Physician Diversity in the Commonwealth of Massachusetts:

Where Are We? What Can Be Done?

Daniel J. Delaney & Joseph Carrillo, M.D.

A Report by the **Physician Diversity Project**, *Massachusetts Pilot Site*

Health Care For All

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Acknowledgments

This document is the product of a collaborative effort of the Physician Diversity Project Leadership Task Force. The task force is made up of a number of hospital officials, doctors, medical education professionals, health care advocates, policy makers and community members. Without their input, engagement, knowledge and feedback, this case statement would have been impossible. Thanks to their efforts, we now have an evidence based foundation from which to diversify the physician workforce in Massachusetts.

The analysis, conclusions, and recommendations put forth in this case statement are those of the authors and of the Massachusetts Pilot Site of the Physician Diversity Project.

Special thanks to the W. K. Kellogg Foundation and Community Catalyst, Inc. for their support of this project and its work.

Daniel J. Delaney

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1 Introduction & Brief Description of Physician Diversity Project in Massachusetts

> *"In order to cultivate a set of leaders with legitimacy in the eyes of the citizenry, it is necessary that the path to leadership be visibly open to talented and qualified individuals of every race and ethnicity. All members of our heterogeneous society must have confidence in the openness and integrity of the educational institutions that provide this training."*
>
> **Supreme Court Justice Sandra Day O'Connor**[1]

The US medical profession is on a collision course with an increasingly diverse nation. Hispanics, African Americans, and Native Americans make up 25% of the country's population, yet they represent merely 6% of all physicians. There is a clear need to narrow this gap for reasons of public health and social justice. Research shows that treatment compliance and consumer satisfaction with health care improves greatly for patients who are treated by doctors sharing the same ethnic background. These compliance and satisfaction measures are associated with better health outcomes.

Current racial and ethnic disparities in health are an unnecessary and unaffordable burden on our public health system, causing those in underserved communities to undergo higher risk, higher cost and less efficient treatment options. Members of minority communities have a right to equitable access to adequate health care, as well as to equitable access to careers in the health professions.

Although Massachusetts medical schools' efforts to increase the number of minority medical students have met with some success, significant barriers remain to achieving a diverse physician workforce. In Massachusetts, Blacks, Latinos and Native Americans make up 13.7% of the population, yet only 3.2% of the physician workforce.

Massachusetts medical training institutions play an important role in supplying physicians to the state, region and nation. These institutions are nationally recognized as leaders in medical education and research. Gains made through diversity efforts here can serve as a model across the country.

The **Physician Diversity Project** is an initiative funded by the *W.K. Kellogg Foundation* and administered by *Community Catalyst* to explore strategies to increase the racial and ethnic diversity of the U.S. physician workforce. *Health Care For All* directs the Massachusetts pilot site.

[1] Grutter v. Bollinger, 539 U.S. 306, 332 (2003).

The project has brought together community members, medical professionals, hospital and medical school administrators, advocates, public officials and civic leaders to identify opportunities and constraints in developing a coordinated approach to improve diversity in the physician workforce.

This case statement represents a collaborative effort with these stakeholders. Our goal is to provide a portrait of post-graduate training in Massachusetts medical schools and teaching hospitals, highlight model practices to support the recruitment and retention of minority physicians, and outline key recommendations to support and sustain collaborative efforts to increase the number of minority physicians practicing in Massachusetts.

Based on research and consultation with students, faculty and administrators in Massachusetts medical training institutions, the Physician Diversity Project finds that while considerable efforts are being made to address the lack of diversity, success in this endeavor has been limited and inconsistent. Our findings indicate that diversity efforts are typically undertaken by individual institutions, despite the fact that the lack of underrepresented minorities in medicine results from systemic barriers caused by institutional racism, disparate access to educational resources, and persistent economic marginalization within communities of color.

Some readers may be uncomfortable with some of our findings. The Physician Diversity Project seeks to move beyond the conventional response to the problem that forces institutions to compete over the "scarce resource" of qualified minority candidates. In this model, lack of success is attributed to factors beyond the control of any individual medical school or residency program. Instead, we examine ways that institutions can work together and learn from each other, thereby creating efforts where we can all achieve better outcomes.

To reach this point we must face the role of racism and other social ills as they contribute to the scarce pool of diverse applicants and an unwelcoming environment for minority students and residents. We have to look at the entire spectrum of efforts to create a physician workforce diverse enough to meet the needs of a changing populace.

2 Background: The Need for Physician Diversity

Why care about physician diversity? With so many complex and difficult problems facing our health care system, why should the racial and ethnic make-up of the physician workforce be a major area of concern?

The lack of diversity in the physician workforce has far reaching negative effects in Massachusetts for communities of color and for the Commonwealth as a whole. It impacts access to health care, prevention efforts, treatment compliance, health care and public health policy making, and health outcomes. The Institute of Medicine's 2004 report, *In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce*, states "Increasing racial and ethnic diversity among health professionals is important because evidence indicates that diversity is associated with improved access to care for racial and ethnic minority patients, greater patient choice and satisfaction, and better educational experiences for health professional students…"[2] Evidence of racial and ethnic disparities in healthcare is, with few exceptions, remarkably consistent across a range of illnesses and health care services.[3] Rapidly changing population demographics are shaping a health care system that is less reflective of, and less responsive to, its consumers.

It is critical that we address the shortage of physician diversity now. The medical training process is long and involved. Future doctors entering college in the fall of 2004 are not likely to be practicing physicians until nearly 2015. By that time, according to census projections, Massachusetts will be home to 422,000 more Blacks and Latinos.[4]

The benefits of diversity in health profession fields are significant, and illustrate that a continued commitment to affirmative action is necessary for graduate health professions education programs, residency recruitment, and other professional opportunities.

Empirical research has shown that:

- Minority patients have a strong preference for physicians in concordance with their own racial/ethnic group. There is greater patient satisfaction when there is racial/ethnic congruence with the physician.[5]

[2] Institute of Medicine, In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce, Washington, D.C. (2004), p.1
[3] Committee on Understanding and Eliminating Racial & Ethnic Disparities in Health Care, Institute of Medicine of the National Academies, Unequal Treatment, Confronting Racial & Ethnic Disparities in Healthcare, Washington DC, 2002
[4] United States Census Bureau, "Projected State Populations, by Sex, Race and Hispanic Origin: 1995-2025" www.census.gov/population/projections/state/stpjrace.txt (accessed 12/29/2003)
[5] Cooper-Patrick, Lisa MD, MPH; Gallo, Joseph J. MD, MPH; Gonzales, Junius J. MD; Vu, Hong Thi MHS; Powe, Neil R. MD, MPH, MBA; Nelson, Christine RN; Ford, Daniel E. MD, MPH "Race, Gender, and Partnership in the Patient-Physician Relationship". JAMA. 282(6):583-589, August 11, 1999

- Minority patients have greater trust in physicians of the same racial/ethnic background. Trust between the physician and patient increases compliance with medical treatment that results in more positive health outcomes.[6]

- Minority physicians provide greater health care access to minority patients than their white counterparts because they are more likely to practice in minority communities. They are also more likely to treat low-income and sicker patients.[7]

- Communication, cultural and linguistic barriers, and access to health care are improved between the patient and physician of similar racial/ethnic backgrounds, which significantly impacts the quality of medical care.[8]

These factors will have a greater impact on health and health care across the state as Massachusetts moves into the 21st century.

Physician diversity doesn't only benefit doctors and patients of color. It fosters increased cultural competency and better communication skills for physicians of all races. The Institute of Medicine reports that:

> *A preponderance of scientific evidence supports the importance of increasing racial and ethnic diversity among health professionals. This evidence …demonstrates that greater diversity among health professionals is associated with improved access to care for racial and ethnic minority patients, greater patient choice and satisfaction, better patient-provider communication, and better educational experiences for all students while in training.*[9]

As the demographics of our state and nation change, it is critical that all doctors and medical trainees learn to be culturally competent to every member of the community. A diverse physician workforce facilitates this learning.

