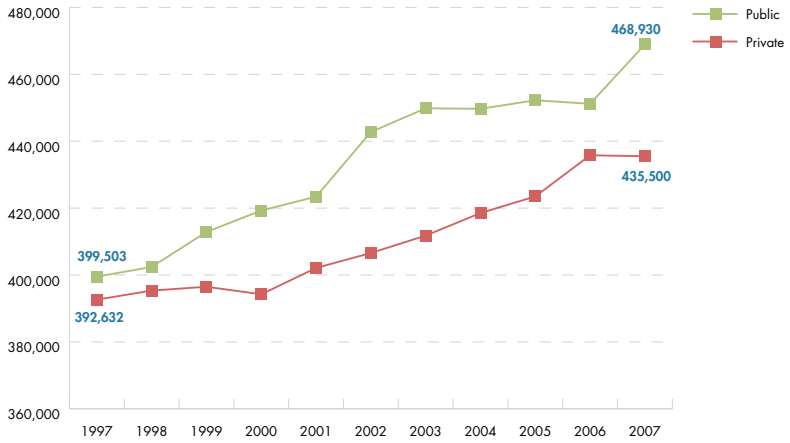
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 19: Distribution of Higher Education Enrollment, Public vs. Private, 2007



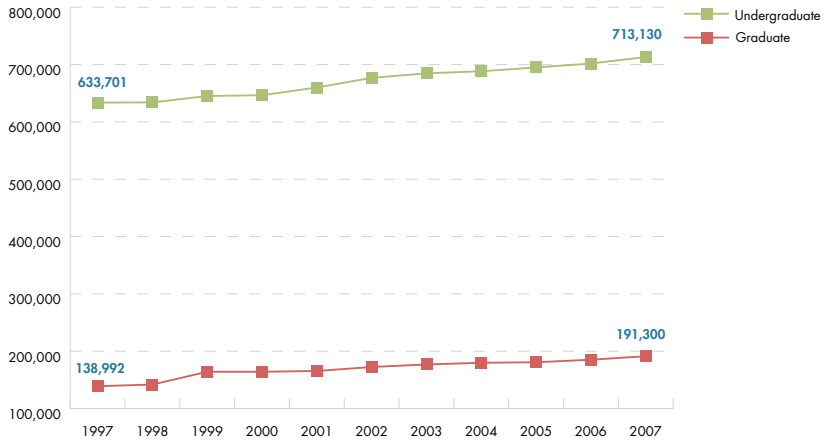
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 20: Public vs. Private College Enrollment in New England, 1997 to 2007



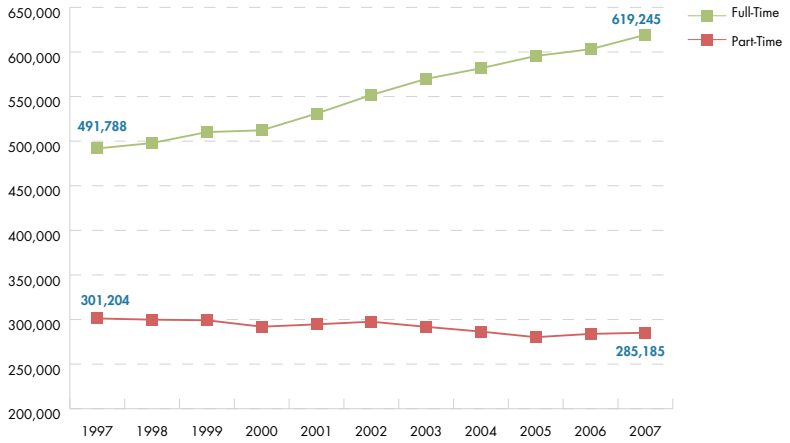
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 21: Undergraduate vs. Graduate Enrollment in New England, 1997-2007



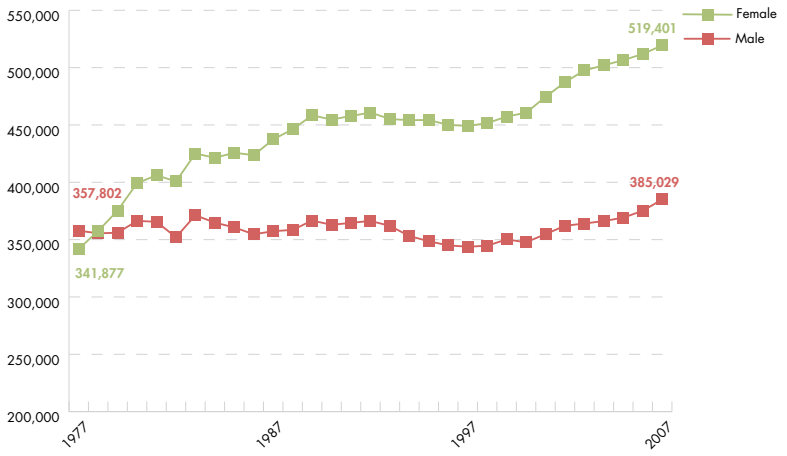
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 22: New England's Opening Fall Enrollment: 1997 to 2007



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, 1977 to 2007



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 2007

Institution Name	Full-time	Part-time	Total
University of Massachusetts Amherst	18,646	1,468	20,114
Boston University	17,206	1,527	18,733
Northeastern University	15,339	2,625	17,964
Community College of Rhode Island	6,310	10,501	16,811
University of Connecticut	15,615	733	16,348
University of Rhode Island	10,861	1,655	12,516
University of New Hampshire	11,471	574	12,045
University of Vermont	9,299	1,205	10,504
University of Massachusetts Boston	6,644	3,364	10,008
Boston College	9,446	414	9,860
Harvard University	7,136	2,723	9,859
Central Connecticut State University	7,658	2,046	9,704
University of Maine	7,892	1,704	9,596
Johnson & Wales University	8,179	874	9,053
University of Massachusetts Lowell	6,001	2,878	8,879
Bunker Hill Community College	2,708	6,098	8,806
Southern Connecticut State University	7,114	1,401	8,515
Bridgewater State College	6,771	1,389	8,160
University of Southern Maine	4,754	3,379	8,133
Middlesex Community College (Mass.)	3,440	4,684	8,124
University of Massachusetts Dartmouth	6,848	1,079	7,927
Rhode Island College	5,431	2,219	7,650
Salem State College	5,718	1,889	7,607
Bristol Community College	3,365	4,023	7,388
North Shore Community College	3,033	4,074	7,107
Total 25 Largest Institutions	206,885	64,526	271,411

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

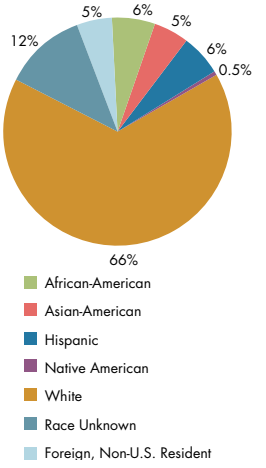
Fig. 25: New England Cities with the Largest Total College Enrollments, 2007

City	Number of Colleges & Universities	Total Enrollment
Boston, Mass.	33	137,321
Cambridge, Mass.	8	49,113
Providence, R.I.	5	35,309
New Haven, Conn.	4	31,975
Amherst, Mass.	3	28,987
Storrs, Conn.	1	28,677
Worcester, Mass.	8	27,858
Warwick, R.I.	2	19,804
Lowell, Mass.	2	19,759
Newton, Mass.	7	19,758
Manchester, N.H.	6	19,567
Springfield, Mass.	4	17,236
Portland, Maine	4	15,685
Kingston, R.I.	1	15,650
Burlington, Vt.	4	15,607
Durham, N.H.	1	14,964
New Britain, Conn.	2	13,720
Waltham, Mass.	2	10,938
Bridgeport, Conn.	3	10,257
Medford, Mass.	1	10,234
Salem, Mass.	1	10,085

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, 2008.

