AAMC
Tomorrow's Doctors, Tomorrow's Cures™

Medical School Expansion Plans

Results of the
AAMC 2005 Survey of U.S. Medical Schools

Center for Workforce Studies
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Introduction

Growing evidence indicates that the nation will face a shortage of physicians in the next one to two decades. The Association of American Medical Colleges (AAMC) recommended a 15% increase in the number of U.S. medical school graduates in 2005 and is currently considering a new recommendation of a 30% increase in enrollment by 2015 compared to enrollment in 2002.[1] A 15% increase in allopathic enrollment would be equal to about an additional 2,400 students per year; a 30% increase would require nearly 4,800 per year. While osteopathic enrollment and graduations have grown over the past 25 years, their continuing growth by itself will not be sufficient to meet the needs of the nation.

A 15% or 30% increase in enrollment would yield fewer allopathic medical school spots per capita than 1980 levels, these changes will require a major shift in direction for these schools; medical school enrollment in allopathic institutions grew by less than 2% between 1980 and 2003. Given the long timeframes needed to expand medical school capacity (and to educate and train physicians), immediate efforts are required to meet AAMC goals.

To better understand and inform the expansion plans of medical schools, the AAMC Center for Workforce Studies undertook the second annual survey of all U.S. allopathic schools in the fall of 2005. Most of the information contained in this report was provided by 116 allopathic medical schools that participated in the survey. The Center also gathered public information on new medical schools planned in the U.S. to provide a more complete picture of the current status of enrollment expansion.

[1] Since the AAMC Position Statement on the Physician Workforce uses the 2002-03 enrollment figure as the base, enrollment increases from 2002-03, in addition to those from 2005-06, are used throughout the text.

Summary of Results

U.S. allopathic medical schools expect to increase enrollment by between 1,400 and 2,000 students per year by 2015-16, an increase of 9% to 12% from the 2002-03 level. Major findings include the following.

1. Of the 116 schools that responded to the survey, 25 (22%) indicated that they would "definitely" change enrollment over the next 5 years (2005-06—2010-11), an increase of 453 students (2.7% greater than 2005-06 enrollment).

2. Nineteen schools indicated "probable" enrollment changes representing 308 additional students (a 1.8% increase from the 2005-06 level).

3. Eighteen additional schools indicated "possible" additional enrollment of 158 students.

4. In total, planned/possible US allopathic enrollment represents an additional 919 students (a 5.4% increase from 2005-06).

5. It appears likely that five new allopathic schools will open between 2007-08 and 2015-16 (two in 2007-08, one in 2008-09, one in 2009-10, and one in 2011-12). The aggregate enrollment increase from the new schools is estimated to be between 310 and 360 by 2010-11.

6. Total enrollment increases from existing and new allopathic medical schools are estimated to be between 908 and 1,449 students by 2010-11, a 5.3% to 8.6% increase from the 2005-06 level. This would represent up to a 12.2% increase from 2002-03, but not reaching the recommended 15% increase called for by AAMC.

Findings in Brief

- Plans and activities currently underway to increase medical school enrollment by 2010-11 are unlikely to reach the AAMC goal for an increase in annual allopathic graduates of 15% (2,400 per year) by 2015.
- Schools in the South and West are more likely to increase enrollment than those in the Northeast or Midwest.
- The majority of the enrollment increases will likely be in public schools.
- Community-based schools are more likely to increase enrollment than research-intensive schools.
- Most schools consider their applicant pool adequate to support a 10% increase in enrollment from the current level; however, they become more concerned when contemplating increases beyond 20%. `
- Enrollment expansion through new medical schools is more likely in states that that have experienced rapid population growth and those with lower than average per-capita medical school enrollment.

Methodology

An electronic message requesting participation in the study was sent to 125 allopathic medical school deans in September of 2005. The message provided a link to a web-based survey and was accompanied by an identical 4-page survey which could be completed by hand (See Appendix I). After several follow-up e-mails, 116 schools completed the survey by December 2005. The survey response rate was 93%, slightly lower than the previous year's (94%). Since this is an anonymous, self-administered survey, the information provided by respondents is based on self-report, and no verification of the information was conducted.

The data collection protocol was approved by the Institutional Review Board (IRB) at the American Institute for Research, which reviews the AAMC's research/data collection activities. The survey instrument itself was cleared through the association's survey clearance process (AAMC Survey Clearance ID: 05-035).

Results are presented in aggregate by region (Northeast, South, Midwest, South), ownership (public, private), and institutional type (community-based, private freestanding, research-intensive)[2]. **Table 1** provides the number of survey respondents and the response rate in each category. Appendices III and IV list the names of schools under these categories.

Table 1. Number of Survey Responses and Response Rate by Region, Ownership, and Institutional Type

Region			Ownership			Institutional type		
	N/Total	(%response)		N/Total	(%response)		N/Total	(%response)
Northeast	31/35	(86%)	Public	67/75	(88%)	Community based	16/17	(94%)
South	38/43	(88%)	Private	44/50	(88%)	Private Freestanding	13/14	(93%)
Midwest	29/31	(94%)				Research intensive	35/40	(88%)
West	12/16	(75%)						
Unknown	6			6				
Total	116/125	(93%)		116/125	(93%)		N/A	N/A

[2] Note that these institutional types are neither mutually exclusive, nor in combination cover all 125 schools. Private freestanding medical schools are essentially independent, private entities without any financial or logistical affiliation with a parent university. Community-based schools are characterized by their affiliation with community hospitals and local physicians where the schools depend upon local hospitals for clinical facilities and appoint many community physicians to their faculties (Krakower, J., et. al. 1994. "Medical School Financing 1991-1992: Comparing Seven Different Types of Schools," *Academic Medicine* 69:72-81). Forty research-intensive schools were selected by the volume of federal research grants and contracts awarded to support faculty work (NIH Awards to Medical Schools by Rank, Fiscal Year 2004 (http://grants1.nih.gov/grants/award/rank/medttl04.htm, accessed on December 23, 2005).

Analysis

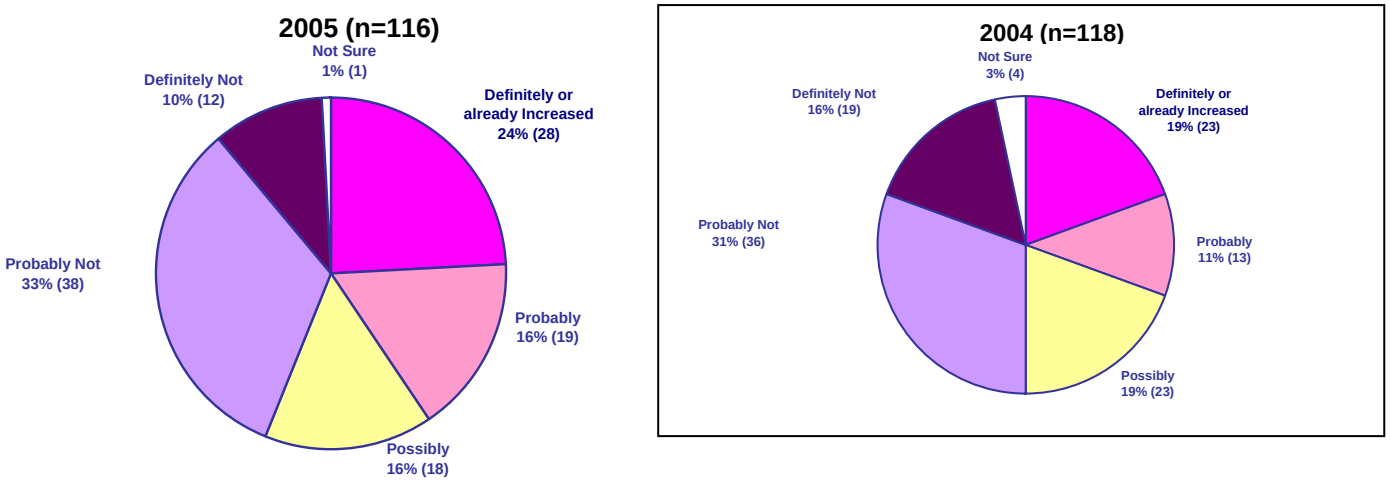
1. Plans to Change First-Year Enrollment between 2005-06 and 2010-11 by School Characteristics

We asked respondents about the likelihood of changing first-year enrollment over the next 5 years (through 2010-11) and whether they had changed enrollment in the past 5 years. While the majority of schools indicated definite, likely, or possible enrollment changes, not all schools are considering increases; as shown below, eight schools indicated either reducing or maintaining their current enrollment.

Distribution of Schools by Plans to Change First-Year Enrollment and Changes from the 2004 Survey

- Sixty-two schools (53%) indicated that they would "definitely," "probably," or "possibly" change first-year enrollment in the next 5 years. In addition, three schools reported that they had increased enrollment since 2000 though they do not plan to change enrollment in the next 5 years. Altogether, 65 schools (56%) are considering enrollment changes or have increased enrollment since 2000 (See **Figure 1**).

Figure 1. Distribution of Schools by Plans to Change First-Year Enrollment, 2005 and 2004 (insert)



- Of these 65 schools, 28 reported that their plans to expand are "definite" or that enrollment had already been increased. Nineteen schools (16%) reported that increases are "probable" while another 18 schools (16%) reported "possible" expansion.

- The number of schools with "definite" or "probable" enrollment increases rose from 36 (31%) to 47 (41%) between 2004 and 2005 while the number of schools with "possible" changes declined from 23 (19%) to 18 (16%). The number of schools reporting that they would "definitely not" change enrollment declined from 19 (16%) to 12 (10%).

- Of the 105 schools that responded to the survey in both 2004 and 2005, 57 (54%) did not alter their response when asked about their likelihood of changing enrollment (See **Table 2**).

- Of the 31 schools that indicated "definite" or "probable" enrollment changes in 2004, 23 (74%) indicated that enrollment changes were still definite or probable in 2005. Seven schools (23%) reversed their plans, indicating that they would not change enrollment (either "probably not" or "definitely not") when responding to the 2005 survey.