[6] LaViest T. African Americans and Health Policy: Strategies for a Multiethnic Society. In: Jackson JS, ed. *New Directions: African Americans in a Diversifying Society.* Washington, DC: National Policy Association; 2000;144-161.
[7] Komaromy, Miriam; Grumbach, Kevin; Drake, Michael; Vranizan, Karen; Lurie, Nicole; Keane, Dennis; Bindman, Andrew B. The Role of Black and Hispanic Physicians in Providing Health Care for Underserved Populations. *New England Journal of Medicine.* 334(20):1305-1310, May 16, 1996.
[8] LaViest et al, 2000
[9] Institute of Medicine, *In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce* (pre-publication copy), National Academy Press, Washington, DC (2004), p.3.

3 Environmental Context: Socioeconomic and Educational

Many factors have combined to create a physician workforce in Massachusetts that is insufficiently diverse. Poor public schools serving urban and minority communities, residential and educational segregation, economic stagnation, and the high cost of medical education all contribute to the problem of inadequate physician diversity. In addition, discriminatory practices in both educational and practice settings have a significant impact on the number of underrepresented minorities who become practicing physicians.

A. Educational System in Massachusetts

Fifty years after the *Brown v. Topeka Board of Education* Supreme Court decision, the school experiences of minority students continue to be substantially separate and unequal. Poor and minority students are concentrated in the least well-funded schools, most of which are located in central cities or rural areas and funded at levels substantially below those of neighboring suburban districts.[10]

While the demands for knowledge and skill are growing, the gap in educational opportunities between majority and minority students has been widening. Although overall educational attainment for black Americans increased steadily between 1960 and 1990, this trend is reversing in states such as Massachusetts that have imposed graduation exams without improving opportunities to learn.[11]

Ethnic and racial minority youth in Massachusetts encounter disparities in educational attainment. The performance of Blacks, Hispanics, and Native Americans on the Massachusetts Competency Assessment System (MCAS) exam falls below that of whites, and Asians / Pacific Islanders (Table I). Furthermore, a report released by the Massachusetts Department of Education shows that a lower percentage of 2002 African American, Hispanic, and Native American high school graduates plan to attend college (2-year or 4-year) than graduating whites or Asians.[12]

[10] Institute of Medicine, *The Right Thing to Do, The Smart Thing to Do*, National Academy Press, Washington, DC 2001

[11] Ibid.

[12] Massachusetts Department of Education. *Plans of High School Graduates: Class of 2002*. Accessed at www.doe.mass.edu/infoservices/reports/hsg/02/report.html?section=2 on November 18, 2003.

Table I. Massachusetts Competency Assessment Scores, 2001-2003

Racial/ethnic group	Grade	Subject	Percentage at Selected Performance level		
			Advanced	Proficient	Warning/failing
African American/Black	5	Science & Technology/Engineering	3	16	37
	10	Mathematics	0	6	63
Hispanic	5	Science & Technology/Engineering	3	14	41
	10	Mathematics	0	5	70
Native American	5	Science & Technology/Engineering	6	28	22
	10	Mathematics	1	11	61
White	5	Science & Technology/Engineering	23	39	7
	10	Mathematics	5	34	20
Asian or Pacific Islander	5	Science & Technology/Engineering	20	30	16
	10	Mathematics	9	29	28

Source: Massachusetts Department of Education. Spring 2003 MCAS Test: Summary of State Results.
Accessed at http://www.doe.mass.edu/mcas/2003/results/summary.pdf.

The data is compelling and disheartening. The Commonwealth has been unable to improve the persistent underperformance of Black and Hispanic students. Those students are more than three times as likely to receive warning or failing grades on the math portion of the MCAS exam. In addition, our educational system has also failed to reach the most talented minority students, resulting in 0% high achievement in mathematics at the tenth grade level. We have failed the bulk of Massachusetts minority students and we are failing the best of them as well.

Both academic and residential environments affect the ability of Black, Latino and Native American children to succeed in school. Minority children are more likely to live in severely distressed neighborhoods than non-minority children. These neighborhoods, which are characterized by high percentages of high school drop-outs, poverty, single parent households, and high unemployment, typically provide children with diminished resources and supports. In Massachusetts, Springfield ranks among the top 10 U.S. cities for the highest percentage of children living in severely distressed neighborhoods.[13]

B. Medical Schools

Massachusetts is home to four medical schools: Boston University School of Medicine, Harvard Medical School, Tufts University School of Medicine, and the University of Massachusetts Medical School. Massachusetts possesses a unique array of pre-residential medical educational opportunities, ranging from among the most expensive and prestigious in the nation to a high quality moderate-cost public medical school.[14] Notwithstanding that the University of Massachusetts Medical School educates state residents only, admissions processes among the four medical schools are very similar (Table II).[15]

The high cost of medical school is a significant barrier to diversity. *The Color of Medicine* reports that "There was near unanimous agreement among those interviewed that the prospect of such a debt burden is a major barrier to the kind of broad participation in medical education that is necessary to achieve a diverse medical profession."[16]

[13] O'Hare, W. Mather, M. The Growing Number of Kids in Severely Distressed Neighborhoods: Evidence from the 2000 Census. Accessed at http://www.aecf.org/kidscount/distressed_neighborhoods.pdf on November 22, 2003
[14] AAMC. Tuition and Student Fees Reports. Accessed at https://services.aamc.org/tsf/TSF_Report/report_intro.cfm on November 19, 2003.
[15] Only Mass. Residents can apply to the MD program (Non-Mass. Residents can apply to the MD/PhD program.) University of Massachusetts Medical. Accessed at http://www.umassmed.edu/som/admissions/residency.cfm on November 19, 2003
[16] Gonzalez, Phillip and Betsy Stoll. *The Color of Medicine,* Community Catalyst, Inc. (Boston:2002) p. 14

Table II - Comparison of Massachusetts Medical Schools

Medical School	Tuition/fees	GPA Requirements	MCAT Requirements	URM Individual Application Review	URM Pre-matriculation Program	Scholarships	Low Interest Loans	Other
BUSM	$36,980	No cut off Mean GPA 3.61	No cut off Mean MCAT score 9.8		•		•	
HMS	$34,776	No cut off GPA ranges 3.0-4.0	No cut off MCAT scores range from 7-15	•	•	Need based	•	
TUFTS	$40,134	No cut off Mean GPA 3.52	No cut off Mean MCAT score 10.2	•	•		•	
UMASS	$13,102	No cut off Mean GPA 3.6	No cut off Mean MCAT score 10.5		•		•	Must be MA resident

Source: AAMC. Tuition and Student Fees Reports 2003

C. Massachusetts Medical Students

Massachusetts' reputation as a leader in medical education and research draws medical students from around the world. Understanding the composition of the medical student population and medical school trends within the state is necessary to make meaningful recommendations to increase the number of physicians of color in the Commonwealth.

Much of this information is not available outside of the medical schools for a variety of reasons. One problem is that the information collection processes are not designed for easy aggregation and analysis. This means that the medical training institutions can't effectively understand the information that they've collected. Another problem is the reluctance of medical schools to share data about their student compositions because they fear legal repercussions in the wake of recent court challenges to affirmative action programs or because they feel that their hard won knowledge about recruiting and retaining minorities is a proprietary asset to be kept within the institution. These are understandable responses to the current climate of minority recruitment in higher education, but they are myopic and hinder the development of an effective solution to the lack of diversity in medical schools.

Table III - Residents of Massachusetts in the Entering Class of 2003 Medical Students

Medical School	Number Students MA	Number Students Boston	Number Students Worcester	Number Students Springfield
BUSM (n=)	?	?	?	?
HMS (n=)	?	?	?	?
TUFTS (n= 170)	57	?	?	?
UMASS (n=100)	100	?	?	?

D. "Underrepresented in Medicine" Medical Student Trends

Note: *All data reported below, unless otherwise indicated, are based on the AAMC's pre-2003 definition of underrepresented minority (URM), which consisted of Blacks, Mexican-Americans, Native Americans (that is, American Indians, Alaska Natives, and Native Hawaiians), and mainland Puerto Ricans. However, Other Hispanic and Commonwealth Puerto Ricans are also included in the data below.*

URM* Application, Matriculation, and Graduation Trends in Massachusetts

(Data source: AAMC Warehouse files as of 11/03/03 and www.aamc.org/data/facts)

Overall medical school application, matriculation, and graduation numbers in Massachusetts are important when considering physician workforce diversity.