Fig. 26: Enrollment at New England Colleges and Universities by Race/ Ethnicity, 2007



Note: The U.S. Department of Education's designations of race and ethnicity differ from those of the U.S. Bureau of the Census used in other figures.

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

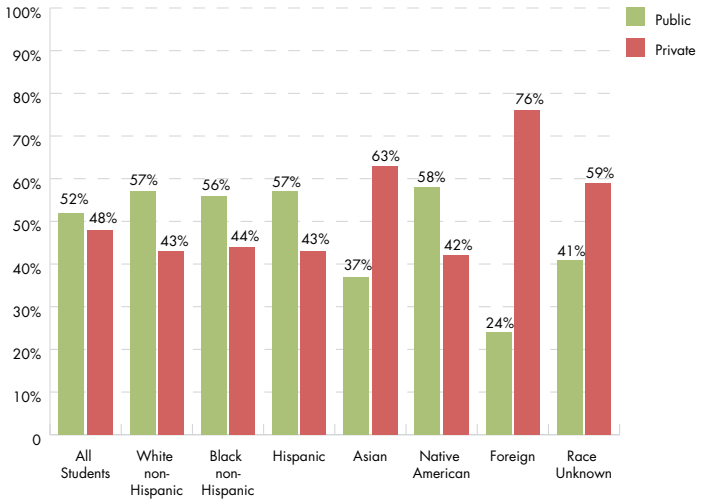
Fig. 27: Minority Enrollment by State and Race/Ethnicity, 1997 and 2007

		Students Enrolled				As % of 18-to 24-Year-Old Population 2007	% Change in Enrollment 1997-2007
		1997	% of Total	2007	% of Total		
Connecticut	African-American	11,609	7.6%	17,766	9.9%	5%	53%
	Asian-American	5,646	3.7	7,432	4.1	2	32
	Hispanic	7,801	5.1	14,567	8.1	5	87
	Native American	539	0.4	628	0.4	<1	17
	White	113,817	74.6	115,979	64.7	36	2
	Race Unknown	7,338	4.8	15,039	8.4	NA	105
Maine	African-American	413	0.7	1,083	1.6	1	162
	Asian-American	689	1.2	1,128	1.7	1	64
	Hispanic	333	0.6	787	1.2	1	136
	Native American	687	1.2	847	1.3	1	23
	White	47,304	84.7	57,094	85.0	50	21
	Race Unknown	5,566	10.0	4,826	7.2	NA	-13
Massachusetts	African-American	21,487	5.2	32,147	7.0	5	50
	Asian-American	22,965	5.6	29,061	6.3	4	27
	Hispanic	16,396	4.0	27,077	5.9	4	65
	Native American	1,453	0.4	1,701	0.4	<1	17
	White	268,961	65.5	279,969	60.6	43	4
	Race Unknown	54,367	13.2	64,049	13.9	NA	18
New Hampshire	African-American	816	1.3	1,158	1.6	<1	42
	Asian-American	1,032	1.6	1,637	2.3	<1	59
	Hispanic	874	1.4	1,492	2.1	<1	71
	Native American	219	0.3	365	0.5	<1	67
	White	50,743	79.5	51,560	72.9	43	2
	Race Unknown	8,831	13.8	12,634	17.9	NA	43
Rhode Island	African-American	3,046	4.2	4,198	5.1	4	38
	Asian-American	2,604	3.6	3,060	3.7	3	18
	Hispanic	2,806	3.9	5,069	6.1	4	81
	Native American	236	0.3	339	0.4	<1	44
	White	54,042	75.0	54,467	65.6	48	1
	Race Unknown	6,705	9.3	12,808	15.4	NA	91
Vermont	African-American	386	1.1	779	1.8	1	102
	Asian-American	576	1.6	926	2.2	1	61
	Hispanic	533	1.5	906	2.1	1	70
	Native American	189	0.5	231	0.5	<1	22
	White	31,083	85.8	35,104	83.2	56	13
	Race Unknown	2,671	7.4	3,399	8.1	NA	27
New England	African-American	37,757	4.8	57,131	6.3	4	51
	Asian-American	33,512	4.2	43,224	4.8	3	29
	Hispanic	28,743	3.6	49,898	5.5	4	74
	Native American	3,323	0.4	4,111	0.5	<1	24
	White	565,950	71.5	594,173	65.7	43	5
	Race Unknown	85,478	10.8	112,755	12.5	NA	32
United States	African-American	1,551,000	10.8	2,319,000	12.9	7	50
	Asian-American	859,200	6.0	1,197,000	6.7	3	39
	Hispanic	1,218,500	8.5	2,024,000	11.3	6	66
	Native American	142,500	1.0	181,000	1.0	1	27
	White	10,266,100	71.5%	11,660,000	64.9%	33%	14%

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 are for 2006, the most recent data available.

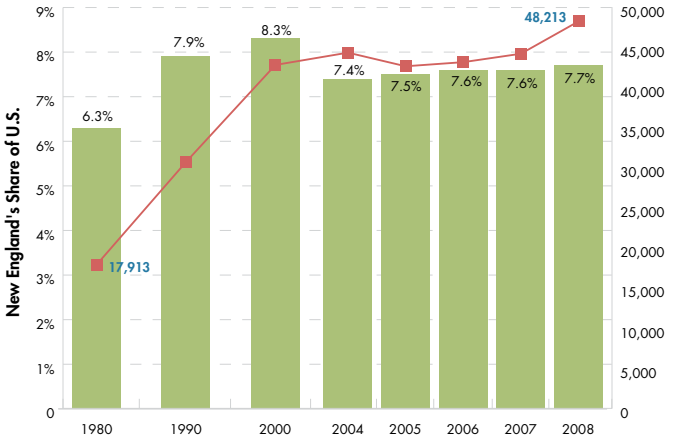
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 28: Public vs. Private College Enrollment in New England by Race/Ethnicity, 2007



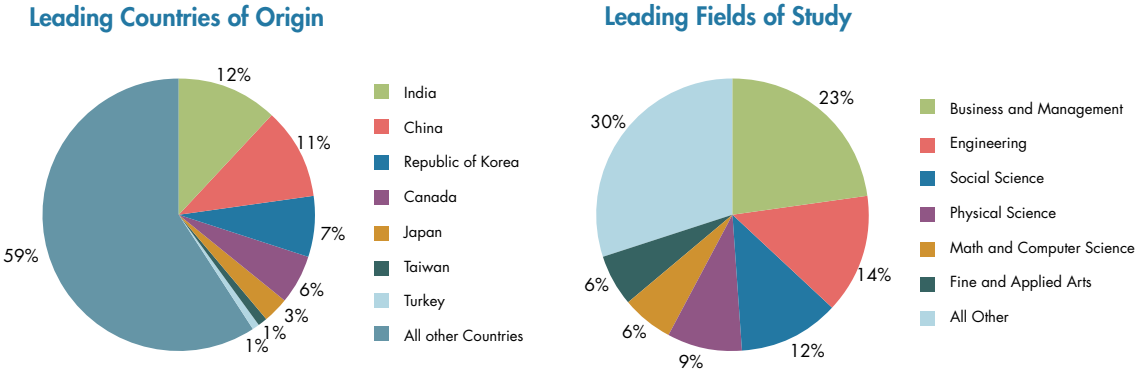
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 29: Foreign Enrollment at New England Colleges and Universities and Share of U.S. Foreign Enrollment, 1980 to 2008



Source: New England Board of Higher Education analysis of Institute of International Education data.