- Nine (43%) of the 21 schools that had indicated "possible" enrollment changes in the 2004 survey reported that enrollment changes are either definite or probable in the 2005 survey, while seven schools (33%) indicated that they were no longer considering changing enrollment.

- Twenty-nine (59%) of the 49 schools that indicated no enrollment change in 2004 maintained the same position in 2005. However, 10 schools changed their response and indicated that they would "definitely" or "probably" change enrollment in the 2005 survey.

- Of the 23 schools reporting definite or probable enrollment changes in both 2004 and 2005, 13 (57%) are located in the South and six (23%) in the West. Eight of the ten schools that reversed their enrollment plans from no enrollment change to "definite" or "probable" enrollment changes between 2004 and 2005 are located in the Midwest.

Table 2. Distribution of Schools by the Likelihood of Enrollment Change in the 2004 and 2005 Surveys

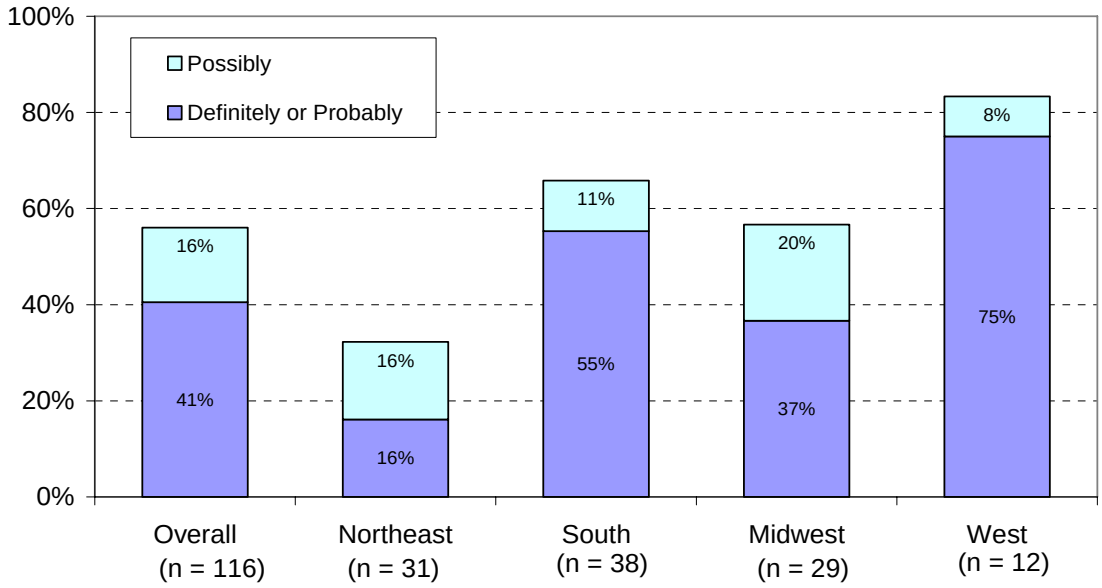
Response in the 2004 Survey	Response in the 2005 Survey: Definitely/ probably		Possibly		Probably not/ Definitely not		Uncertain		Total	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Definitely/probably	**23***	(74%)	1	(3%)	7	(23%)			31	(100%)
Possibly	9	(43%)	**5**	(24%)	7	(33%)			21	(100%)
Probably not/ Definitely not	10	(20%)	9	(18%)	**29**	(59%)	1	(2%)	49	(100%)
Uncertain	2	(50%)	1	(25%)	1	(25%)			4	(100%)
Total	44	(42%)	16	(15%)	44	(42%)	1	(1%)	105	(100%)

* Numbers in the diagonal cells are the number of schools that did not change their enrollment plans between the 2004 and 2005 surveys.

Plans to Change First-Year Enrollment by School Characteristics

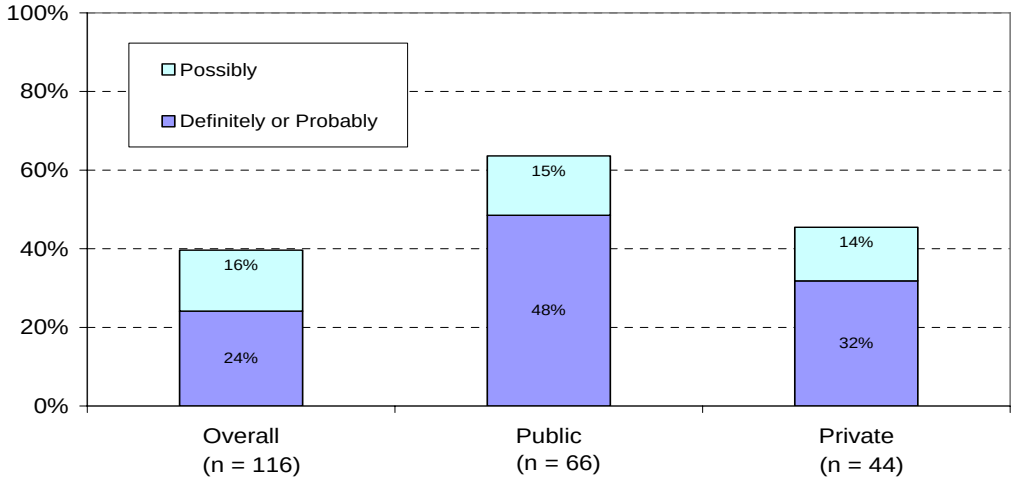
- **Region**: As shown in **Figure 2**, 55% of schools in the South and 75% of schools in the West reported definite or probable enrollment changes or had already increased enrollment, compared to 16% of schools in the Northeast and 37% in the Midwest. When "possible" enrollment changes are included, two-thirds of schools in the South and over 80% of schools in the West are considering changing enrollment.

Figure 2. Schools with Plans to Change First-Year Enrollment by Region, 2005



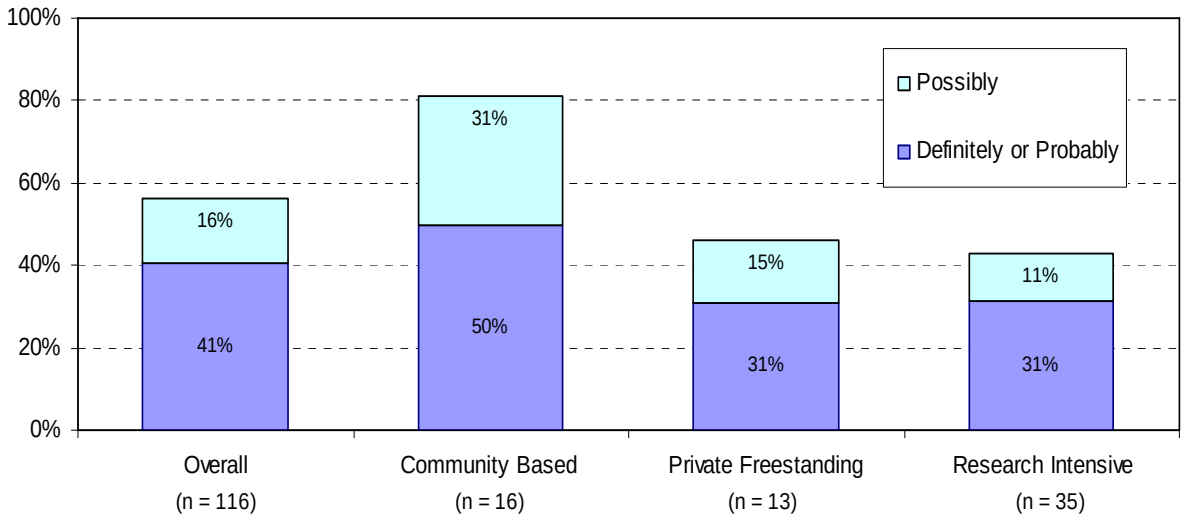
- **Public vs. Private**: 48% (32) of 66 public schools reported definite or probable enrollment changes or had already increased enrollment, compared with 32% (14) of 44 private schools responding to the survey (**Figure 3**). When "possible" enrollment changes are included, 64% of public schools, and 46% of private schools, had already increased enrollment or are considering enrollment changes.

Figure 3. Schools with Plans to Change First-Year Enrollment by Ownership, 2005



- **Community-Based, Private Freestanding, and Research Intensive schools:** As shown in **Figure 4**, 50% of community-based schools reported that they would definitely or probably change enrollment or had already increased compared with 31% of private freestanding schools and research-intensive schools. If schools with "possible" enrollment changes are included, over 80% of community-based schools are currently considering enrollment changes (See footnote 1 on page 3 for explanation of categories).