Data from 1991 to 2001 show minimal overall changes in total URM medical school application, matriculation, and graduation numbers in Massachusetts (Figures 1, 2, and 3).

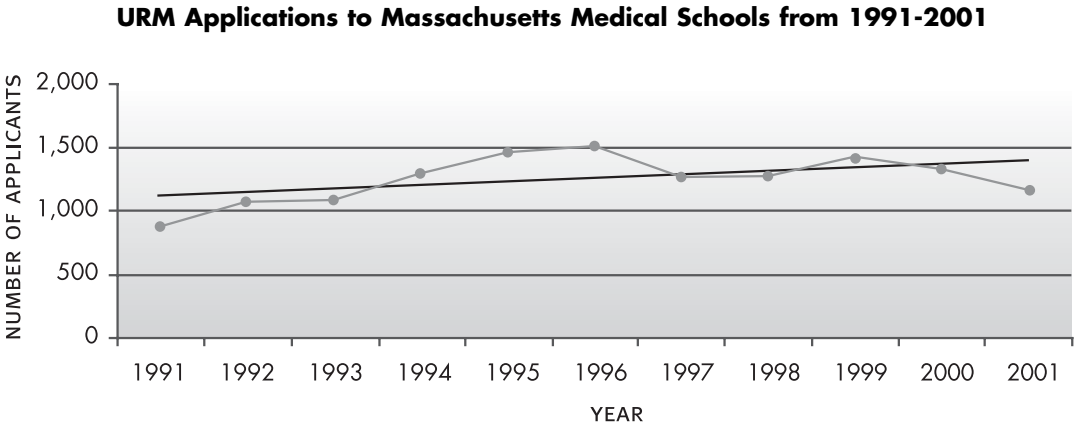


Figure 1. URM Applications to Massachusetts Medical Schools from 1991-2001.

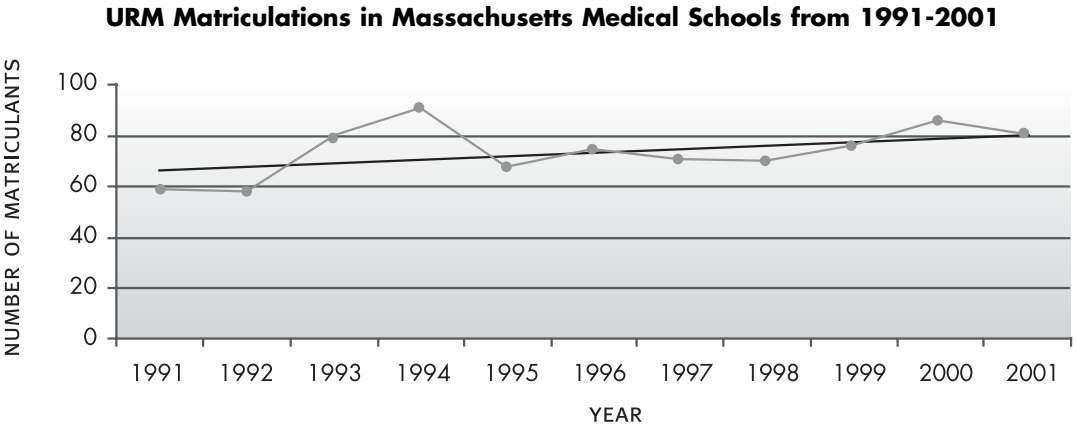


Figure 2. URM Matriculations in Massachusetts Medical Schools from 1991-2001.

* On June 26, 2003 the American Association of Medical Colleges adopted the following definition of underrepresented minority: "Underrepresented in medicine means those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population." This definition replaced the older term "underrepresented minorities" in order to provide more flexibility at the local level to identify and address their local and regional communities of concern. This report uses the older definition for purposes of data consistency.

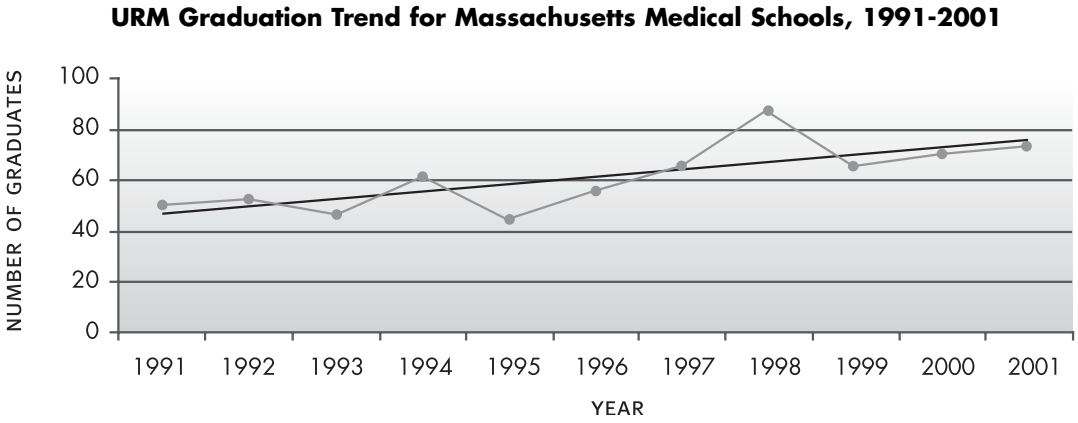


Figure 3. URM graduates from Massachusetts medical schools from 1991-2001.

Our data indicate ten-year overall changes in URM matriculation and graduation percentages of 37.7%, and 33.1% in Massachusetts, respectively. (see Appendix 1 for more detail) Massachusetts' average increases for these two measures are ahead of the national rates (0.98% decline in matriculations and a 21.1% increase in graduations), but they still fall far below what is necessary to develop a physician workforce diverse enough for the Commonwealth's changing demographics.

These increases in the percentage of medical school matriculants and graduates may appear large, yet it is important to realize that starting and ending numbers are low. Any increase from a small number produces a sizeable percent increase. Throughout the 10-year time period, the percent of URM matriculants of total matriculants is below 15% and the percent of URM graduates of total graduates is below 13%. In addition, the application data for 1999, 2000, and 2001 show a troubling decline in the number of URM applicants.

According to our interpretation of the data, these general trends are noteworthy (Appendix I):

- National data for URM graduation show a much stronger trend than the state's; the national matriculation trend is stronger as well although it is weak overall.
- The state's URM matriculation trend is increasing; however, national data show a decreasing trend for URM matriculation. The two trend lines are converging and both are weak.
- Both state and national URM graduation trends for the time period from 1992 to 2001 appear to be increasing; however, the percent URM graduates of total graduates nationwide is markedly higher than that of the state.

It is worth noting that if the state and national trends and rates of increase in URM graduates remain constant, the state URM graduation percentage will not equal the national rate until the year 2020. (Both will be 22.38%). Yet, there is no one-to-one relationship between the number of URM graduates from Massachusetts medical schools and the diversity of Massachusetts' physician workforce because many graduates match out-of-state for graduate medical education.

In fact, a 2003 report from the National Conference of State Legislatures (NCSL) reports that the national average for physicians who went to medical school in state who then went on to practice

in state is 39%. Massachusetts, at 33%, falls below the national average. In addition, the NCSL shows that only 23.7% of all physicians currently practicing in the state graduated from in-state medical schools;[17] the rest were imported to meet state physician workforce needs. If Massachusetts wants to improve its physician diversity, then it must do a better job of retaining the minority doctors it trains.