Fig. 30: Foreign Students in New England by Countries of Origin and Fields of Study, 2008



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

Fig. 31: Estimated Economic Impact from International Students, 2007-08

	Number of Foreign Students	Tuition & Fees	Living Expenses & Dependents	U.S. Funding	Total Contribution Minus U.S. Support
Connecticut	8,035	$187,025,972	$181,559,451	$122,123,366	$246,462,058
Maine	1,214	22,972,916	20,735,017	14,917,939	28,789,994
Massachusetts	31,817	796,949,073	704,760,709	471,744,617	1,003,965,164
New Hampshire	2,387	56,648,710	44,029,700	29,269,701	71,408,709
Rhode Island	3,850	92,055,106	74,181,551	36,858,578	129,378,078
Vermont	910	20,147,941	15,223,011	13,403,961	21,966,991
New England	48,213	$1,175,799,718	$1,040,489,439	$714,318,162	$1,501,970,994
United States	623,805	$10,639,000,000	$10,979,000,000	$6,488,000,000	$15,543,000,000

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, 2008

Institution	Foreign Enrollment	U.S. Rank	Total Enrollment	Foreign Students as a % of Total Enrollment
Harvard University	4,948	**9th**	19,987	25%
Boston University	4,789	**10th**	32,053	15
Massachusetts Institute of Technology	3,360	**27th**	11,089	30
Northeastern University	2,444	**43rd**	24,217	10
University of Bridgeport	2,076	**59th**	4,752	44
Yale University	2,062	**61st**	11,454	18
University of Massachusetts Amherst	1,743	**78th**	25,873	7
University of Connecticut	1,405	**105th**	28,677	5
Johnson & Wales University	1,399	**106th**	16,095	9
Brown University	1,105	**135th**	8,167	14
Brandeis University	1,052	**146th**	5,333	20
Total of Above Institutions	26,383		187,697	14%
Total of All New England Institutions	48,213		904,430	5%
Above Institutions as a Share of All New England Institutions	55%		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, 2007

Institution	Undergraduates Studying Abroad	Total Undergraduate Enrollment	Percentage of Students Studying Abroad
Colby College	456	1,867	24%
Bates College	339	1,660	20
Middlebury College	426	2,500	17
Dartmouth College	660	4,164	16
Babson College	264	1,799	15
Tufts University	731	5,035	15
Bowdoin College	228	1,716	13
Mount Holyoke College	276	2,201	13
Wellesley College	272	2,380	11
Trinity College	257	2,337	11
Saint Michael's College	219	2,008	11%

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

COLLEGE SUCCESS

Only 20% of students earn associate degrees from New England community colleges within three years of enrolling—and the rate is even lower among minority groups.

Fig. 34: Graduation Rates by State, Race/Ethnicity and Type of Institution, 2007

	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	43%	5%	16%	9%	6%	12%	10%	10%
Maine	33	16	11	44	21	30	24	29
Massachusetts	38	11	16	15	9	19	14	17
New Hampshire	NA	16	NA	42	20	27	34	28
Rhode Island	60	13	NA	6	7	10	5	10
Vermont	NA	NA	NA	NA	NA	13	17	13
New England	49	14	14	16	13	21	19	20
Public Four-Year								
Connecticut	41	33	41	42	38	46	46	44
Maine	46	45	30	90	68	59	52	58
Massachusetts	41	38	8	42	39	47	43	45
New Hampshire	75	43	71	46	71	54	56	54
Rhode Island	NA	40	100	32	23	47	45	45
Vermont	NA	25	60	63	20	46	34	44
New England	44	48	30	40	34	46	41	44
Public Land Grant								
Connecticut	65	64	83	77	58	76	74	74
Maine	73	43	50	32	44	60	100	59
Massachusetts	66	52	58	64	52	68	62	66
New Hampshire	75	43	71	46	71	54	56	54
Rhode Island	67	45	29	43	42	60	50	58
Vermont	58	52	NA	68	63	71	46	72
New England	59	53	NA	69	65	73	47	72
Private Four-Year								
Connecticut	74	50	64	80	57	67	63	66
Maine	90	65	55	78	68	63	49	63
Massachusetts	72	64	68	80	71	72	65	72
New Hampshire	79	58	72	85	63	61	70	60
Rhode Island	82	61	71	82	64	68	73	69
Vermont	72	53	71	74	66	68	58	67
New England	75%	63%	69%	81%	69%	71%	64%	71%

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, 2007

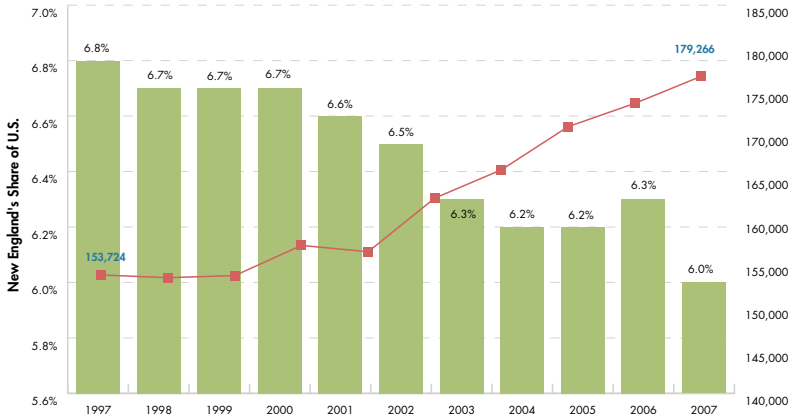
	Public Two-Year		Public Four-Year		Public Land Grant		Private Four-Year	
	% Graduating	% Transferring to Other Institutions	% Graduating	% Transferring to Other Institutions	% Graduating	% Transferring to Other Institutions	% Graduating	% Transferring to Other Institutions
Connecticut	10%	22%		10%	74%	17%	66%	7%
Maine	29	14	58	16	59	NA	63	4
Massachusetts	17	19	45	5	66	NA	72	5
New Hampshire	28	NA	54	NA	54	NA	60	4
Rhode Island	10	21	45	NA	58	NA	69	2
Vermont	13	31	44	NA	72	NA	67	2
New England	20%	19%	44%	NA	72%	NA	71%	NA

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 2001 (four-year institutions) or 2004 (two-year institutions). The 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.

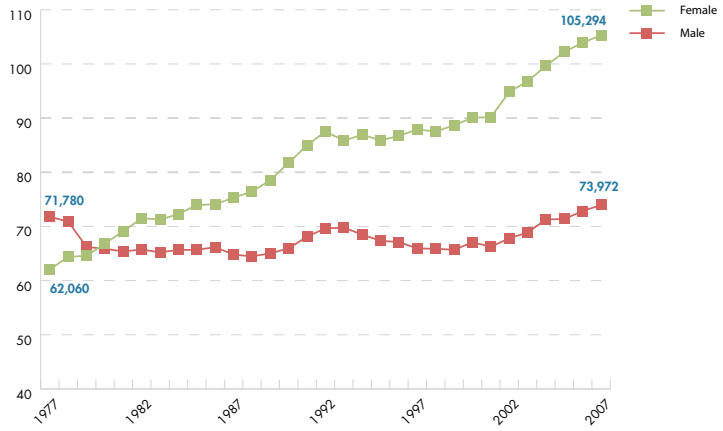
Nearly 60% of all higher education degrees awarded in New England are conferred on women.

Fig. 36: Total Degrees Awarded at New England's Colleges and Universities and New England's Share of U.S. Degrees, 1997 to 2007



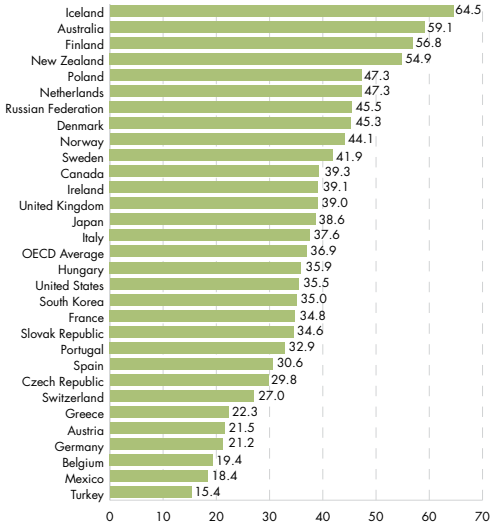
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 37: Degrees Awarded in New England by Gender, 1977 to 2007



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

Fig. 38: Attainment of College (Tertiary-Type A) Degrees by Country, 2006



Note: Tertiary-type A programs are largely theory-based and designed to provide sufficient qualifications for entry to advanced research programs and roughly correspond to bachelor's and master's degree programs in the United States. Advanced research programs correspond to doctorate programs.