Figure 4. Schools with Plans to Change First-Year Enrollment by Institutional Type, 2005



2. Size of Expected First-Year Enrollment Changes from 2005/06 to 2010/11

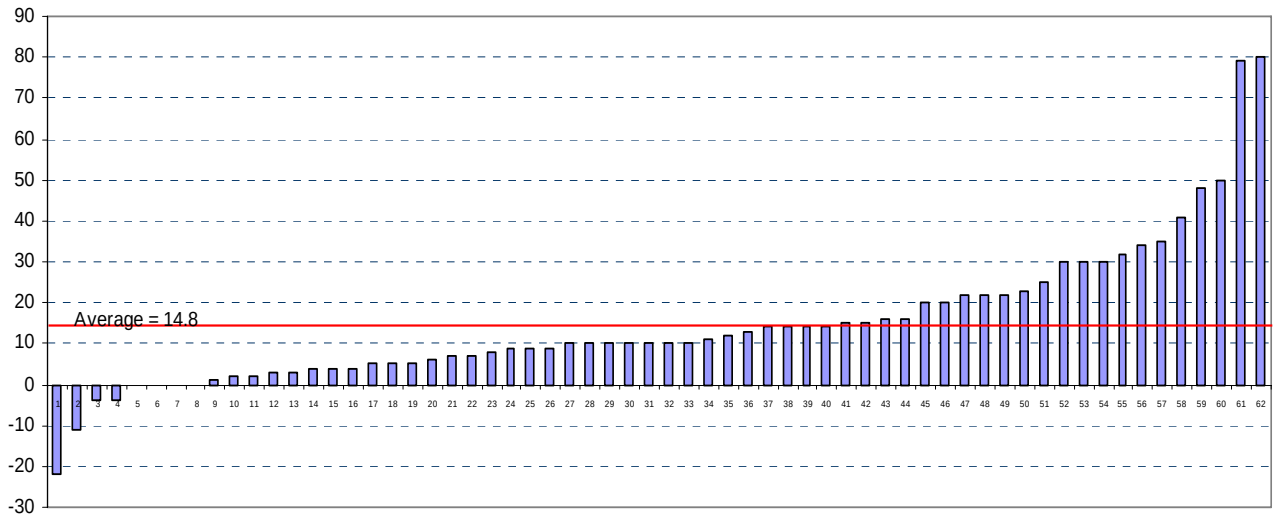
The survey also requested respondents to provide the first-year enrollment figures for the 2005-06 academic year and expected numbers in the next 5 academic years (2006/07 to 2010/2011). The analysis is primarily based on responses from 115 schools that provided the information in the survey. However, additional information regarding medical schools' enrollment changes from the 2004 survey and public documents was incorporated in the analysis. Based on the information, we developed 3 different scenarios of enrollment increases between 2005-06 and 2010-11.

Changes in First-Year Enrollment

- The aggregate change in first-year enrollment between 2005-06 and 2010-11 from the 115 schools is 919, a 6.0% increase from their 2005-06 level. If we apply the same rate of increase to all the 125 allopathic medical schools, the overall enrollment increases by 1,015, reaching 18,019 in 2010-11 (See 'Baseline' in **Table 3**).

- As shown in **Figure 5**, the size of net enrollment change between 2005-06 and 2010-11 varies from -22 to +80 among the 62 schools that indicated enrollment changes (average enrollment change: 14.8 slots).[3] Four schools reported to decrease their enrollment, and another four indicated no net change in their enrollment size.

Figure 5. Net Enrollment Changes Among Schools Reporting Definite, Probable, or Possible Changes, 2005



[3] We excluded three schools that have already increased enrollment since 2000 in the analysis. Accordingly, the number of schools in the analysis is 62 rather than 65.

- Twenty-five schools report "**definite**" enrollment changes of 453 students, a 14.3% increase from 2005-06 enrollment at these schools (average: 18 per school, median: 13, minimum: -22, maximum: +79); this represents a 2.7% increase in the overall enrollment among all 125 medical schools from the 2005-06 level ('Scenario 1' in **Table 3**).

- Nineteen schools report "**probable**" enrollment changes of 308 additional students, an 11.4% increase from 2005-06 among these schools (average: 16, median: 10, minimum: 0, maximum: +80). When combined with the "definite" enrollment changes (above), the aggregate increase from these 44 schools is 761 students (average: 17 per school), a 13.0% increase from their 2005-06 level. This increase constitutes a 4.5% increase in the overall enrollment from 2005-06 levels among all 125 schools (Scenario 2 in **Table 3**).

- Eighteen schools report "**possible**" enrollment changes of 158 additional students, a 7.5% increase from 2005-06 among these schools (average: 9 per school, median: 7, minimum:–4, maximum: 25). When combined with the enrollment increases from the 44 schools with "definite" or "probable" enrollment changes, the aggregate enrollment increase from these 62 schools is 919 students (average: 15 per school), an 11.5% increase form the 2005-06 level at these schools. This increase represents a 5.4% increase in the overall enrollment size from the 2005-06 level among the 125 medical schools (Scenario 3 in **Table 3**).

Table 3. Expected Enrollment Increase from Allopathic Medical Schools between 2005-06 and 2010-11

	2005-06	2010-11	# Increase (per school)	% Increase
Baseline				
All respondents reported plans (n = 115)	15,398	16,317	919 (8.0)	6.0%
If the observed increase rate applied to all schools*	17,004	18,019	1,015 (8.1)	6.0%
Scenario 1				
25 schools with "definite" enrollment increase	3,174	3,627	453 (18.1)	14.3%
The size of the increase as % of all 2005-06 class*	17,004	17,457	453 (3.6)	2.7%
Scenario 2				
19 schools with "probable" enrollment increase	2,694	3,002	308 (16.2)	11.4%
44 schools with "definite"(25) or "probable"(19) or enrollment increase	5,868	6,629	761 (17.3)	13.0%
The size of the increase as % of all 2005-06 class	17,004	17,765	761 (6.1)	4.5%
Scenario 3				
18 schools with "possible" enrollment increase	2,120	2,278	158 (8.8)	7.5%
62 schools with "definite"(25), "probable"(19), or "possible"(18) enrollment increase	7,988	8,907	919 (14.8)	11.5%
The size of the increase as % of all 2005-06 class	17,004	17,923	919 (7.4)	5.4%

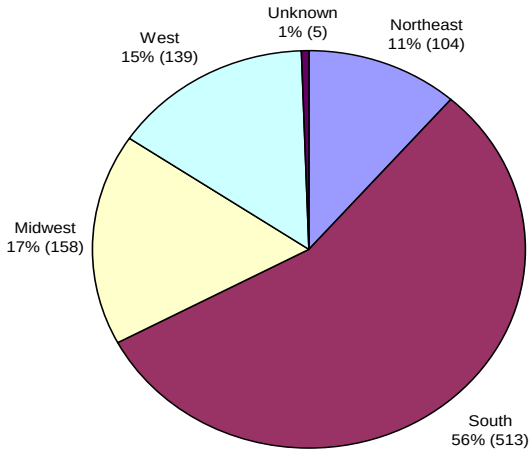
* The official 2005-06 matriculant counts from all 125 allopathic medical schools. Source: *AAMC* Applicants, Matriculants and Graduates, Applicants and Matriculants by School and Sex, 2005 (http://www.aamc.org/data/facts/2005/2005school.htm)

- Allopathic first year enrollment is expected to increase between 453 (2.7%) and 919 (5.4%) students from 2005-06 levels within the next 5 years.

Total Enrollment Increases by School Characteristics

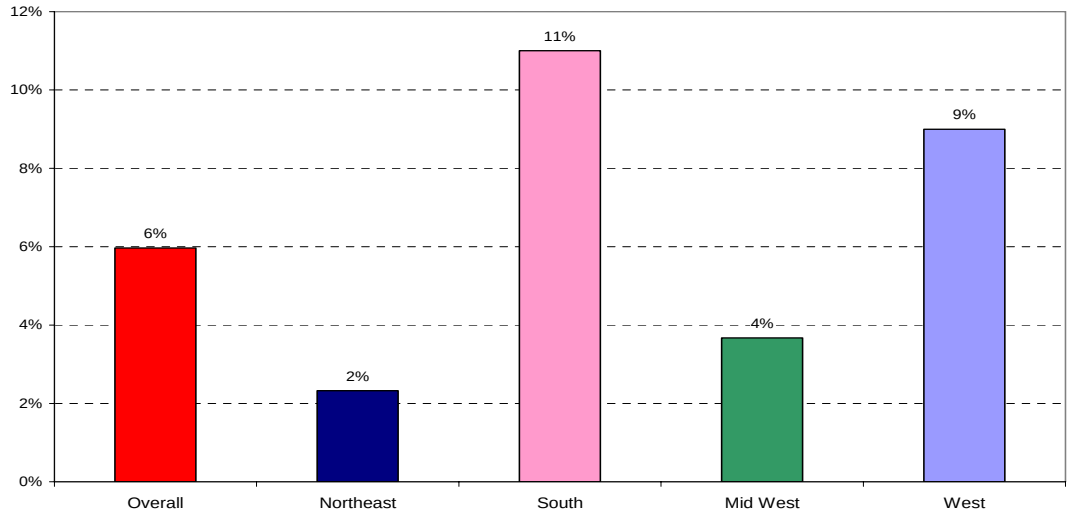
- **Region: Figure 6** examines the expected distribution of 919 additional first year positions by region form all respondents indicating a plan to change enrollment. Fifty-eight percent (513) of the likely enrollment increases are among schools located in the Southern US. An additional 17% (158) are expected within Midwestern schools and 15% (139) from those in the West. Schools in the Northeast are expected to expand first year enrollment by 104 slots, or 11% of the total expected increase.

Figure 6. Planned or Expected First-Year Enrolment Increase by Region, 2005/06 - 2010/11 (N=919)



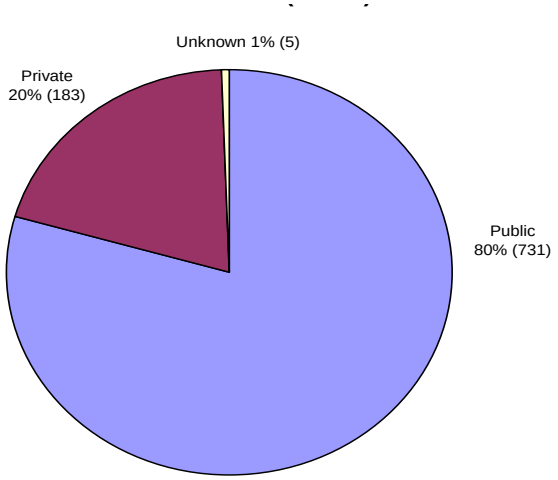
- First year enrollment is expected to change by 6% per school on average (See **Figure 7)**. The percentage growth is substantially higher among schools in the South (11%) and West (9%).