The NCSL report also states that the percent of newly entering allopathic medical school students who are state residents into state medical schools is a significant predictor of physician retention. Hospital residency program participants who come from in-state are also more likely to practice medicine. Additionally, the NCSL reports that, nationally, the role of public medical schools is more critical than that of private schools to residency location being in-state.[18]

Even though the percent of URM medical school graduates from Massachusetts state schools may soon exceed the percent of URM individuals in the state population, two facts should be kept in mind. First, as stated above, Massachusetts is a national source of physicians, and as such it should strive to match national population demographics. Second, due to its role as a national and state source of physicians, URM graduates from Massachusetts medical schools do not necessarily affect the diversity of Massachusetts' physician workforce as many graduates match out-of-state for graduate medical education and eventually practice out-of-state, too.

[17] Henderson T, Farmer C, and Szwarc S. National Conference on State Legislatures. Practice Locations of Physician Graduates: Do States Function as Markets? January 2003. (Analysis was based on 1975 to 1995 in-state medical school graduates and currently practicing physicians.)
[18] Ibid (NCSL)

URMs Lost[19]

(Data source: AAMC, Minority Student Opportunities in US Medical Education, Editions 2000 and 2002 and AAMC Facts – Applicants, Matriculants and Graduates accessed at www.aamc.org/data/facts)

The difference between the number of URMs who were accepted to Massachusetts medical schools and those that actually matriculated represents URMs that the state lost. By "lost", we mean the students who were identified as qualified and appropriate candidates for medical training in Massachusetts, yet chose not to pursue medical studies in the state. Among other factors, lost URMs may be explained by individual decisions to attend other medical schools or not to attend medical school at all. Figure 4 illustrates Massachusetts' number of accepted, matriculated, and lost URMs from 1998 to 2001.[20] Although data represent only a four-year period, it is important to note that in all years, the number of lost URMs exceeds the number of matriculated URMs.

Fate of URM Applicants to Massachusetts Medical School from 1998 - 2001

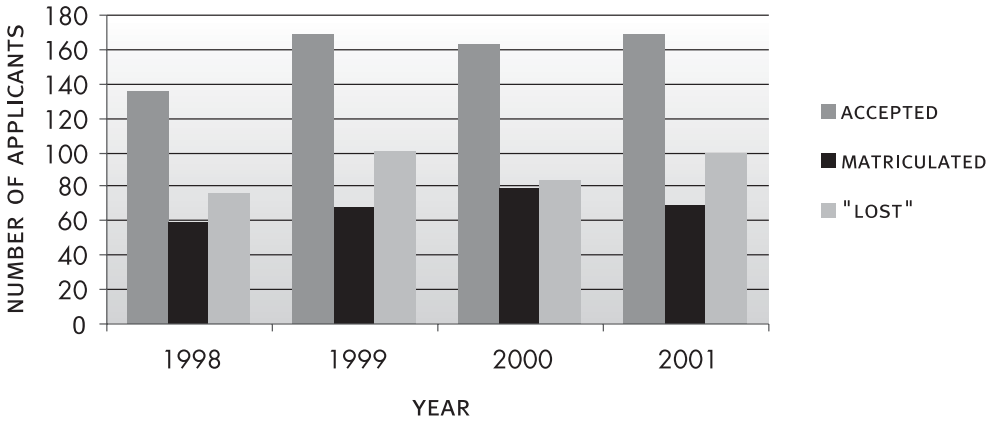


Figure 4. Numbers of accepted URM applicants and matriculants into Massachusetts medical schools from 1998 to 2001. "Lost" refers to applicants accepted who did not matriculate in Massachusetts medical schools.[21]

Of the 50 URM Massachusetts residents who applied to in-state and out-of-state medical schools in 2001, 30 were accepted and 25 actually matriculated. However, of those 25, only 6 matriculated at in-state schools, while 19 chose to attend medical school outside of the state.[22] Seventy-six percent of URMs who call Massachusetts home left the state for medical school. If those URMs had been retained, the state would have tripled the number of URMs at in-state medical schools. Such a loss inevitably impacts physician diversity, especially if those individuals remain out of state for post-graduate medical education.[23]

[19] Data used in the Lost URMs section include blacks, Native Americans, Mainland Puerto Ricans, and Mexican Americans; Commonwealth Puerto Ricans and Other Hispanics are not included.
[20] AAMC, Minority Student Opportunities in US Medical Education, Editions 2000 and 2002
[21] Data include all URM applicants: state residents and non-state residents.
[22] AAMC Facts – Applicants, Matriculants and Graduates accessed at www.aamc.org/data/facts. Accessed on September 17, 2003.
[23] Henderson T, Farmer C, and Szwarc S. National Conference on State Legislatures. *Practice Locations of Physician Graduates: Do States Function as Markets?* January 2003.

URM Application, Matriculation, and Graduation Trends in Individual Massachusetts Medical Schools

(Data source: AAMC Warehouse files as of 11/03/03.)

Application Trends

Applicant numbers can be an indicator of the effectiveness of recruitment methods and may reflect the desirability of a medical education in Massachusetts for underrepresented minorities.

Data from 1991 to 2001 show weak trends for medical school applications to the four medical schools of Massachusetts (Appendix II). The University of Massachusetts Medical School is the only medical school with URM applicant numbers that appear to be increasing over the 11-year time period, while the remaining schools' are decreasing.

These declining trends reflect the national application trend, which until recently, has been on the decline. In November 2003, the Association of American Medical Colleges (AAMC) reported the first increase in medical school applicants since 1996. There was

- A five percent increase in black applicants, but a 6% decline in black matriculants for the academic year 2003-2004, and

- Hispanic applicant numbers increased less than 2% and the number of Hispanic matriculants declined by approximately 4%.[24]

These declines in matriculation numbers may be due to applicants not being accepted or to accepted applicants deciding not to matriculate. (Massachusetts medical school applicant data for 2002-2003 and 2003-2004 has not yet been released by the AAMC.)

Matriculation Trends

Matriculation numbers at medical schools can be an important indicator of recruitment success and financial assistance opportunities offered by the school or state.

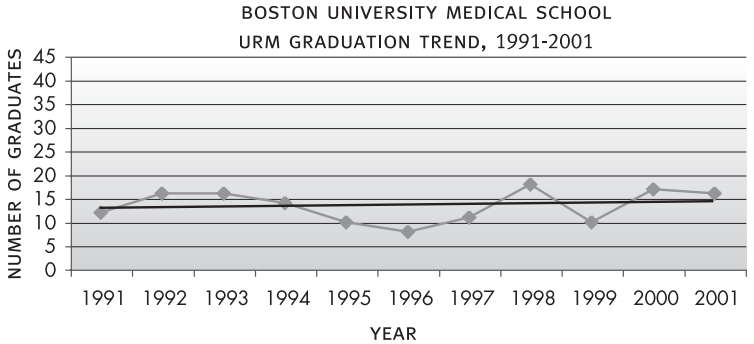
Matriculation data for 1991 to 2001 for URMs in Massachusetts' medical schools produce overall weak trend lines for all four schools (Appendix II). Comparisons among the four medical schools show increases in matriculation numbers during this 11-year time period at Harvard, Boston, and Tufts Universities.

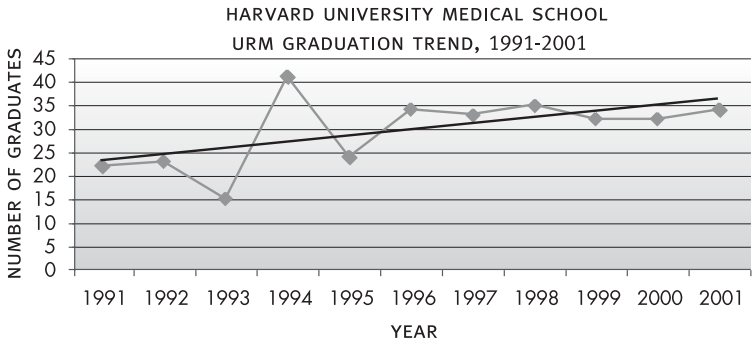
Graduation Trends

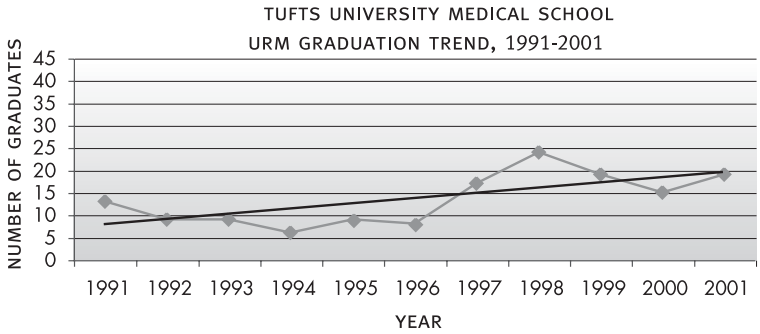
Graduation trends are one gauge to assess a medical school's ability to recruit and retain URMs.