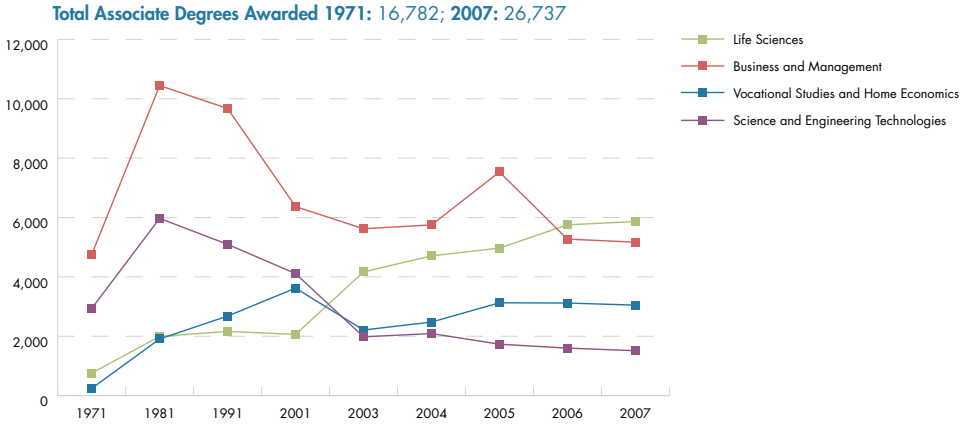
Source: Organisation for Economic Co-operation and Development (OECD), Education at a Glance: OECD Indicators 2008.

Fig. 39: Associate Degrees Conferred on Men, Women, Minorities and Foreign Students, 2007

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	5,069	1,651	3,418	123	716	20	120	474	3,359	257
Maine	2,440	912	1,528	12	35	46	23	19	2,165	140
Massachusetts	10,766	4,057	6,709	246	974	37	490	677	7,415	927
New Hampshire	3,346	1,223	2,123	10	38	10	41	83	2,649	515
Rhode Island	3,841	1,873	1,968	83	257	21	122	241	2,627	490
Vermont	1,275	517	758	8	20	8	20	12	1,107	100
New England	26,737	10,233	16,504	482	2,040	142	816	1,506	19,322	2,429
% of New England Associate Degrees		38%	62%	2%	8%	0.5%	3%	6%	72%	9%

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 by Selected Fields of Study, 1971 to 2007



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, Humanities, Religion and Theology, Math and Computer Sciences and unknown disciplines. These unlisted disciplines awarded 11,142 degrees in 2007.

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

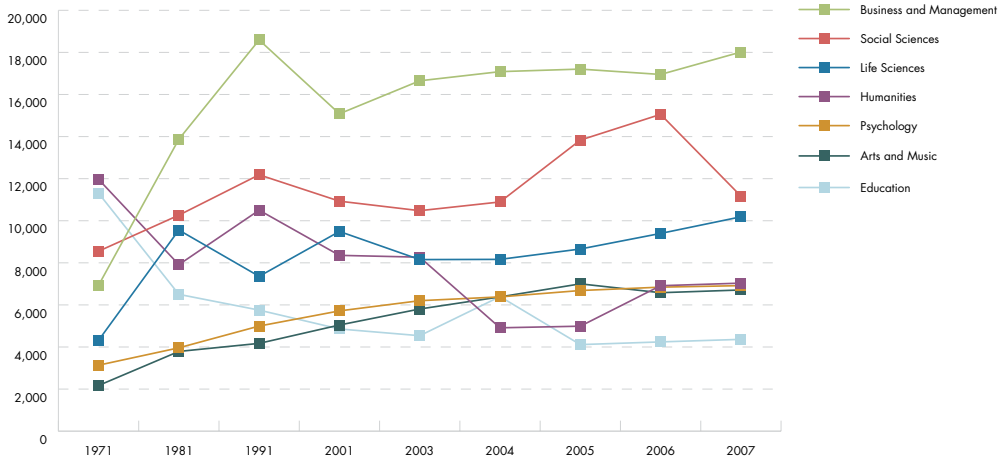
Fig. 41: Bachelor's Degrees Conferred on Men, Women, Minorities and Foreign Students, 2007

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	18,290	7,621	10,669	469	1,276	68	861	963	13,065	1,588
Maine	6,900	2,803	4,097	382	97	59	136	87	5,901	238
Massachusetts	47,739	20,235	27,504	2,175	2,560	156	3,435	2,180	31,779	5,454
New Hampshire	8,306	3,543	4,763	190	153	43	235	189	6,488	1,008
Rhode Island	9,982	4,299	5,683	305	430	24	411	413	7,385	1,014
Vermont	5,101	2,311	2,790	93	75	22	131	110	4,400	270
New England	96,318	40,812	55,506	3,614	4,591	372	5,209	3,942	69,018	9,572
% 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 2007

Total Bachelor Degrees Awarded 1971: 70,024; **2007:** 96,318



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 29,914 degrees in 2007.

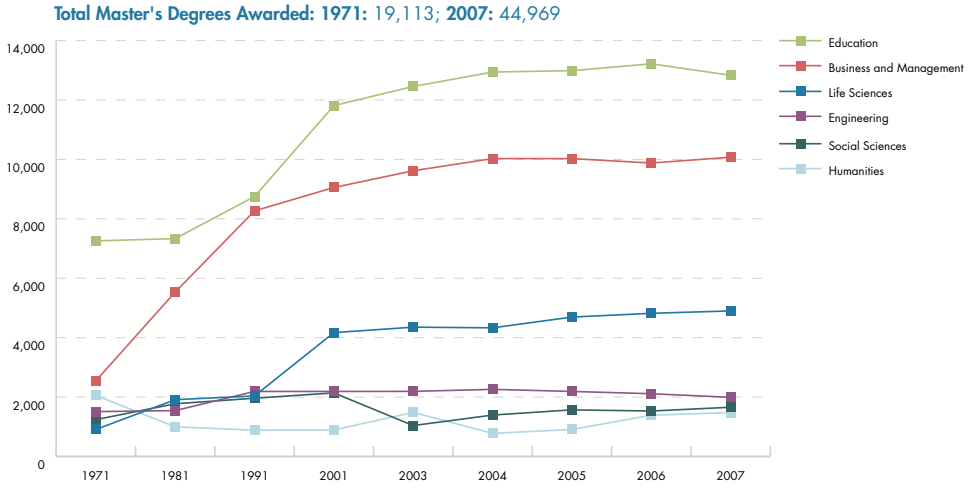
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 43: Master's Degrees Conferred on Men, Women, Minorities and Foreign Students, 2007

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	8,582	3,461	5,121	1,041	487	25	338	313	5,537	841
Maine	1,614	474	1,140	37	9	12	14	13	1,379	150
Massachusetts	27,575	10,564	17,011	3,893	1,505	65	1,544	905	14,190	5,473
New Hampshire	3,017	1,149	1,868	403	46	8	64	31	1,900	565
Rhode Island	2,230	913	1,317	371	60	3	70	57	1,309	360
Vermont	1,951	829	1,122	108	55	17	38	57	1,375	301
New England	44,969	17,390	27,579	5,853	2,162	130	2,068	1,376	25,690	7,690
% of New England Master's Degrees		39%	61%	13%	5%	0.3%	5%	3%	57%	17%

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

Fig. 44: Master's Degrees Awarded at New England Colleges and Universities by Selected Fields of Study, 1971 to 2007



Note: Disciplines not listed include: Physical Sciences, 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 12,033 degrees in 2007.