Figure 7. Percentage Increase in Planned or Expected First-Year Enrollment by Region, 2005/06 - 2010/11



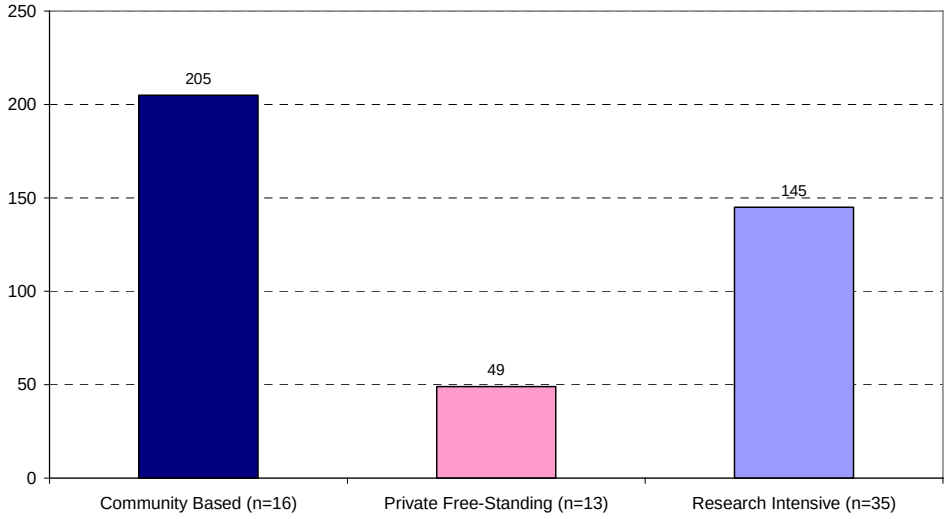
- **Public vs. Private:** As shown in **Figure 8**, a disproportionate share of growth (80%) in first year enrollment is expected to take place in public schools, which represent only 60% of US allopathic institutions. The average expected increase in first year enrollment within individual public schools is 7%, more than twice that of private schools (3%).

Figure 8. Planned or Expected First-Year Enrollment Increase by Ownership, 2005/06 - 2010/11 (N=919)



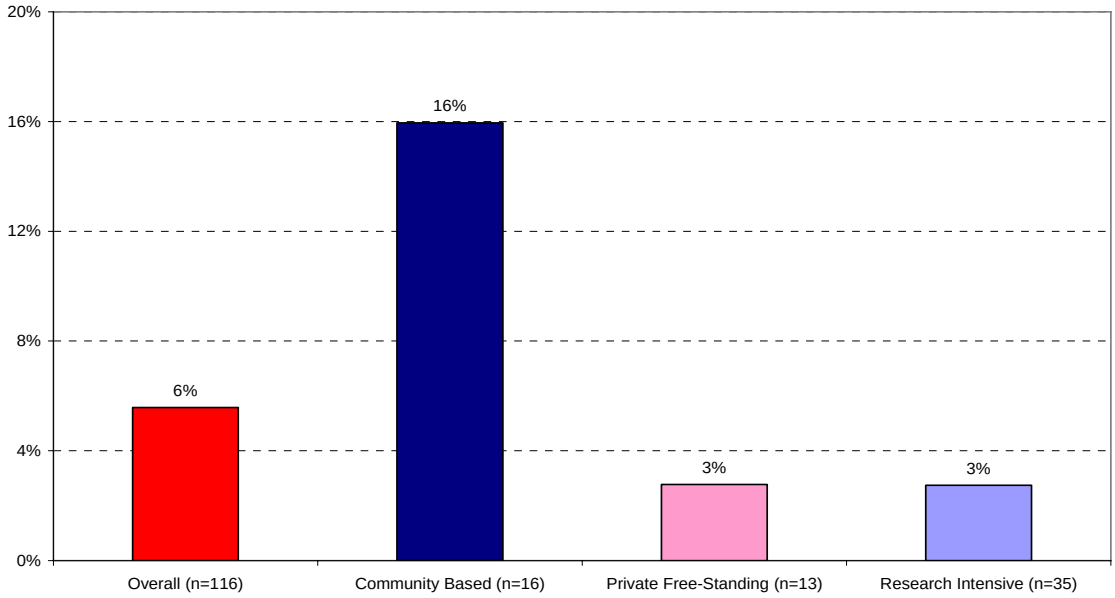
- **Community-Based, Private Freestanding, and Research-Intensive: Figure 9** shows expected growth by institutional type. Since these categories are neither mutually exclusive, the sum of the increases is not equal to 919. Sixteen community-based schools account for 22% (205) of the overall increase (average: 12.8 per school). The aggregate enrollment increase from 35 research-intensive schools is 145 (4.1 per school, 16% of the overall increase). Private freestanding schools are expected to grow by 49 total first year students (5.3%), averaging 3.8 slots per school.

Figure 9. Percentage Increase in Planned or Expected First-Year Enrollment by Ownership, 2005/06-2010/11



- As shown in **Figure 10**, community-based schools are, on average, expected to increase their enrollment by 16% over the next 5 years from their 2005-06 level. In contrast, private freestanding and research-intensive schools are only expected to increase first year enrollment by 3%.

Figure 10. Planned or Expected First-Year Enrollment by Institutional Type, 2005/06 - 2010/11



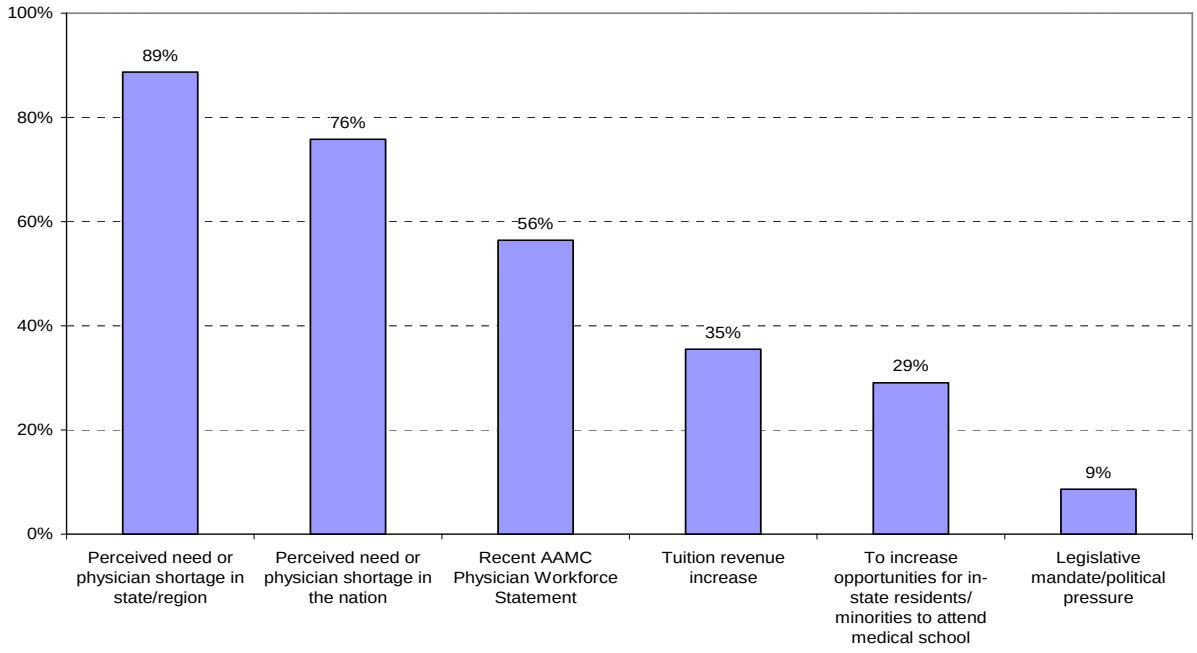
3. Approaches to Increasing Enrollment and Rationale for Expansion

The survey included questions on the reasons for proposed/planned enrollment increases and approaches being used to increase enrollment. Analysis is based on the information provided by the 62 schools that indicated "definite," "probable," or "possible" enrollment changes in the survey.

Rationale for Expansion

- As shown in **Figure 11**, the majority of respondents identified three reasons for enrollment increases: "perceived need or physician shortage in the state/region" (55 respondents, 89%), "perceived need or physician shortage in the nation" (47, 76%), and "recent AAMC Physician Workforce Statement" (35, 56%).

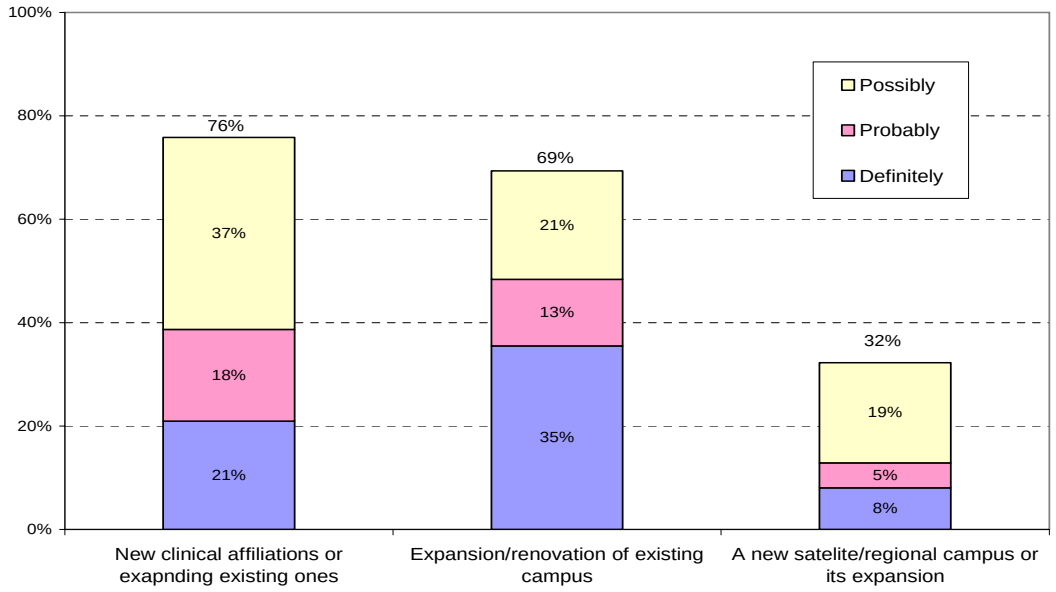
Figure 11. Reasons for Planned Enrollment Increase, 2005



Means to Accommodate Enrollment Expansion

- **Figure 12** presents approaches to expansion. Forty-seven schools (76%) planned to develop new clinical affiliations or expand existing sites; twenty-four schools consider this a definite or probable option. Forty schools (69%) indicated that they are expanding or renovating the existing campus. Twenty respondents (32%) are also considering creating a new satellite/regional campus or expanding an existing one and the majority considers this a possible option. However, based on the percentage of schools that consider these measures as definite or probable options, enrollment increases are more likely to be first accommodated by the expansion or renovation of existing facilities (48%), followed by the creation or expansion of clinical affiliations (37%), and finally by the creation or expansion of regional campuses (13%).