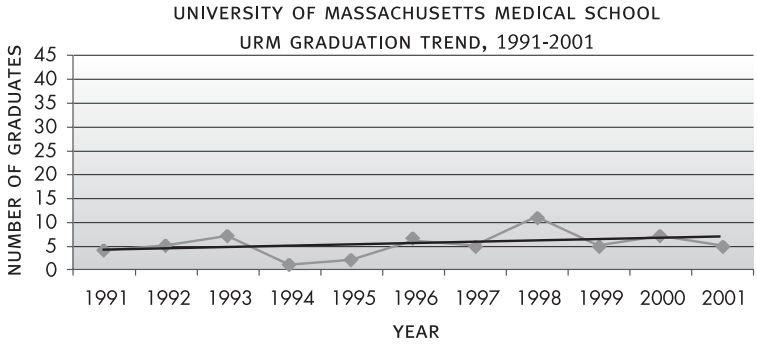
URM graduation trends for the four Massachusetts medical schools are also weak. The trends for both Harvard and Tufts Universities show greater increases in URM graduation numbers than Boston University and University of Massachusetts Medical (Appendix II). Figures 5 to 8 show raw URM medical school graduation data for all four medical schools.

[24] Association of American Medical Colleges. Press Release: Applicants to U.S. Medical Schools Increase Accessed at http://www.aamc.org/newsroom/pressrel/2003/031104.htm on November 16, 2003.









Figures 5 to 8. Underrepresented minority graduation trends of the four medical schools of Massachusetts from 1991 to 2001.

E. Post Graduate Trainees

Profile of Boston's Teaching Hospitals

Demographic data regarding Boston's teaching hospitals are difficult to compile in a uniform manner. This is due to the fact that residency programs within hospitals are largely autonomous and each collects data according to its resources and needs. We developed and sent out a survey to the thirteen hospitals in the city of Boston with post-graduate medical education programs. Unfortunately, a majority of the hospitals surveyed chose not to respond.

Boston Medical Center, Brigham and Women's Hospital, Children's Hospital, Massachusetts Eye and Ear Infirmary, and Beth Israel Deaconess Hospital all invested considerable time and effort answering our survey. Together they represent 143 Boston based training programs (58% of the total programs) and nearly 2500 students. The Boston VA Hospital, Caritas Carney Hospital, Caritas St. Elizabeth's Medical Center, Massachusetts General Hospital, New England Baptist Hospital, Tufts/ New England Medical Center, and the Spaulding Rehabilitation Hospital did not respond.

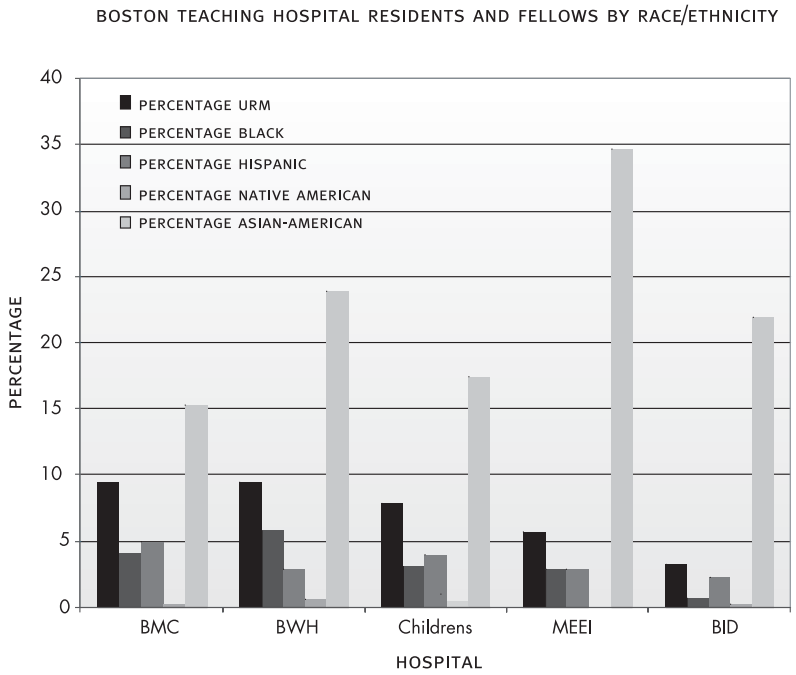
This incomplete data pose a major barrier to improving diversity in Massachusetts teaching hospitals. Without real numbers telling us where we stand on diversity, we cannot make realistic plans to improve. If we don't know the number and distribution of minority students and faculty, we can't target areas for improvement and we can't locate the areas where we are doing well.

Why didn't most hospitals respond to the survey? Absent an explicit explanation from the hospitals, it is difficult to say with certainty. The Physician Diversity Project discussed the survey and the project with each of the hospitals. Without exception, every hospital acknowledged the importance of a more diverse workforce and the difficulty of improving diversity among students and faculty.

Non-responsiveness is not due to administrative capacity, number of residential programs or institutional size, judging from the institutions who did answer the survey. Our respondents demonstrated variation across each of these measures. Rather, what seems to be the driving force is a reluctance to expose their programs and results to the light of day. This reluctance presumably comes from both a fear of being judged for "inadequate" results and a desire to keep the details of successful programs from competitors.

In the current legal and social climate, this reluctance is understandable, but unacceptable. A thorough understanding of what works and what doesn't, as well as of the real challenges and constraints faced by teaching hospitals, is the necessary starting point for system-wide improvement of health care workforce diversity.

These data provide only a snapshot of residents (and faculty for the section following) for the 2003-2004 academic year. Despite the fact that Boston's population is nearly 50% minority, not one hospital reported an underrepresented minority resident make-up of over 10%. Most teaching hospitals reported a foreign national resident make-up higher than that of its domestic URMs. Recruiting and retention efforts targeted at URMs varied significantly among institutions and among programs within institutions. While significant and sincere efforts were being made at all the responding institutions, uneven coordination and limited resources allocated to institution-wide diversity initiatives undermined institutional capacity to maximize diversity.



F. Faculty

Profile of Boston's Teaching Hospital Faculty

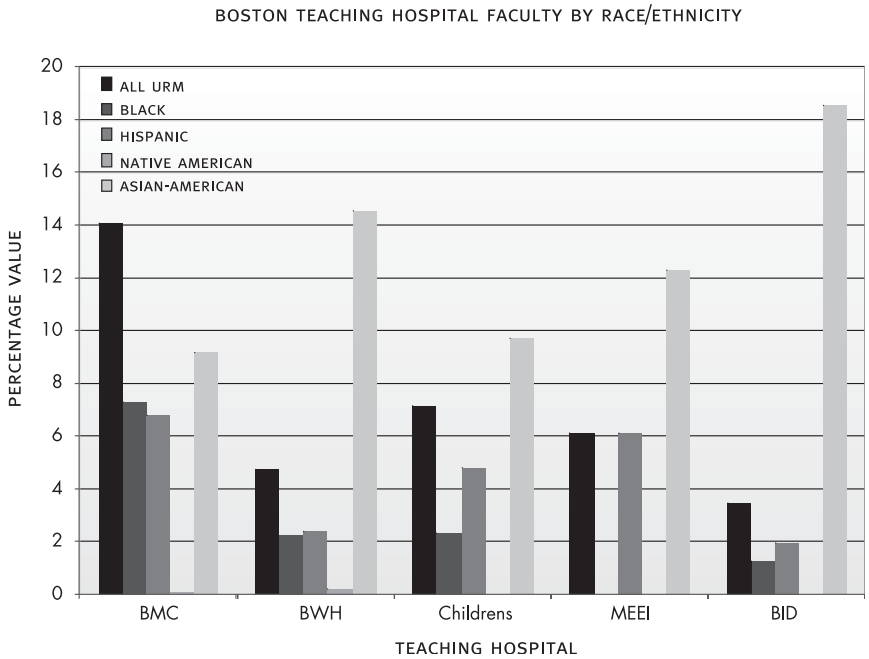
Variation among teaching hospital minority faculty was found to be much greater than among residents and fellows. The "snapshot" nature of the data precludes drawing any strong conclusions regarding causal factors for the lack of physician diversity. It is worth noting, however, that in most institutions efforts to attract and retain faculty of color were markedly less developed than the respective efforts to recruit residents. This is critically important information given the key role played by effective mentoring throughout the education and career development of physicians from underrepresented minority backgrounds.