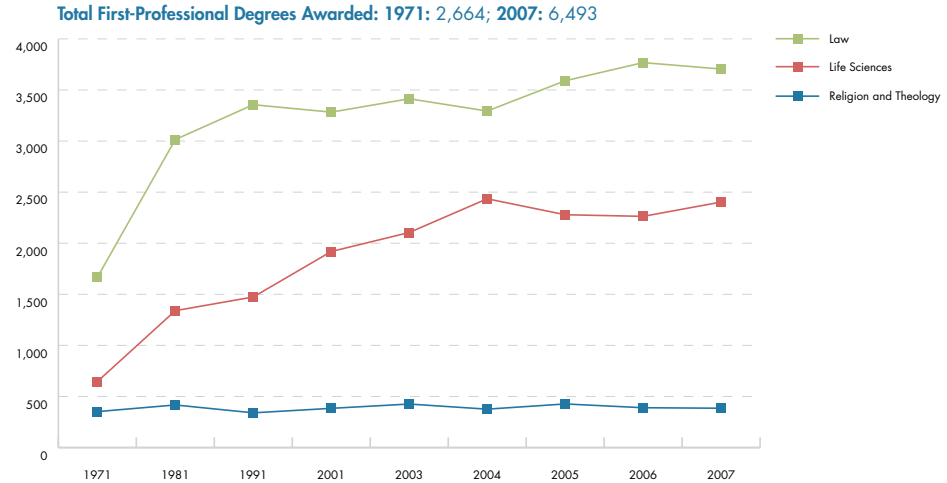
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 45: First-Professional Degrees Conferred on Men, Women, Minorities and Foreign Students, 2007

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	956	466	490	27	59	26	89	82	603	70
Maine	201	90	111	1	1	1	5	3	190	0
Massachusetts	4,503	2,126	2,377	185	239	15	750	182	2,689	443
New Hampshire	198	117	81	6	8	1	19	7	137	20
Rhode Island	353	145	208	4	23	1	40	10	232	43
Vermont	282	124	158	1	13	5	24	7	219	13
New England	6,493	3,068	3,425	224	343	49	927	291	4,070	589
% of New England First-Professional Degrees		47%	53%	3%	5%	0.8%	14%	4%	63%	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 Field of Study, 1971 to 2007



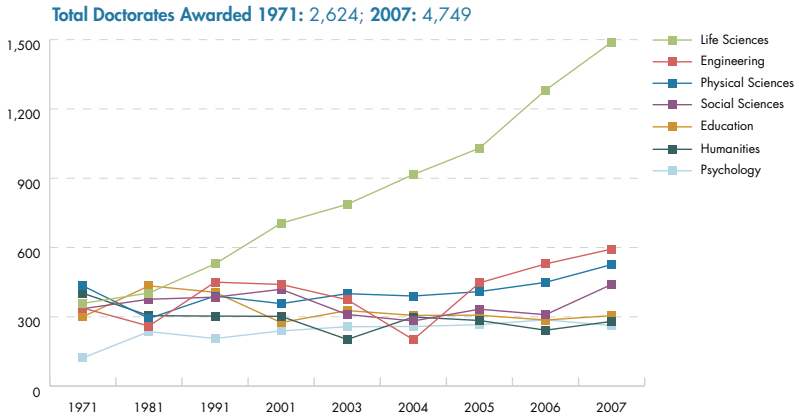
Source: New England Board of Higher Education analysis of U.S. Department of Education data.

Fig. 47: Doctorates Conferred on Men, Women, Minorities and Foreign Students, 2007

	Total	Men	Women	Foreign	African-American	Native American	Asian	Hispanic	White	Race Unknown
Connecticut	828	424	404	255	19	4	36	14	380	120
Maine	59	21	38	15	0	1	1	0	42	0
Massachusetts	3,325	1,738	1,587	889	88	6	194	83	1,560	505
New Hampshire	198	106	92	40	1	1	4	3	131	18
Rhode Island	279	144	135	97	6	1	7	3	126	39
Vermont	60	36	24	9	2	0	0	1	45	3
New England	4,749	2,469	2,280	1,305	116	13	242	104	2,284	685
% of New England Doctorates		52%	48%	27%	2%	0.3%	5%	2%	48%	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 2007



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 unlisted disciplines awarded 854 Degrees in 2007.

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

FINANCING HIGHER EDUCATION

Total yearly charges, including room and board, top $42,000 at New England's private four-year institutions and $17,000 for most state residents at the region's public institutions—far above national figures.

Fig. 49: Average Student Expenses, New England vs. United States, Academic Year 2008-09

	Tuition & Fees for State Residents	Additional Charges for Out-of-State Residents	Books & Supplies	Resident			Commuter		
				Room & Board	Transportation	Other	Room & Board	Transportation	Other
New England									
Two-year public	$3,698	$6,261	$894	NA	NA	NA	$7,100	$1,271	$1,925
Four-year public	8,602	12,664	949	8,443	632	1,325	7,453	987	1,510
Four-year private	31,680	NA	965	10,701	597	1,183	9,572	890	1,342
United States									
Two-year public	$2,402	$4,593	$1,036	NA	NA	NA	$7,341	$1,380	$1,895
Four-year public	6,585	10,867	1,077	7,748	1,010	1,906	7,814	1,401	2,197
Four-year private	25,143	NA	1,054	8,989	807	1,397	7,696	1,241	1,784

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

Source: Table 6, Average Student Expenses, by College Board Region, 2008-2009 (Enrollment-Weighted). Trends in College Pricing 2008, (2008); 11.

Fig. 50: Tuition and Fees, Academic Years 2007-08 and 2008-09 and Percent Change

	2007-08	2008-09	Percent Change		2007-08	2008-09	Percent Change
Connecticut				**New Hampshire**			
Two-year public	$2,828	$2,984	6%	Two-year public	$5,609	$5,609	0%
Four-year public	7,574	8,035	6	Four-year public	9,698	10,296	6
Four-year private	30,234	31,914	6	Four-year private	26,263	29,860	6
Maine				**Rhode Island**			
Two-year public	3,120	3,156	1	Two-year public	2,846	3,090	9
Four-year public	7,334	8,059	10	Four-year public	7,221	7,722	7
Four-year private	27,364	28,859	5	Four-year private	28,047	29,620	6
Massachusetts				**Vermont**			
Two-year public	3,694	3,887	5	Two-year public	5,500	5,830	6
Four-year public	7,887	8,184	4	Four-year public	10,485	11,341	8
Four-year private	30,941	32,592	5%	Four-year private	28,176	29,886	6%

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 6c, Tuition and Fees by Region and Institution Type, in Current Dollars, 1997-1999 to 2008-2009 (Enrollment-Weighted). Trends in College Pricing 2008, (2008); 14. Copyright © 2008 College Entrance Examination Board. Reprinted with permission. All rights reserved. www.collegeboard.com

Americans pay an average of $257 each in annual state taxes to support public higher education and student aid in their states. New Englanders, however, pay just $188.