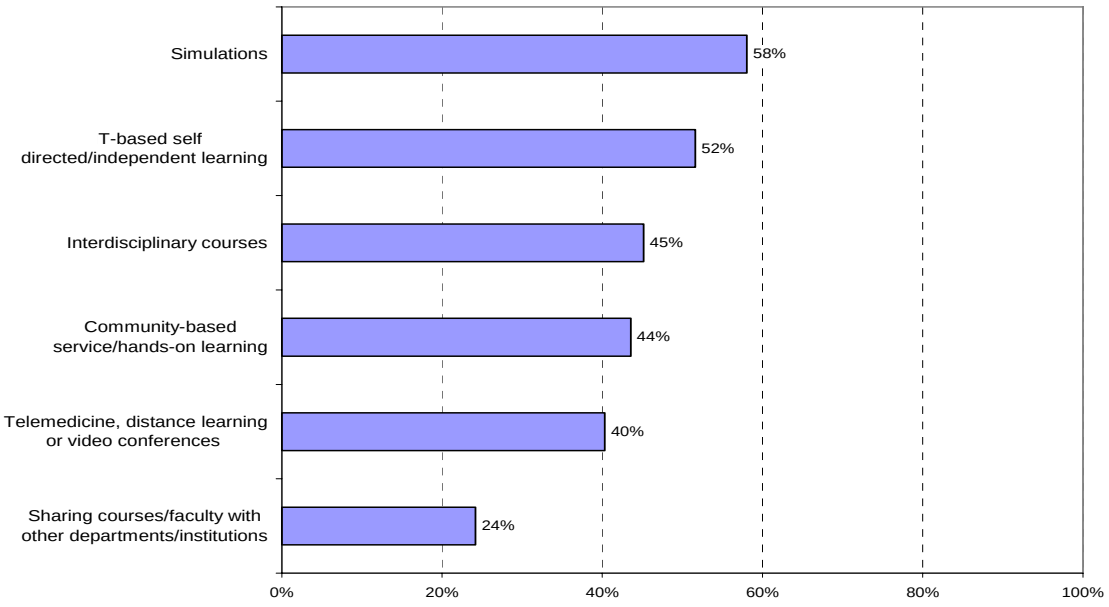
Figure 12. Distribution of Schools by Means for Enrollment Expansion and Likelihood of Adopting them, 2005



Use of Innovative Strategies in Medical Education

- Forty-two (68%) of 62 schools indicated that they would utilize innovations in medical education to accommodate enrollment expansion. As shown in **Figure 13**, over 50% of the respondents reported patient simulations (58%) and IT-based self-directed/independent learning (52%) as potential tools. The use of interdisciplinary courses (45%), community-based services/hands-on learning (44%), telemedicine, distance-learning, and video-conferences (40%) were identified as potential measures by 40% or more of the respondents.

Figure 13. Distribution of Medical Innovations Considered for Accommodating Enrollment Expansion, 2005



Feasibility Analyses

- Forty-one (66%) of the 62 schools indicated that they had assessed the feasibility of enrollment expansion. In most cases, the studies were conducted by staff or faculty of the medical school or its home institution (39 respondents). Twenty-six schools (42%) reported that they had conducted financial analysis of the expansion. \

- Twenty-five schools (40%) indicated that funding for their planned or proposed enrollment expansions is available.

Target Populations in Relation to Enrollment Expansion

- Sixteen schools (26%) reported that their planned enrollment increases would be targeted to specific populations or communities. Eleven schools reported that they would seek to increase minority enrollment to increase physician diversity and other individuals who are more likely to provide care in underserved areas.

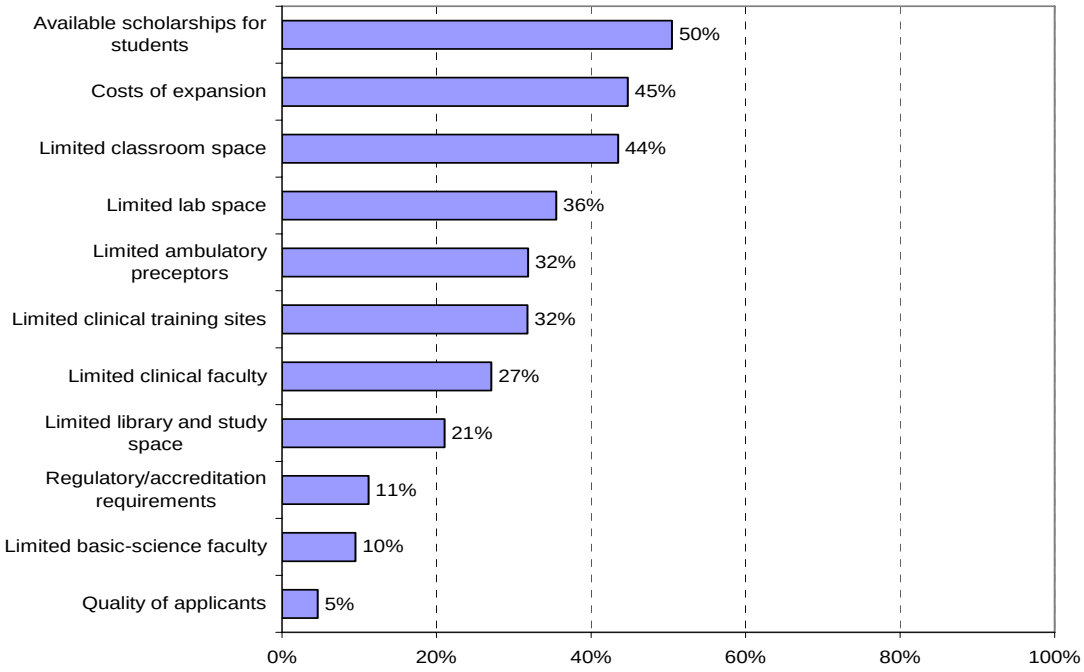
4. Barriers to Enrollment Expansion

To identify issues of concern to medical school Deans around expansion, the survey asked the respondents, regardless of their enrollment plans, to assess possible barriers to enrollment increases. Since not all the respondents provided valid responses, the number of respondents varies from 105 to 113.

Assessment of Potential Barriers: Overall

- Consistent with the 2004 survey, the top three "major" or "very significant" barriers identified by medical school Deans are "available scholarships for students" (50%), "costs of expansion" (45%) and "limited classroom space" (44%) (See **Figure 14**). These are followed by "limited lab space" (36%), "limited ambulatory preceptors" (32%), and "limited clinical training sites" (32%). In contrast, a small percentage of respondents identified "regulatory/accreditation requirements" (11%), "limited basic-science faculty" (10%), and "quality of applicants" (5%) as major or very significant barriers.

Figure 14. Barriers to Enrollment Expansion: Percentage of Schools Identifying them as "Major" or "Very Significant", 2005



- Medical schools identify financing and infrastructure as the most significant barriers to expansion. Although relatively few respondents indicated that the quality of applicants was a significant barrier, most Deans are concerned with the quality of applicant pool when enrollment targets are beyond 20% past the current level.

Assessment of Potential Barriers by School Characteristics

- Schools in the Northeast identified "limited clinical training sites" (54%), "limited ambulatory preceptors" (42%), "limited clinical faculty" (40%), and "limited library and study space" (32%) as major barriers to enrollment expansion.

- Among the schools in the Midwest, the single most significant barrier was "availability of scholarships"; 62% of the Midwestern schools indicated the issue was also a major barrier.

- The schools in the West also identified scholarships as the number-one barrier to enrollment increases (67%); they also identified "costs of expansion" (50%), "limited classroom space" (50%), and "limited lab space" (42%) as major problems.

- Schools in the South identified "costs of expansion" (56%) and "limited lab space" (51%) as the two most serious barriers to expansion. In addition, 17% of schools in the South identified "limited basic science faculty" as a major barrier, compared to 10% of all schools.

- Compared to private schools, a greater percentage of public schools identified "costs of expansion" (54% vs. 32% among private schools), "limited classroom space" (51% vs. 33%), and "limited lab space" (43% vs. 24%) as major barriers. For other issues, public and private schools are comparable in term of the percentage identifying them as "major" barriers.