The *Color of Medicine*, a 2002 report on diversity in the medical profession by *Community Catalyst*, stated:

> Despite the fact that there is virtually universal acknowledgment of the importance of mentoring early in the academic medicine career, the faculty interviewed for this paper expressed concern about the lack of resources and recognition attached to it. There is no national or centralized resource that provides information on program models or best practices, so many faculty work in isolation and end up developing their own programs. Moreover, mentoring can be a very labor-intensive activity. There generally is little recognition of that in promotion or other evaluative criteria.[25]

Underdeveloped efforts to recruit and retain minority faculty must be addressed to improve diversity among hospital medical staff, residents and fellows.

[25] Gonzalez, Phillip and Betsy Stoll. *The Color of Medicine,* Community Catalyst, Boston: 2002. p. 30



G. What Happens When Training Is Complete?

We have a number of indicators to gauge how minority physicians fare as they leave the academic setting. Surveys of residents, fellows and physicians improve our sense of the practice setting. Post-training indicators are important because practicing physicians set the tone for residents in teaching hospitals, influencing their success as residents and their decisions about practice location.

1) According to the 2003 Massachusetts Medical Society Survey of Residents and Fellows [26]

- Only 35% of resident and fellow survey respondents indicated they are planning to pursue their medical careers in MA.
- Overall, the residents and fellows considered the following factors as unfavorable in MA:
  - Work hours
  - Practice environment
  - Salary
  - Housing costs
  - Cost of living
  - Tax environment
- Most of the physician respondents indicated that these factors influenced their decisions to not practice in MA, despite the excellent clinical and research opportunities available here. The intensity of these feelings should be recognized: 80-90% of residents and fellows believe these economic factors are very real and affect their decisions about practice location.

[26] Massachusetts Medical Society, *Physician Workforce Study,* May 2002

2) 2003 Massachusetts Medical Society Physician Workforce Study

With the help of labor economists, the Committee on Medical Service of the MMS completed a study that builds upon the results of the 2002 Physician Workforce Study. The results of the 2003 study indicate the following:[27] All 14 specialties surveyed are currently experiencing extremely tight labor markets. As a result, physicians have been forced to react to these labor market shortages by increasing work hours (48%), adjusting professional staffing (37%), and altering the services they provide.

- Five specialties are experiencing a critical physician shortage: *anesthesiology, cardiology, gastroenterology, neurosurgery, and radiology.* Three additional specialties are experiencing a severe shortage: general *surgery, orthopedics,* and *vascular surgery.*

- Thirty-two percent of practicing physician respondents are either planning on or considering leaving MA because of the current practice environment.

- Professional liability concerns are influencing physicians to contemplate career changes. This is particularly true within high-risk specialties such as obstetrics and gynecology and surgical subspecialties.

- The average number of months required to recruit a physician is roughly twelve; by specialty, it ranges from eight months for emergency medicine to twenty-seven months for neurosurgery.

- Regional disparities in the labor market exist. This is particularly evident in the Springfield metropolitan area, where physician labor shortages are more acute.

[27] Massachusetts Medical Society, *Physician Workforce Study,* May 2002

4 Model Practices: Models of Pipeline, Recruitment & Retention Programs

Dramatic racial and ethnic changes in the demographics of the United States and Massachusetts make increasing the diversity of the health professions workforce a pragmatic as well as a moral imperative. Despite years of concerted effort by the Association of American Medical Colleges, medical educational institutions, and advocates for minority communities, African Americans, Hispanics, and Native Americans continue to be underrepresented in the health professions. Addressing this persistent problem requires proactive and systemic approaches at all levels of the educational process. The educational system loses many minority students during the undergraduate years. This is especially the case for minority students who enter colleges and universities expressing an interest in the health professions, regardless of their intellectual abilities.[28]

The inequities in education that leave many underrepresented minority students ill-prepared for the rigors of advanced education have been well documented.[29] These inequities severely limit the pool of students entering colleges and universities. It is critical that educational institutions provide programmatic and personal support to ensure minority students earn their bachelors degree. Effective programs that support minority students upon entry to the educational system, which include mentorship and guidance, play an important role in the successful advancement of underrepresented minorities to careers in the health profession.

In Massachusetts, there are a number of well-developed programs that support minority students interested in medicine and the health professions. We have highlighted a representative sample of programs from across the continuum of a student's educational experience that have had success in supporting minority students and can serve as models for intervention and replication.

[28] Bowen, William G. and Derek Bok *The Shape of the River,* Princeton University Press, Princeton, NJ, 1998.
[29] Institute of Medicine, *The Right Thing to Do The Smart Thing to Do,* National Academy Press, Washington DC, 2001.

Model Practice Selection Categories

Program	Elementary	Middle School	High School	College	Medical School	Residency	Faculty	National	Regional	Local	Medical Affiliation
Minority Recruitment Program					•	•	•	•			BMC
BSCP		•	•	•	•	•	•		•	•	HMS
UMASS	•	•	•	•	•	•	•				U MASS
CCHERS	•		•	•						•	BUSM
CHILDREN'S HOSPITAL OFD						•	•				CHILDREN'S HOSPITAL
EMSSP				•	•			•			BMC,BUSM
VCP					•			•	•	•	HMS
MGH					•	•	•				MGH
HCOP		•	•	•						•	TUFTS

A. Boston Medical Center Minority Recruitment Program

Program Title Minority Recruitment Program (MRP)

Goals/Objectives Provide the diverse patient population that we serve with providers who reflect that diversity, who are sensitive to patients' needs and concerns.
Build community of minority physicians in order to provide the professional & personal support necessary to ensure that this community will continue to grow.

Target Populations Under-represented (URM) students, house staff, fellows and faculty.

Program Specifics Contacts accredited medical schools on a yearly basis.
Attend national conferences, residency fairs and regional conferences as an exhibitor.
Advertisements in *The Journal for Minority Medical Students*, *Journal of the Student National Medical Association* and *The New Physician*
Directory, posters, brochures

Partnerships BUSM Office of Minority Affairs
CIR
BMC residency programs
MRP Steering Committee and Liaison Committee
Medical Affairs

Staffing 1.0 FTE

Outcomes The MRP had its first students in 1981.
The BUMC community of URM physicians is usually higher than the national average.

B. Biomedical Sciences Career Program

Program Description Founded in 1991, this is a cross-institutional, collaborative forum for organizations dedicated to increasing the number of URM students in biomedical, biotechnology, and health sciences careers.

Services Offered
Biennial student conference
Skills & career development programs
New England Science Symposium
New England Resource Directory
Scholarships

Partnerships
Genzyme
Biogen
Paraxel
Forester Biotech
Boston Teaching Hospitals
MA Medical Schools
Mass Medical Society
New England Board of Higher Education

Outcomes 3,000 minority students throughout New England have participated in this program.

Staffing 1.0 FTE

Sustainability Program is funded through annual fundraiser, *Evening of Hope,* that is supported through corporate sponsorship.

C. Worcester Pipeline Collaborative – University of Massachusetts

Program Description The Worcester Pipeline Collaborative encourages, educates and challenges minority and/or economically disadvantaged students for success in the health care and science professions.