Fig. 51: Appropriations of State Tax Funds for Higher Education Operating Expenses, FY 2009

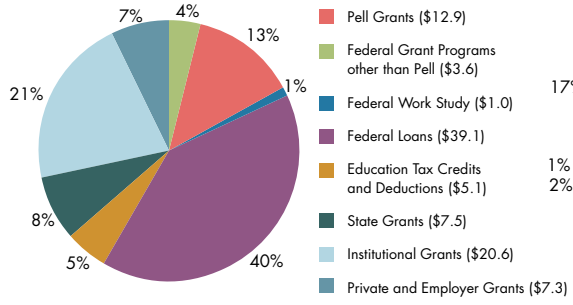
	Appropriations	1-Year % Change	10-Year % Change	Per-Capita Appropriations	U. S. Rank 2009	Appropriations Per $1,000 of Personal Income	U.S. Rank 2009	FY07 Appropriations Per FTE Student	U. S. Rank 2007
Connecticut	$1,001,601,000	-3%	61%	$286.07	20th	$5.07	41st	$10,079	4th
Maine	266,399,000	-3	34	202.36	39th	5.71	36th	6,406	28th
Massachusetts	1,038,416,000	-1	7	159.81	47th	3.14	49th	8,666	6th
New Hampshire	138,512,000	4	52	105.27	50th	2.46	50th	3,370	49th
Rhode Island	162,333,000	-7	13	154.49	48th	3.74	46th	6,548	26th
Vermont	88,257,000	0.1	49	142.06	49th	3.66	48th	3,031	50th
New England	2,695,518,000	-2	29	188.45		3.84		7,117	
United States	$78,527,989,000	0.9%	49%	$257.46		$6.50		$6,773	

Note: FY07 appropriations per FTE data obtained via NCHEMS Information Center; www.higheredinfo.org/analyses.

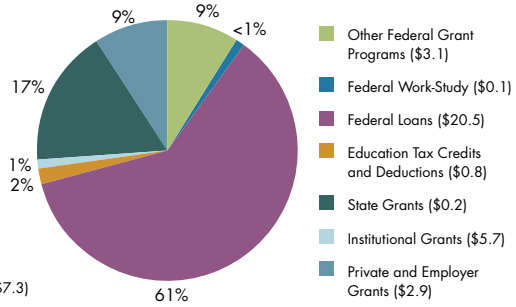
Source: New England Board of Higher Education analysis of data from Illinois State University Center for Higher Education and Education Finance; www.grapevine.ilstu.edu.

Fig. 52: Total Undergraduate and Graduate Student Aid by Source, 2007-08

Undergraduate Aid ($106.7 Billion)



Graduate Aid ($36.7 Billion)



Source: *Trends in Student Aid*. Copyright ©2008 The College Board. All rights reserved; www.collegeboard.com.

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

	Pell Grants		College Work-Study		Perkins Loans		Supplemental Educational	
	2006-07 Expenditures	2007 Total Recipients	2008-09 Allocations	2007 Total Recipients	2008-09 Level of Expenditure*	2007 Total Recipients	2008-09 Allocations	2007 Total Recipients
Connecticut	$911,551,498	40,466	$11,297,279	9,353	$25,921,806	8,248	$8,634,921	14,248
Maine	52,408,037	21,326	8,014,279	6,646	19,996,395	7,388	6,873,355	10,487
Massachusetts	179,318,447	75,143	45,033,214	37,097	107,243,915	37,572	29,350,977	39,277
New Hampshire	29,344,622	12,852	6,599,153	6,577	17,398,731	6,681	5,026,923	8,536
Rhode Island	31,468,220	13,660	8,216,755	6,661	28,296,916	10,101	6,871,548	11,469
Vermont	19,047,759	8,289	5,820,087	5,765	12,990,026	5,872	5,322,509	5,194
New England	1,223,138,583	171,736	84,980,767	72,099	211,847,789	75,862	62,080,233	89,211
United States	$12,817,316,257	$5,164,959	$973,964,697	$694,934	$2,035,500,052	$725,404	$757,268,254	$1,417,211
New England as a % of United States	9.5%	3.3%	8.7%	10.4%	10%	10.5%	8.2%	6.3%

Note: Spending on federal campus-based programs is reported as 2008-09 allocations. Spending on Pell Grants is reported as 2006-07 expenditures.
** Level of Expenditure (LOE): A school must request and have approved for each award year an LOE 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 State Grant Aid Awarded: 1996-97, 2001-02, 2005-06, 2006-07

	1996-97	2001-02	2005-06	2006-07	5-Year % Change	10-Year % Change
Connecticut	$20,299,000	$45,175,000	$39,382,000	$42,198,000	-7%	108%
Maine	7,036,000	12,416,000	13,387,000	15,556,000	25	121
Massachusetts	57,477,000	114,600,000	80,093,000	83,649,000	-27	46
New Hampshire	679,000	3,075,000	3,753,000	3,727,000	21	449
Rhode Island	5,699,000	6,077,000	12,883,000	13,021,000	114	128
Vermont	11,466,000	15,949,000	18,580,000	18,343,000	15	60
New England	102,656,000	197,292,000	168,078,000	176,494,000	-11	72
United States	$3,090,312,000	$5,140,500,000	$7,043,186,000	$7,643,016,000	49%	147%

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.

Fig. 55: State Need-Based Aid as a Percent of Federal Pell Grant Aid, 2007

	State Need-Based Grant Total	Federal Pell Grant Total	State Need-Based Aid as a Percent of Federal Pell Grant Aid
Connecticut	$41,716,000	$97,551,498	46%
Maine	15,556,000	52,408,037	30
Massachusetts	83,649,000	179,318,447	47
New Hampshire	3,718,000	29,344,622	13
Rhode Island	13,021,000	31,468,220	41
Vermont	18,247,000	19,047,759	96
New England	175,907,000	403,138,583	44%
United States	$5,514,131,000	$12,817,316,257	43

Source: The 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.

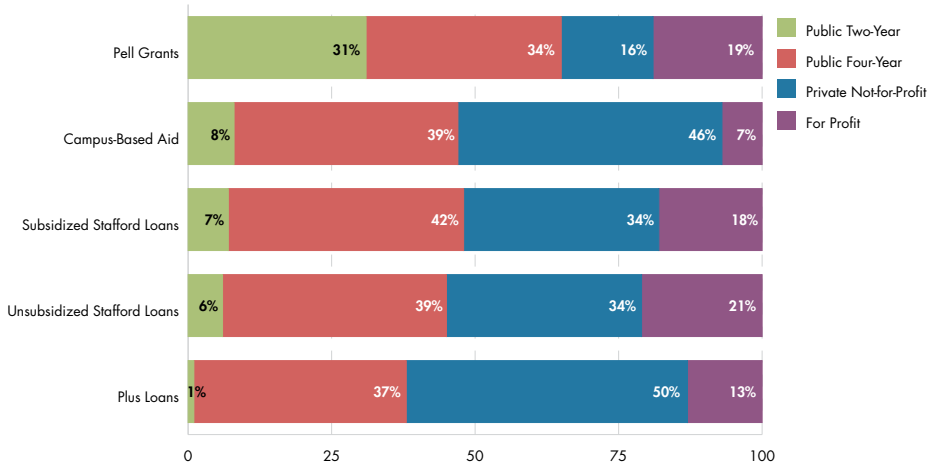
Fig. 56: Percent of Family Income Needed to Pay for College by Income Groups, 2008

	% 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%	57%	29%	18%	12%	7%
Public Four-Year	29	68	33	23	15	9
Private Four-Year	81	219	83	49	33	20
Maine						
Public Two-Year	30	60	36	25	17	10
Public Four-Year	36	74	40	31	21	13
Private Four-Year	84	218	87	55	37	23
Massachusetts						
Public Two-Year	26	63	30	19	12	7
Public Four-Year	32	74	37	25	16	10
Private Four-Year	92	255	94	55	35	21
New Hampshire						
Public Two-Year	34	83	38	25	17	10
Public Four-Year	36	84	39	27	18	11
Private Four-Year	72	191	74	46	32	20
Rhode Island						
Public Two-Year	32	79	37	23	15	9
Public Four-Year	36	82	41	28	18	11
Private Four-Year	96	260	102	59	38	24
Vermont						
Public Two-Year	34	73	41	27	18	11
Public Four-Year	39	82	45	33	21	13
Private Four-Year	78	195	85	53	36	23
United States						
Public Two-Year	24	49	29	20	13	7
Public Four-Year	28	55	33	25	16	10
Private Four-Year	76%	197%	79%	50%	33%	20%

Note: Figure shows net price (tuition and room and board minus federal, state and institutional financial aid) by income quintile as a percent of family income in that quintile.