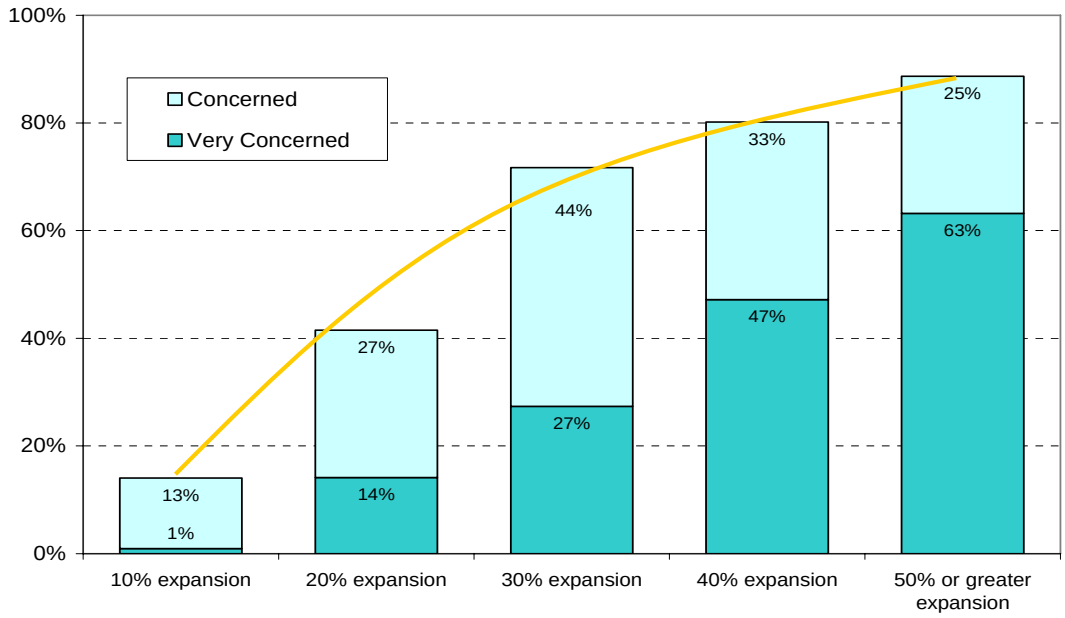
- In general, research-intensive schools were more likely to identify barriers to expansion as "major" than other schools, except for "regulation/accreditation requirement" (6% vs. the national average of 11%) and "limited basic-science faculty" (3% vs. 10%). In contrast, a lower percentage of community-based and freestanding schools identified most issues as major barriers, except for "costs of expansion" (73% of community-based schools) and "regulatory/ accreditation requirements" (33% of freestanding schools).

5. Adequacy of Applicant Pool

We asked all respondents, regardless of their enrollment plans, to assess the adequacy of the applicant pool to support different levels of enrollment increase in the 2005 survey.

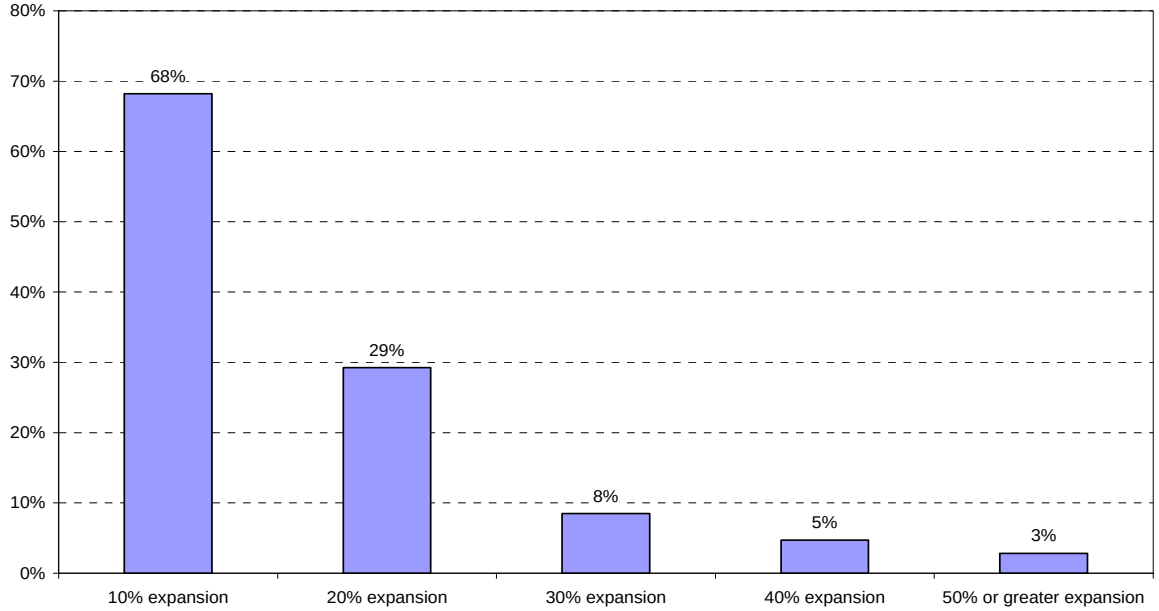
- As shown in **Figure 15**, the percentage of respondents who indicated that they would be "concerned" or "very concerned" with the adequacy of applicant pool increases linearly from 14% to 71% as expansion targets grow from 10% to 30%. Eighty-seven percent of respondents reported that they would be "concerned" or "very concerned" with the adequacy of the applicant pool if enrollment were to expand by 40%.

Figure 15. Percentage of Schools that Expressed Concerns with Adequacy of Applicant Pool by the Size of Enrollment Expansion, 2005



- **Figure 16** displays the percentage of Deans indicating that they would *not* be concerned with the adequacy of applicant pool at different levels of expansion. The percentage declines exponentially from 68% to 3% when expansion goals grow from 10% to 50%. Close to 70% of respondents are comfortable with increasing enrollment by 10% from the current level; less than 30% reported that they would be comfortable with 20% expansion. At the 30% or greater expansion, less than 10% of the respondents reported that they would not be concerned with the adequacy of applicant pool.

Figure 16. Percentage of Schools that are not Concerned with Adequacy of Applicant Pool by the Size of Enrollment Expansion, 2005



- Despite the findings above, it is noteworthy that, when responding to the list of potential barriers to expansion of enrollment, relatively few of the respondents (5%) indicated that the quality of applicants was a "major" or "significant" barrier.

Assessment of the Adequacy of Applicant Pool by School Characteristics

- Overall, a greater percentage of public schools reported that they would be concerned with the adequacy of applicant pool.

- The percentage of schools concerned with the adequacy of the applicant pool at different levels of expansion among community-based and research-intensive schools is similar to that of the overall observed. In contrast, the percentage of private freestanding schools that are concerned with the applicant pool increases almost linearly from about 20% at the 10% expansion level to over 80% at 50% expansion.

- Schools in the West were generally less concerned with the adequacy of applicant pool. The differentials are particularly large (17-8 percentage points) at the 20% and 30% of expansion.

6. Estimated Enrollment Increases from New Schools

Table 4 summarizes the new allopathic medical schools that have been considered or planned based on the information provided by the survey respondents and gathered from other public sources. In total, 15 new allopathic schools are under consideration in eight states and Puerto Rico (11 new schools and 4 regional campuses); it should also be noted that 10 new osteopathic schools in nine states are currently under consideration (9 new schools and one regional campus). While it is unlikely that all of these discussions will actually result in new schools, we estimate that five allopathic new school will be established by 2015.

Table 4. List of States where New Medical Schools or Branch Campuses are Planned or Considered

Allopathic Medical Schools: 15 New Medical Schools/Branch Campuses under Consideration • 11 new schools • 4 regional campus (excluding FSU regional campuses)	
State	Name of School(s)/campuses
Arizona	• Expanding the University of Arizona College of Medicine – Phoenix Campus from a two-year clinical program to a four-year medical education program[4]
California	• University of California, Riverside • University of California, Merced
Florida	• Florida International University • Florida Atlantic University • University of Central Florida • Florida State University Regional Campuses in Daytona Beach, Jacksonville, Fort Pierce and/or Fort Myers (Note: The development of these regional campuses are not aimed to increase enrollment[5]) • University of Miami - Boca Raton Campus[6]
Georgia	• A public medical college near the University of Georgia campus[7]
Michigan	• Michigan State University College of Medicine – Grand Rapids Campus[8]
New Jersey	• Converting a clinical campus in Camden into a 4-year medical school in the UMDNJ system[9] • Touro College seeking approval to operate a private allopathic medical school[10]
Oregon	• Oregon Health and Science University School of Medicine – Marquam Hill Campus[11]
Texas	• Texas Tech Health Sciences Center School of Medicine – El Paso[12] • University of Texas Health Science Center – Austin
Puerto Rico	• A medical school in San Juan Baptiste, Caguas
Osteopathic Medical Schools: 10 New Medical Schools/Branch Campuses under Consideration • 9 new schools (Alabama, Arizona, Colorado, Michigan, New York, Pennsylvania (2), Tennessee, Washington) • 1 new branch campus (Georgia)	
Allopathic and Osteopathic Combined: 25 New Medical Schools/Branch Campuses under Consideration • 20 new schools (11 allopathic and 9 osteopathic) • 5 new branch campuses (4 allopathic and 1 osteopathic)	

[4] http://www.arizonacentral.com/arizonarepublic/local/articles/0817medschool.html, http://www.phoenix.arizona.edu/About/News/Campus/index.htm, Arizona Board of Regents, Response to Senate Bill 1517 (Laws 2005, Chapter 330) The University of Arizona College of Medicine-Phoenix

[5] The development of FSU regional campuses is not directly related to the school's enrollment expansion. Instead of training medical students in large medical centers, FSU uses its satellite locations for providing clinical training. http://www.news-journalonline.com/NewsJournalOnline/News/Headlines/frtHEAD02020206.htm, http://msnbc.msn.com/id/10937082/, http://www.news-journalonline.com/NewsJournalOnline/News/Local/locEAST03020606.htm

[6] http://www.med.miami.edu/news/view.asp?id=497

[7] Simmons, K, "Second medical college in works; New use proposed for Navy property," *Atlanta Journal-Constitution*, January 20, 2006.

[8] Terlep S, "Colleges taking more students," *Detroit News*, November 25, 2005.

[9] http://www.aamc.org/newsroom/reporter/march05/newschools.htm, http://www.amsa.org/tnp/monitor.cfm

[10] Report of Touro Committee. http://www.state.nj.us/lps/ca/bme/touro/CommitteeReport.pdf (last accessed March 30, 2006)

[11] http://www.ohsu.edu/ohsuedu/newspub/releases/032806medexp.cfm, http://www.dailyemerald.com/vnews/display.v/ART/2006/02/05/43e6fb933abbf

[12] http://www.borderlandnews.com/apps/pbcs.dll/article?AID=/20050820/NEWS/508200327

Table 5 below summarizes the current status of the development of seven new schools and branch campuses that are in active discussion.