Services Offered Shadowing, mentoring, internships, after-school programming, summer science camp, and professional development

Partnerships K-20 Educators, Professionals, Administrators

Worcester Public Schools
National Science Foundation
Assumption College
UMass Memorial Health Care
Bank Boston
Abbott Bioresearch Center

D. Center for Community Health Education, Research and Service (CCHERS)

Program Description A consortium of 15 partners. CCHERS prepares health professionals for primary care practice in underserved, urban communities. Integrate education, research and service in order to improve healthcare delivery and change the model of education for health professionals and develop models and conduct community-based research focused on issues that impact urban populations.

Partnerships 12 Boston community health centers
Boston University School of Medicine
Northeastern University College of Nursing
Boston Public Health Commission

E. Early Medical School Selection Program – Boston University School of Medicine

Program Description

EMSSP was developed 13 years ago with a consortium of 13 colleges and universities that have significant URM enrollments.

Program provides an early and more gradual transition into the medical school curriculum, through provisional acceptance into BUSM at the completion of the first 2 years of undergraduate study.

Students in program remain at their undergraduate colleges through their junior year. Students complete their senior year at BU, taking first year medical school courses at BUSM, while retaining bachelor degree candidacy at their home institution.

Services Offered

College and medical school course credits
Summer science courses
Faculty advisor
Housing
Transportation

Partnerships

Clark Atlanta University
Dillard University
Hampton University
Morehouse College
Morgan State University
North Carolina Central University,
Spellman College
University of North Carolina at Pembroke
University of the Incarnate Word
Tougaloo College
University of Texas, El Paso
University of the Virgin Islands

Outcomes

Numerous students have completed the program since 1985.

F. The Visiting Clerkship Program – Harvard Medical School

Program Description

Third and fourth-year medical students from across the US, who have completed core electives in medicine, surgery, pediatrics and obstetrics at their respective schools come to Boston for a one-month clerkship at a Harvard affiliated hospital.

Services Offered

Hospital placement
Networking opportunities
Transportation (up to $350)
Housing
Faculty adviser

Partnerships

Harvard affiliated teaching hospitals

Outcomes

566 URM students have participated in program.

62 (11%) of participants subsequently have matched at a Harvard affiliated teaching hospital for residency.

Staffing

1.0 FTE

Sustainability

Program is funded through support of Harvard affiliated teaching hospitals

G. Children's Hospital Office of Faculty Development

Program Description

The Office of Faculty Development was established in 2000. The mission includes facilitating career satisfaction, development, and advancement for all junior faculty and to increase leadership opportunities for women and minority faculty.

Services Offered

1) Two-year fellowships for underrepresented minority faculty.

2) Sponsored celebrations to honor recipients of institutional awards and to raise visibility among senior leadership.

3) Quarterly minority faculty lunches for networking, needs assessments, mentoring, etc.

4) Community of Mentors Program with specific guidelines highlighting the importance of diversity and stressing issues related to cross-race mentoring and obstacles for minority faculty.

5) Minority Physician Training Project

Partnerships

Children's Hospital Diversity and Cultural Competency Council
Martha Elliot Health Center
Harvard Medical School Office of Diversity and Community Partnership
Boston Combined Residency Program
Partnership Program

Outcomes

Faculty Director, (.35 FTE)
Administrative Director, (1.0 FTE)
Administrative Associate, (1.0 FTE)

5 Conclusion

The Physician Diversity Project makes the following conclusions:

1) **A comprehensive effort to increase physician diversity is critical to public health in Massachusetts.** The inadequacy of physician workforce diversity and the changing demographics of the Commonwealth of Massachusetts, combined with the demonstrated impact of a diverse physician workforce on quality and access to health care require more than piecemeal responses. Diversity results in an improved environment for teaching and learning at all levels.

2) **Any effort to increase diversity must look forthrightly at the role of race and racism in shaping educational and professional outcomes.** The size and quality of the underrepresented minority applicant pool is shaped by systemic factors such as access to quality primary and secondary education, access to safe, stable and affordable housing, and opportunities to enter quality college pre-medical programs. These factors are shaped by past and current institutional racism.

3) **Only a collaborative, cross-institutional and cross-sector approach to increasing diversity can provide the comprehensive, sustainable effort needed to increase the numbers and proportion of physicians from underrepresented minority backgrounds in Massachusetts.** The complexity of the medical education process and the broad range of systemic factors leading to the current lack of diversity in the workforce demand an approach based on public/private partnerships which take a long term view of the problem.

4) **New strategies and new perspectives are needed to bring significant positive change to the diversity of the physician workforce.** Improvements to the diversity of medical school applicants, matriculants and graduates have been uneven and minimal. Significant results will require changes in the institutional culture, which requires new perspectives in addition to new policies.

    - Specifically, groups that have played a minor role in medical school admissions and hospital residency recruitment such as **minority and immigrant communities, public health workers and consumer health advocates, should be involved in the development of recruitment and admissions policies and oversight of diversity initiatives.** This involvement should be structured in a way that makes medical educational institutions accountable to minority communities while ensuring standards of excellence for trainees.

5) **A significant public policy component aimed toward making medical education in Massachusetts more affordable and professional practice in Massachusetts more appealing is necessary to achieve lasting improvements in the diversity of the physician workforce.** Massachusetts currently retains only one-third of the medical professionals trained in its graduate medical institutions and this retention is due to professional environmental factors only partially influenced by hospital and medical school policy.

6 Recommendations

1) Increase collaboration among medical schools, teaching hospitals, community advocates and public officials to maximize the impact of diversity efforts.

Finding solutions to improve diversity in the physician workforce cannot be the work of any single sector or institution. Cross-sector communication and partnerships should be developed to get the best possible results from resources dedicated to increasing diversity as well as to reduce competitive practices that hamper diversity efforts.

2) Streamline and standardize data collection on the medical student and faculty demographics in medical schools and teaching hospitals.

As reported above, without accurate data about Massachusetts medical schools and teaching hospitals, stakeholders cannot develop realistic and sustainable programs to increase physician diversity. Medical education institutions in Massachusetts should establish a mechanism for annual reporting of student, trainee and faculty demographics using a standardized, agreed upon format. This mechanism should be developed with a monitoring tool in place for evaluation purposes.

3) Address financial barriers to medical education in Massachusetts.

The expense of medical school is a significant barrier to students from underrepresented minority groups because they come from disproportionately low and moderate income backgrounds. The high cost of living in Massachusetts creates additional hurdles. Medical schools, philanthropic foundations and federal, state and municipal governments should work together to develop targeted solutions including tuition vouchers, loan repayment programs, housing subsidies and scholarships.

4) Address cultural climate of medical schools and teaching hospitals as it relates to race and ethnicity.

The success of diversity efforts are influenced by the intangibles of institutional cultural climate in addition to the influences of recruitment and retention policies, financial support and minority specific programs. Conscious efforts should be made to ensure that underrepresented minorities are integrated as full-fledged members of medical school and teaching hospital communities. In addition, attention should be paid to the demands placed on minority physicians and trainees beyond their clinical and administrative responsibilities. (This is also referred to as the "color tax", or the unspoken expectation that minorities will assume responsibilities beyond those of other faculty and students, representing the minority perspective on numerous academic and administrative committees and working to foster a sense of community among students and faculty of color.)