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

Fig. 57: Distribution of Federal Aid Funds by Type of Institution, 2006-07



Note: Total Aid includes Federal Work-Study and Education Tax Benefits. Loan numbers do not include private nonfederal loans, which provide funding for students but do not involve subsidies. For years 1995-96 and earlier, Net Commitments are estimated.

Source: New England Board of Higher analysis of College Board data; www.collegeboard.com.

Fig. 58: Average Student Debt and Percent of Students with Debt by State, Class of 2007

	Average Debt				Percent of Students with Debt		
	2007	2006	1-Year Change in Debt	U.S. Rank 2007	2007	2006	U.S. Rank 2007
Connecticut	$22,215	$20,326	$1,889	11th	58%	56%	33rd
Maine	22,948	21,399	1,549	8th	68	69	8th
Massachusetts	21,090	19,056	2,034	19th	63	62	21st
New Hampshire	25,211	24,461	750	2nd	74	72	3rd
Rhode Island	23,172	20,098	3,074	7th	67	60	12th
Vermont	24,329	22,337	1,992	4th	63	62	19th
United States	$20,098	$18,976	$1,122		59%	59%	

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

Fig. 59: New England's 10 Largest College Endowments, FY 2008

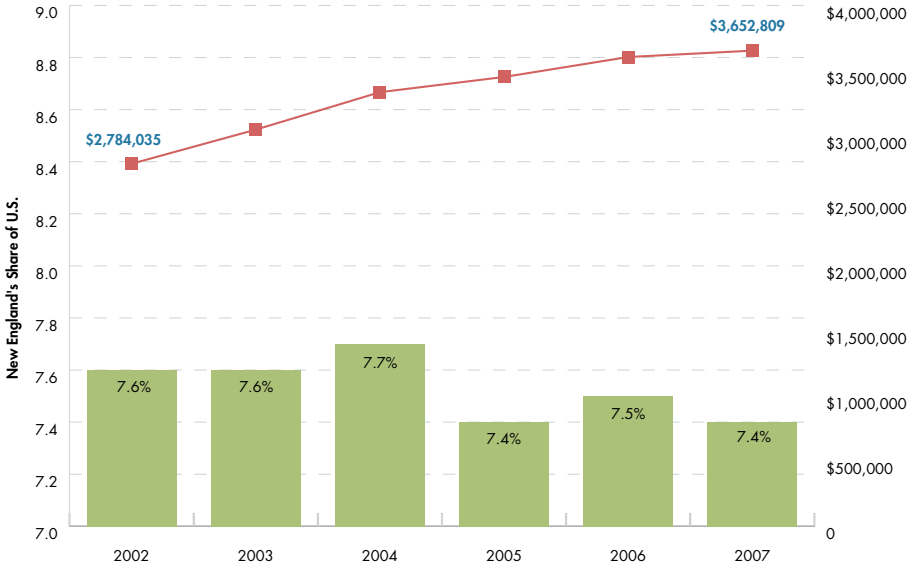
U.S. Rank	New England Rank	Institution	Market Value at End of FY 2008	% Change from FY 2007
1st	1st	Harvard University	$36,556,284,000	6%
2nd	2nd	Yale University	22,869,700,000	2
6th	3rd	Massachusetts Institute of Technology	10,068,800,000	1
21st	4th	Dartmouth College	3,660,159,000	-3
25th	5th	Brown University	2,746,832,000	4
34th	6th	Williams College	1,808,280,000	-4
40th	7th	Amherst College	1,705,917,000	3
43rd	8th	Boston College	1,630,626,000	-2
44th	9th	Wellesley College	1,611,319,000	-3
49th	10th	Tufts University	1,445,662,000	-0.4%

Source: New England Board of Higher Education analysis of 2008 National Association of College and University Business Officers data; www.nacubo.org.

UNIVERSITY RESEARCH

New England universities performed $3.6 billion worth of research and development in 2007, but the region's share of all U.S. university R&D dropped slightly to 7.4%.

Fig. 60: Research and Development Expenditures at New England's Colleges and Universities and New England's Share of U.S. R&D Expenditures, 1992 to 2007



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

Fig. 61: Regional Comparison of Research and Development Expenditures at Colleges and Universities, 2002 and 2007

				Per-Capita Expenditures		Per-Captia U.S. Rank	
	2002	2007	5-Year % Change	2002	2007	2002	2007
East North Central	$5,248,420,000	$7,052,612,000	34%	$114.7	$152.8	7th	6th
East South Central	1,618,364,000	2,330,563,000	44	94.0	130.0	9th	9th
Middle Atlantic	5,369,813,000	7,267,578,000	35	134.2	179.4	3rd	3rd
Mountain	2,212,687,000	3,040,291,000	37	116.2	142.3	6th	7th
New England	***2,784,035,000***	***3,652,809,000***	***31***	***197.1***	***256.2***	***1st***	***1st***
Pacific	6,360,309,000	8,722,527,000	37	137.2	179.8	2nd	2nd
South Atlantic	6,880,847,000	9,523,659,000	38	128.5	164.9	4th	4th
West North Central	2,407,010,000	3,156,965,000	31	123.7	157.7	5th	5th
West South Central	3,434,897,000	4,552,010,000	33	106.1	131.4	8th	8th
Outlying Areas	88,838,000	131,753,000	NA	NA	NA	NA	NA
United States	**$36,405,220,000**	**$49,430,767,000**	**36%**	**$126.5**	**$164.1**		

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

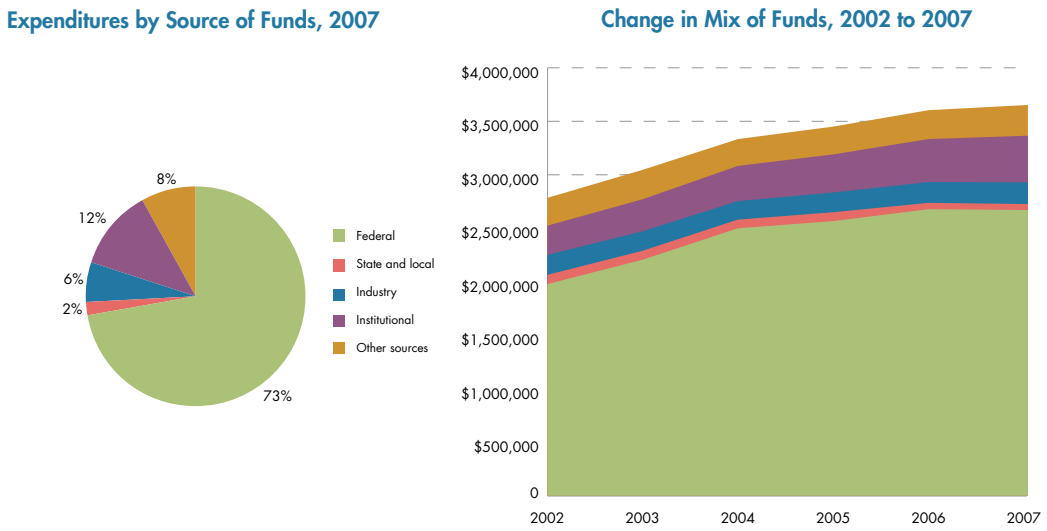
Fig. 62: Research and Development Expenditures at New England Colleges and Universities by Field, 2007

	Engineering	Physical Sciences	Environmental Sciences	Math and Computer Sciences
Connecticut	$32,417,000	$34,067,000	$13,404,000	$8,778,000
Maine	17,770,000	5,001,000	23,420,000	3,927,000
Massachusetts	398,112,000	245,446,000	202,704,000	100,564,000
New Hampshire	42,212,000	10,930,000	56,779,000	6,988,000
Rhode Island	26,663,000	15,309,000	34,267,000	19,722,000
Vermont	2,723,000	1,293,000	832,000	1,426,000
New England	519,897,000	312,066,000	331,406,000	141,405,000
United States	$7,516,890,000	$3,842,391,000	$2,725,120,000	$1,988,431,000
New England as a % of U.S.	7%	8%	12%	7%