Table 5. Status of Selected Possible New Schools and Regional Campuses that are in Active Discussion

State	Description	Next Steps
Florida	In March 2006, the University of Central Florida (UCF)[13] received approval from the state's Board of Governors to establish a new medical school in Orlando, Florida. UCF presented the school as an opportunity for Florida to bring new businesses and jobs to the area and therefore increased tax revenue for the state. The school hopes to have its first class of 40 admitted as early as 2008.[14] UCF currently has $55 million in pledges from local supporters. Florida Hospital and Orlando Regional Care have agreed to establish 95 new residencies and will help cover salaries and office space for 50 full-time clinical faculty members.[15]	• Need to secure $200 million in funding and plan to submit a request to the state Legislature in 2007
Florida	Florida International University (FIU) also received approval from the state's Board of Governors in March 2006 to establish a new medical school in Miami. FIU also pitched the school as an economic opportunity for the state and projected the state would receive over $1 billion per year in economic benefits, mainly derived from spin-off businesses related to the new school.[16] The doctor shortage was also a part of the debate. The school hopes enroll its first class of 36 students in 2008 and increase enrollment to 120 per year by 2015.[17]	• Need to secure $250 million in funding and plan to submit a request to the state Legislature in 2007[18]
Oregon	Oregon Health and Science University (OHSU) is actively seeking to bring a four year medical campus to Eugene, Oregon, in partnership with PeaceHealth. The details of how the medical school program will be split between the Eugene campus and the main OHSU site are still up in the air and could include having students split time between the two campuses and/or having some students spend all four years in Eugene. Students could be on campus within two years, according to University Senior Vice President and Provost John Mosely.[19]	• Continued discussions with the University, OHSU, and PeaceHealth.

[13] "UCF labored, lobbied to win med school," March 25,2006, Orlando Sentinel
[14] ibid
[15] "UCF gets med school: University must seek funding from legislature state board," March 24, 2006, Orlando Sentinel
[16] "FIU study: Medical school would bring 2,448 jobs; A proposed medical school would add thousands of jobs if state officials decide to build one in South Florida, according to a study commissioned by Florida International University," March 14, 2006, Miami Herald
[17] "State board gives FIU approval for medical school," March 23, 2006, Miami Herald
[18] ibid.
[19] "UO considers new medical school: PeaceHealth and OHSU are involved in discussions," February 5, 2006, Oregon Daily Emerald.

Table 5. Status of Six Possible New Schools that are in Active Discussion (continued)

Arizona	The University of Arizona is in the process of developing a branch campus in Phoenix, with ambitions of training up to 150 students by 2015. UA has enough state funds to begin enrolling the initial 24 first-year students in its Phoenix campus in 2007. The city will give $25 million to support the downtown campus with a promise of $90 million. The additional funds will come from an independent nonprofit established by the city to create jobs in underserved areas. With the $115 million in funding from the city, the medical school should be able to expand to serve 150 medical students by the 2014-15 academic year.[20] The medical school will be part of a larger university campus that will include a College of Nursing, the College of Public Programs, and the University College.[21]	• Secure the additional funding to support the campus expansion through legislative requests, private fundraising and grants.
Michigan	Michigan State University (MSU) is exploring building a new medical school in Grand Rapids by 2010. Funding specifics haven't been finalized, however it has been agreed that half would come from the sale of bonds issued by the university and the other half would come from a capital campaign organized by MSU and economic development groups. Current plans are for the school to bring between 150-200 first- and second-year students to the campus.[22]	• Decide on the site for the school • Finalize funding arrangements and contracts with local hospitals
Georgia	The University of Georgia is in the beginning discussions about possibly creating a second public medical college on the campus of the Navy Supply Corps School in Athens (which is slated to be closed by 2009 as part of a military base realignment.) The school would be jointly operated by UGA and the Medical College of Georgia (which is at capacity and unable to further increase enrollment at its existing campus.) [23]	• A financial feasibility study needs to be done. • No timeline has been established
New Jersey	Touro College has submitted an application to the State Board of Governors to seek licensure approval to operate a private allopathic medical school in New Jersey. The business plan outlined in the application would start with a class of 40 and ultimately expand to 100.[24] Touro has established osteopathic schools in California and Nevada. Funding for the school would rely on tuition and other private (not state) funding, similarly to their Nevada osteopathic school. The State Board is scheduled to meet on this April 5, 2006.[25]	• Receive board approval

[20] "Arizona: Medical School Loan," October 25, 2005, The Bond Buyer.
[21] Bond vote is key to future of downtown: Phoenix counting on ASU campus," February 19, 2006, The Arizona Republic
[22] "MSU may build new medical school in Grand Rapids by 2010," November 16, 2005, Associated Press State and Local Wire.
[23] Second medical college in the works; New use proposed for Navy property," January 20, 2006, The Atlanta Journal-Constitution.
[24] Public Notice Of Consideration Of Application To Operate A School Of Medicince In New Jersey Filed By Touro College, with an opportunity provided to interested parties to submit data, views or arguments , orally or in writing. http://www.njconsumeraffairs.com/bme/touro/notice.pdf (last accessed March 30, 2006)
[25] Report of Touro Committee. http://www.state.nj.us/lps/ca/bme/touro/CommitteeReport.pdf (last accessed March 30, 2006)

Characteristics of States that are Planning or Considering New Schools or Branch Campuses

Table 6 shows some of the characteristics of the 14 states in which new medical schools or regional campuses have been planned or considered. Twelve of the 14 are among the fasting growing states in terms of state population increases between 2000 and 2004. The number of physicians per 100,000 state population under 'Active Physicians' shows that seven states have a number below the national average (245.6), suggesting a possible relative physician shortage in these states.

The table's section 'Medical School Enrollment' provides the total medical school enrollment (allopathic and osteopathic combined) and enrollment per-capita. The per-capita enrollment of all 10 states is below the national average (27.1 per 100,000 population). At the same time, eight of the 14 states are among the top 10 states with the most in-state applicants as shown (See 'In-state Medical School Applicants').

The table also presents the in-state applicant to enrollment ratio, representing the relative competitiveness of in-state medical school acceptance in the state. For example, a ratio of 0.5 indicates that there are two in-state applicants competing for one enrollment slot. Seven of the 14 states have a ratio below the national average (0.29). Five Western states (Arizona, Colorado, California, Oregon, and Washington) have particularly low ratios (<0.2), indicating that more than 5 in-state residents compete for a single medical school spot in these states.

Table 6. Characteristics of States where New MD/DO Schools/Regional Campuses are Planned or Considered

State	State Population and Change		Active Physicians (December, 2005)			Medical School Enrollment (MD & DO, 2004)			In-state Medical School Applicants (MD, 2005)			
	Population (July, 2004)	Rank in 2000-2004 Population Change	N	Per Capita	(rank)	N	Per Capita	(rank)	N	(rank)	In-state Enrollment/ Applicants	(rank)
United States	**293,655,404**		**721,076**	**245.6**		**79,512**	**27.1**		**703.6 (Avg.)**		**0.29**	
Alabama	4,530,182	30	8,811	**194.5**	(43)	903	**19.9**	(32)	479	(25)	0.42	(6)
Arizona	5,743,834	**5**	12,114	**210.9**	(33)	972	**16.9**	(37)	602	(22)	**0.18**	(36)
California	35,893,799	**1**	85,921	**239.4**	(20)	5,578	**15.5**	(39)	**4,288**	(1)	**0.19**	(35)
Colorado	4,601,403	**10**	11,527	250.5	(14)	537	**11.7**	(44)	609	(21)	**0.18**	(37)
Florida	17,397,161	**3**	42,906	246.6	(16)	2,432	**14.0**	(41)	**1,576**	(5)	0.30	(23)
Georgia	8,829,383	**4**	18,229	**206.5**	(38)	1,591	**18.0**	(35)	**1,141**	(10)	**0.27**	(29)
Michigan	10,112,620	**18**	24,610	**243.4**	(19)	2,756	27.3	(18)	**1,334**	(7)	0.29	(24)
New Jersey	8,698,879	**12**	24,370	280.2	(10)	1,665	**19.1**	(33)	**1,189**	(9)	**0.23**	(34)
New York	19,227,088	**14**	64,118	333.5	(3)	8,149	42.4	(7)	**2,705**	(3)	0.34	(16)
Oregon	3,594,586	**13**	9,117	253.6	(13)	446	**12.4**	(43)	387	(31)	**0.18**	(38)
Pennsylvania	12,406,292	24	34,924	281.5	(9)	6,308	50.8	(4)	**1,283**	(8)	0.30	(22)
Tennessee	5,900,962	**15**	13,790	**233.7**	(26)	1,635	27.7	(17)	638	(20)	0.34	(15)
Texas	22,490,022	**2**	44,014	**195.7**	(41)	5,329	**23.7**	(24)	**3,089**	(2)	0.37	(11)
Washington	6,203,788	**9**	15,515	250.1	(15)	782	**12.6**	(42)	670	(16)	**0.15**	(43)

Sources: US Census, *Annual Estimates of the Population for the United States and States, and for Puerto Rico: April 1, 2000 to July 1, 2005*; AMA, Physician MasterFile, 2005; AAMC, *FACTS: Medical School Applicants, Matriculants, and Graduates*, 2006; AACOM, *2004 Annual Report on Osteopathic Education*, 2005.