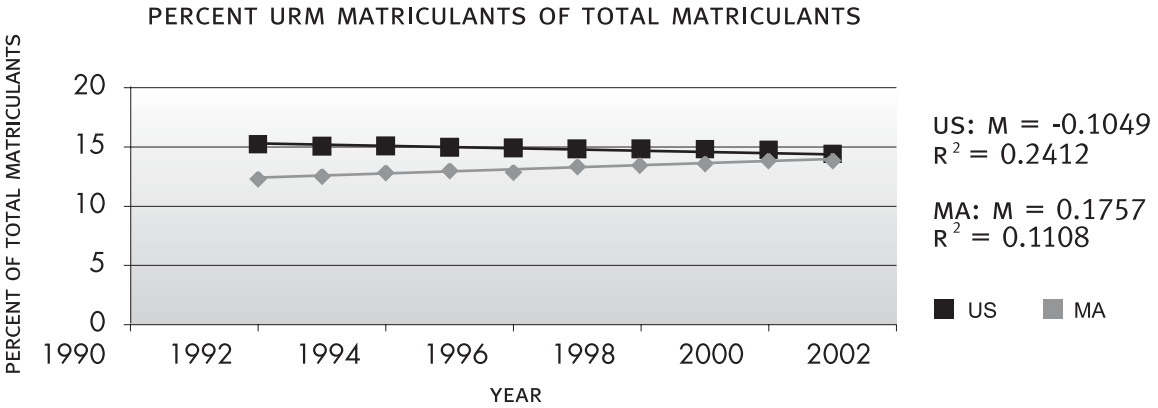
Final Notes

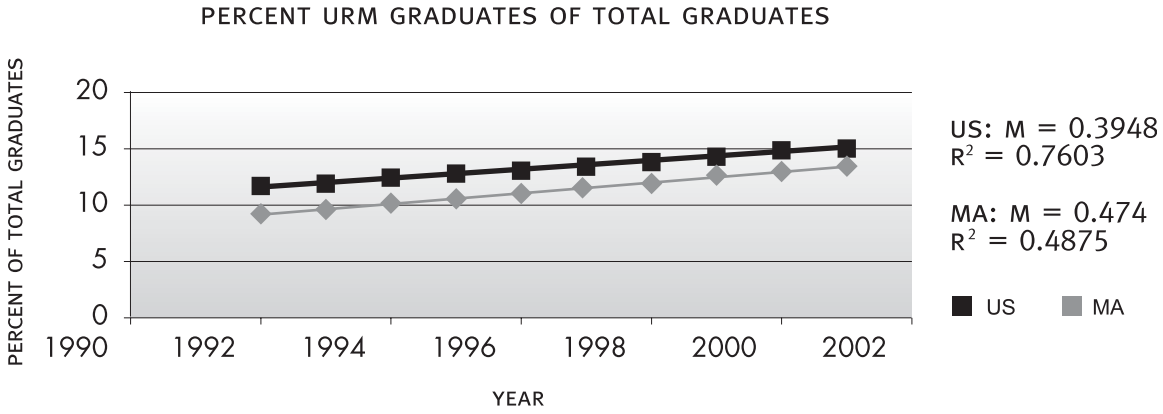
It should be noted that the problem of physician diversity is a national problem stemming from a long history of racial and structural discrimination. As such, it is impossible to single-handedly solve the problem from within the Commonwealth of Massachusetts, individual institutions, or isolated components of the medical education process. There are, however, concrete steps that can be taken and important gains that can be achieved here.

This case statement is not meant to be the definitive guide to achieving adequate physician diversity in Massachusetts. It was written to provide a factually grounded starting point for collaboration among medical schools, teaching hospitals, community advocates and public officials.

This report is the result of extensive support and input from the Physician Diversity Project Leadership Group, physicians, hospital administrators, public officials, community advocates, medical school administrators, and others. It was made possible through the support of Community Catalyst and the W. K. Kellogg Foundation.

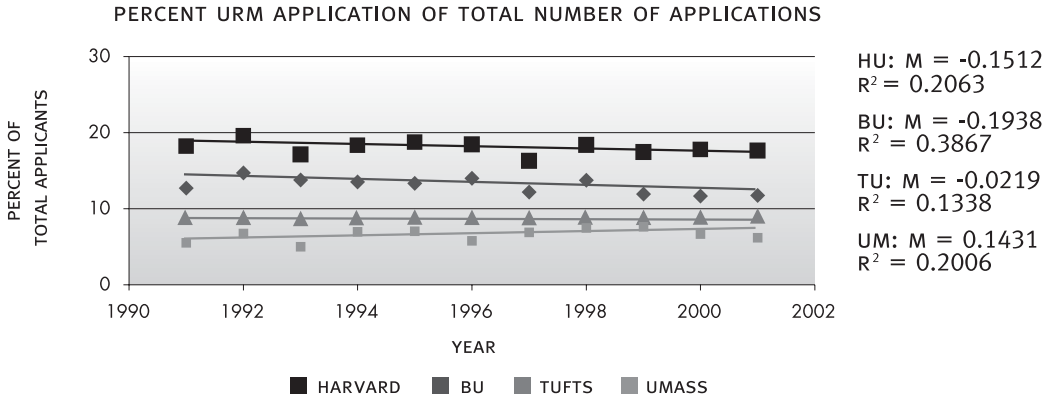
Appendix I. URM matriculants and graduates in Massachusetts and the US as percents of total state and total national matriculants and graduates from 1992 to 2001.

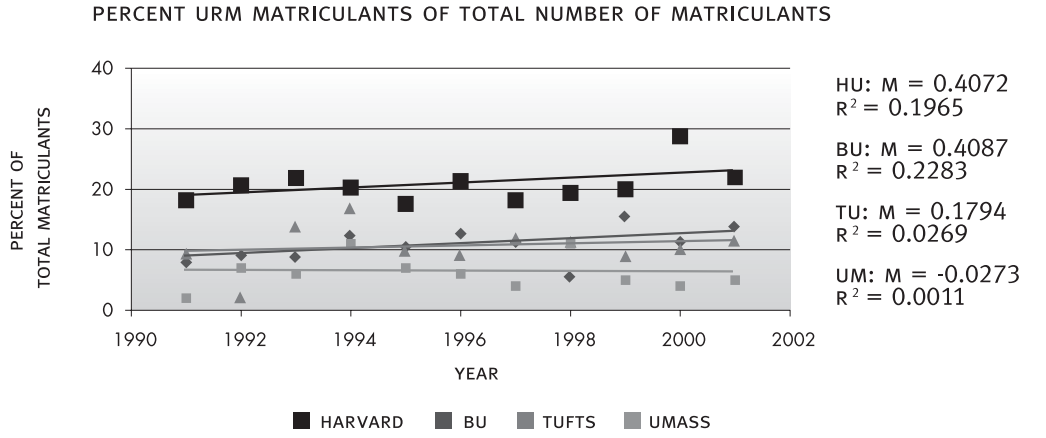


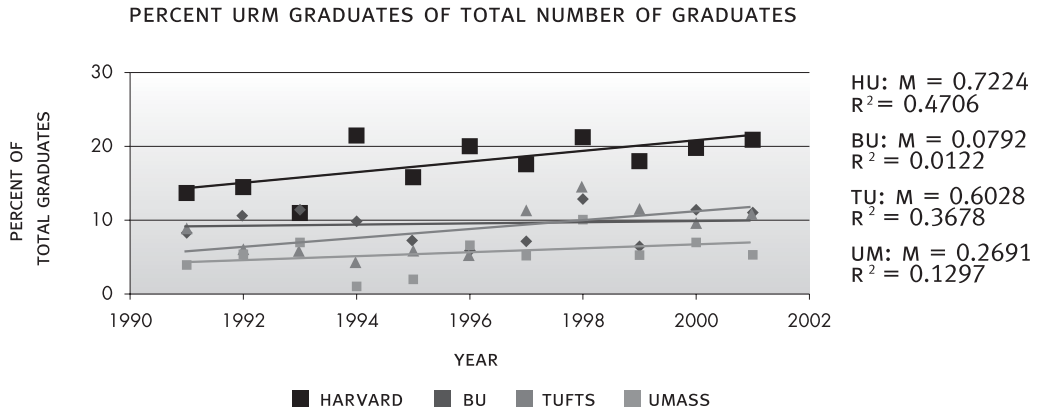


Data source: American Association of American Medical Colleges Data Warehouse as of 11/03/03 and www.aaamc.org/data/facts.

Appendix II. URM applicants, matriculants, and graduates as a percent of total applicants, matriculants, and graduates in each of the four medical schools of Massachusetts from 1991 to 2001.







Data source: Association of American Medical Colleges Data Warehouse as of 11/03/03.

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Physician Diversity Project | 30 Winter Street, 10th Floor | Boston, MA 02108 | Tel: 617.350.7279 | Fax: 617.451.5838 | www.hcfama.org