	Life Sciences	Psychology	Social Sciences	Other Sciences	Total
Connecticut	$563,875,000	$23,661,000	$10,058,000	$5,148,000	$691,408,000
Maine	56,453,000	1,703,000	21,425,000	7,726,000	137,425,000
Massachusetts	1,048,906,000	41,937,000	84,961,000	48,946,000	2,171,596,000
New Hampshire	163,648,000	4,346,000	6,676,000	15,495,000	307,074,000
Rhode Island	105,889,000	2,422,000	11,385,000	14,624,000	230,281,000
Vermont	98,742,000	2,038,000	309,000	7,662,000	115,025,000
New England	2,037,513,000	76,107,000	134,814,000	99,601,000	3,652,809,000
United States	$29,763,889,000	$863,358,000	$1,781,410,000	$949,278,000	$49,430,767,000
New England as a % of U.S.	7%	9%	8%	10%	7%

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

Fig. 63: Research and Development Expenditures at New England Colleges and Universities by Source of Funds, 2002 to 2007



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

Fig. 64: Research and Development Expenditures at New England Colleges and Universities by U.S. Rank and Source of Funds, 2007

Rank	Institution	All R&D Expenditures	Federal Government	State and Local Government	Industry	Institutional Funds	All Other Sources
15th	Massachusetts Institute of Technology	$614,352,000	$476,318,000	$689,000	$81,570,000	$10,213,000	$45,562,000
30th	Harvard University	451,276,000	392,103,000	1,732,000	11,358,000	0	46,083,000
31st	Yale University	448,671,000	349,027,000	2,391,000	14,616,000	19,249,000	63,388,000
69th	Boston University	249,279,000	232,115,000	475,000	5,850,000	0	10,839,000
77th	University of Connecticut (all campuses)	224,679,000	123,513,000	9,740,000	8,233,000	67,443,000	15,750,000
86th	Dartmouth College	192,846,000	128,164,000	4,247,000	6,033,000	43,057,000	11,345,000
101st	University of Massachusetts Worcester	157,469,000	131,226,000	0	16,266,000	1,385,000	8,592,000
102nd	Brown University	152,619,000	95,023,000	391,000	3,108,000	49,938,000	4,159,000
106th	University of Massachusetts Amherst	141,351,000	71,974,000	5,638,000	5,195,000	48,755,000	9,789,000
109th	Woods Hole Oceanographic Institution	137,410,000	112,754,000	217,000	1,786,000	13,994,000	8,659,000
114th	Tufts University	130,826,000	91,379,000	890,000	10,027,000	9,908,000	18,622,000
122nd	University of New Hampshire	114,228,000	81,027,000	4,469,000	6,105,000	16,362,000	6,265,000
123rd	University of Vermont	113,195,000	90,049,000	381,000	6,000,000	16,102,000	663,000
132nd	University of Maine	96,135,000	41,963,000	5,260,000	2,609,000	44,127,000	2,176,000
144th	University of Rhode Island	76,237,000	52,561,000	7,703,000	3,383,000	12,590,000	0
147th	Northeastern University	71,520,000	36,028,000	2,351,000	10,828,000	22,295,000	0
161st	Brandeis University	56,831,000	41,358,000	0	0	6,248,000	9,225,000
182nd	Boston College	39,261,000	20,336,000	442,000	1,195,000	7,925,000	9,363,000
Total, Above New England Institutions		3,468,185,000	2,566,918,000	47,016,000	194,162,000	389,591,000	270,480,000
Total, All U.S. Institutions		$49,430,767,000	$30,440,745,000	$3,145,376,000	$2,672,333,000	$9,655,290,000	$3,517,023,000
Above New England Institutions as % of U.S. Total		7.0%	8.4%	1.5%	7.3%	4.0%	7.7%

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

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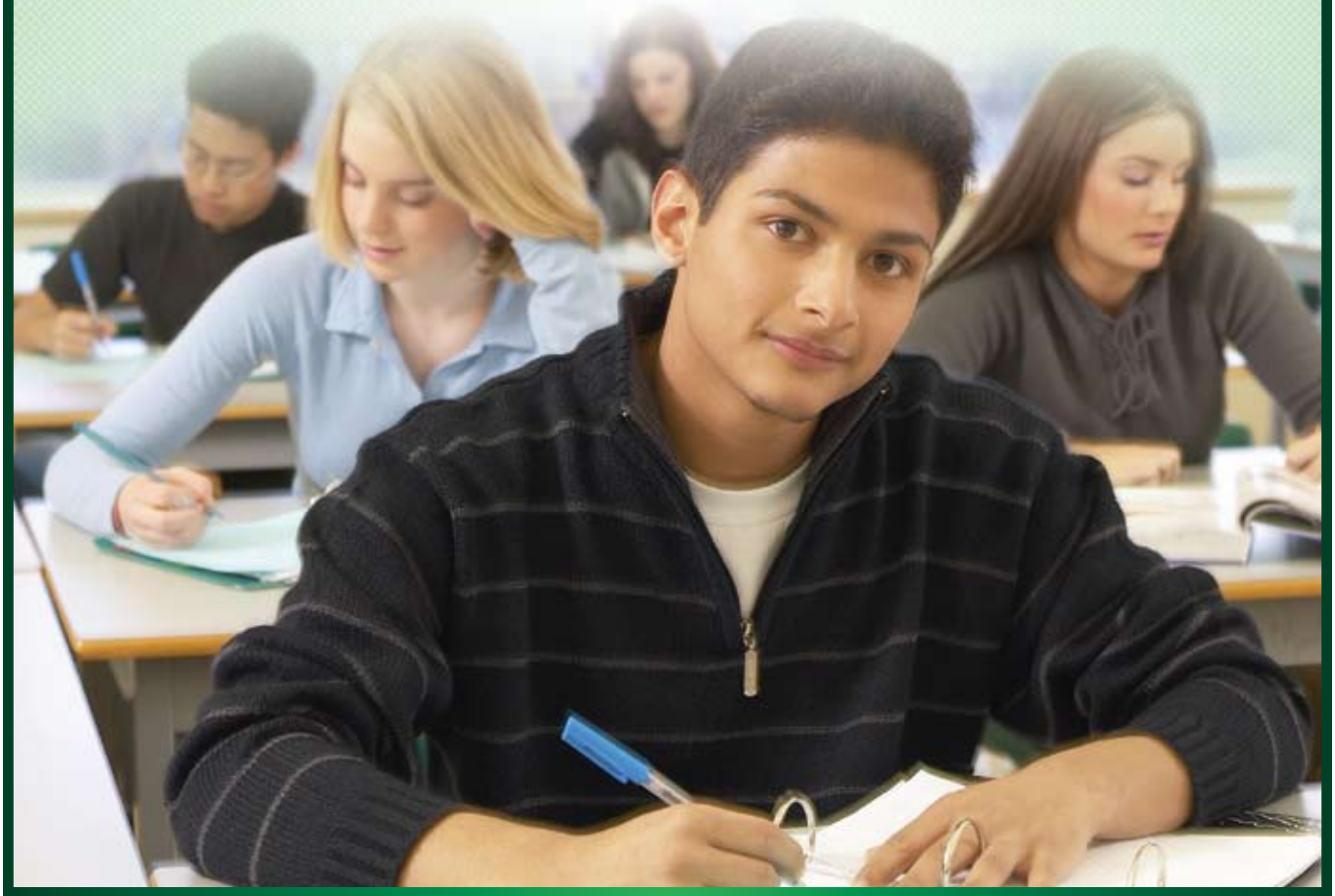

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