Estimated Enrollment Increases from the Development of New Schools

Based on available information regarding the development of new schools, we estimate that at least five new allopathic medical schools and regional campuses will be established between 2007-08 and 2015-16. Except for the 2 schools for which schedules on the first enrollment and its size are available, we developed the following two scenarios for the remaining 3 new schools: the first enrollment of students takes place in 2007-08, 2009-10, and 2011-12, respectively, at two different enrollment levels: 75 (a low estimate) and 100 (a high estimate). **Table 7** shows the estimated annual enrollment from new allopathic medical schools between 2007-08 and 1025-16. The expected additional enrollment from the five new schools ranges between 450 and 530 by 2015-16.

Table 7. Estimated Enrollment Increase from the Development of New Allopathic Schools, 2005/06 – 2015/16

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
High Estimate	124	204	344	360	484	508	524	530	530
Low Estimate	99	179	294	310	409	433	449	455	455

7. Expected U.S. Allopathic Medical School Enrollment Growth by 2015-16

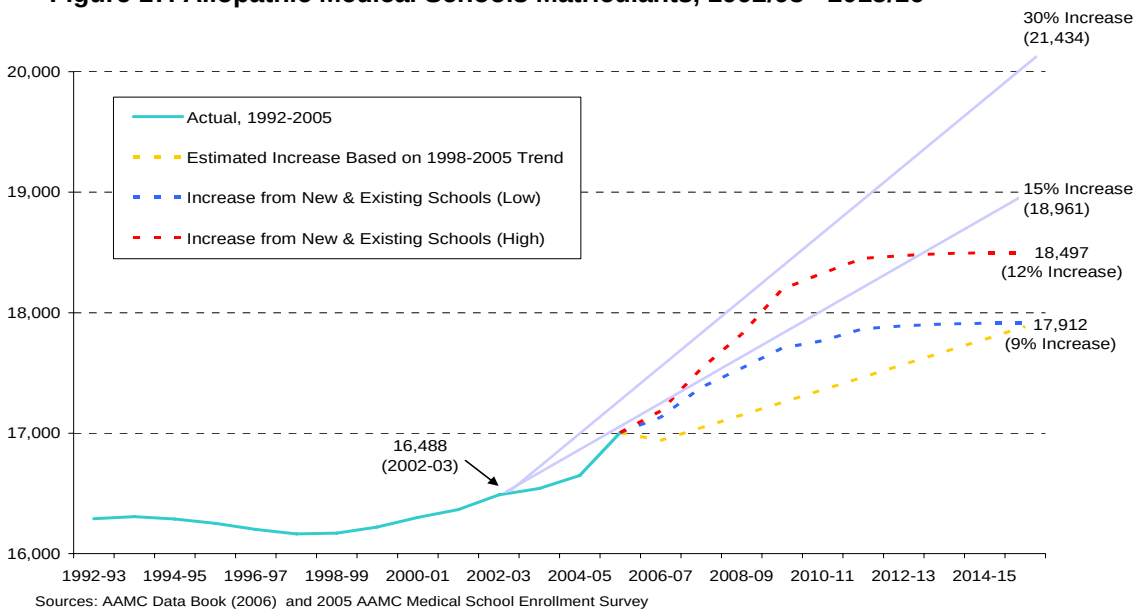
Table 8 combines estimates of enrollment increases from existing and new schools by 2015-16. The number of additional new entrants from existing schools is likely to be between 450 and 920 by 2010-11. Combined with the increase from likely new schools (between 450 and 530 by 2015-16), a total enrollment increase of 900 to 1,450 students by 2015-16 is likely. This represents a 5.3% to 8.5% increase in the overall enrollment from the 2005-06 level or an 8.7% to 12.2% increase from the 2002-03 level (16,448). **Figure 17** shows the actual and estimated allopathic school matriculants between 1992-93 and 2015-16.

Table 8. Estimated Enrollment Increase by 2010-11 from Expansion of the Existing Schools and Creation of New Schools

	2005-06 Entrants	Enrollment Increase, 2005/06-2015/16			2015-16 Entrants (% increase)	Increase from 2002-03 level (16,488) (% increase)
		Existing Schools	New Schools	Total		
High Estimate	17,004	953*	530	1,449	18,497 (8.5%)	2,009 (12.2%)
Low Estimate	17,004	453	455	908	17,912 (5.3%)	1,424 (8.7%)

*The number includes the announced enrollment increase of 44 from one of the schools that did not participated in the survey. We considered the increase as "possible", and therefore the increase is not reflected in the low estimate.

Figure 17. Allopathic Medical Schools Matriculants, 1992/93 - 2015/16



Sources: AAMC Data Book (2006) and 2005 AAMC Medical School Enrollment Survey

- Even under the most optimistic scenario, efforts to expand enrollment will not meet the 15% increase recommended by the AAMC.

8. AAMC's Roles, Activities and Services for Medical School Expansion

One of the new questions in the 2005 survey asked respondents how AAMC could assist the Deans in their efforts to expand enrollment. **Table 9** summarizes the information obtained from 61 respondents who provided feedback. These responses are broadly divided into two categories: 1) information dissemination through analyses related to enrollment expansion, and 2) advocacy activities in support of enrollment expansion.

Table 9. Comments from the 2005 Survey Respondents Regarding AAMC's Roles, Activities, and Services for Medical School Enrollment Expansion

Services/Roles	Activities
Data/Studies	*1. Enrollment Expansion Studies (N=20)*
	Justify and explain the need for enrollment expansion and the size of expansion (N=7)
	Analyze the size of potential applicant pool in conjunction with applicant quality and increasing representation of minority applicants (N=3)
	Provide consulting services or informational/technical assistance necessary for studying enrollment expansion (N=7)
	Develop best practices and benchmark statistics for enrollment expansion (N=3)
	2. Physician Manpower Studies (N=8)
	Assess physician workforce needs at the national and state levels (N=5)
	Study issues related to physician practice patterns (N=3)
	3. Financial Analyses (N=13)
	Identify and analyze costs associated with medical schools expansion (N=4)
	Identify potential sources of funds for covering medical education, including financial assistance to medical students, related to enrollment expansion (N=9)
Policy/Advocacy	Identify institutional incentives for enrollment expansion and work with institutions' leaders (N=3)
	Emphasize state and local officials the importance of medical education and seek support for increasing appropriations to accommodate increased enrollment (N=3)
	Advocate and develop for federally-funded resources to support medical education (N=2)
	Work with federal agencies (such as NIH and CMS) to maintain and increase federal funds to academic medical centers to accommodate the increase in residency slots and teaching staff (N=4).
	Work with LCME to develop clear guidelines as to the relationship between institutional resources and class size to facilitate enrollment expansion and increased training slots (N=3)

Conclusion

U.S. medical schools are responding to reported shortages and the call for an increase in enrollment. As of fall 2005, over 40% of allopathic schools were planning to increase their enrollment in the coming 5 years or have done so since 2000. While current efforts are encouraging, they are unlikely to achieve the 15% increase recommended by the AAMC and the 3,000 graduates per year recommended by COGME. Since the AAMC and COGME recommendations both are relatively modest in that they do not suggest that all future increases in demand be met by an increase in new physicians, the fact that current plans do not even meet the current recommended increase is of concern.

In addition, the recommended increase in U.S. medical graduates to meet future needs assumes a continuation in the number of International Medical Graduates (IMGs) entering into the US health care system, currently more than 6,000 per year. However, in the absence of an increase in funding for graduate medical education, teaching hospitals may decide not to increase the number of residency positions. If this happens, the increase in the number of U.S. medical school graduates could lead to a decrease in IMGs, thwarting the effort to increase the supply of physicians to meet future health care needs.

Phasing in the increased number of new physicians so that there are 3,000 additional graduates per year by 2015 will only produce about 30,000 additional practicing physicians by 2020[26]. This is far less than the demand under most of the scenarios considered by COGME and far less than the 200,000-physician shortfall projected by some researchers[27]. All of these estimates also assume a continuation of the current high levels of IMGs that is not certain given a variety of international developments as well as GME financing policies. If the annual number of IMGs were to be reduced, then the need for additional U.S. medical school graduates will be even greater.

While there are many uncertainties in physician workforce planning, the number of new U.S. medical school graduates is one of the few key variables that can be estimated 10 years in advance with some confidence. Annual monitoring of medical school plans will help inform continuing efforts to assess of the nation's future workforce supply and needs.

The AAMC Center for Workforce Studies intends to survey medical schools annually to track current plans and to continually update the forecasts for the number of US medical school graduates in the coming years.

[26] Council on Graduate Medical Education, 2005
[27] R. A. Cooper, 2004 "Weighing the Evidence for Expanding Physician Supply", *Annals of Internal Medicine* 141 (9): 705-714.

Appendix I: Survey Instrument

2005 Survey of Medical School Enrollment Plans

09/14/05

The information that you provide will help us assess the future supply of physicians in the nation. Please be assured that your responses will remain confidential, and that reports derived from the survey will not identify you or your institution. If you would like to fill out the survey on-line, please go to: http://www.surveymonkey.com/s.asp?u=875451275181. Otherwise complete the survey and fax it to:

Edward Salsberg
(202) 828-1125 (Fax)
(202) 828-0415 (Phone)
Association of American Medical Colleges
2450 N Street, NW
Washington DC 20037

1. What is the <u>first-year enrollment</u> (excluding those who are repeating) at your medical school for the 2005-06 academic year? _____

2. How likely is it that the first-year enrollment will <u>change</u> from the 2005-06 level in the next 5 years?

_ Definitely __ Probably __ Possibly | __ Probably not __ Definitely not __ Not certain

→ *Skip toQ4*

3. Please indicate expected or likely <u>first-year enrollment</u> (excluding those who are repeating) to your medical school for the next 5 academic years.

Academic Year	2006-07	2007-08	2008-09	2009-10	2010-11
First-year enrollment	_____	_____	_____	_____	_____

4. If an <u>increase</u> in the first-year enrollment is planned, probable or possible over the next 5 years or was incurred in the past 2 years at your medical school, please answer the following questions. Otherwise, skip to Q5 on page 2.

a. What options is/was your school considering to accommodate the expansion?

	Definitely	Probably	Possibly	Probably not	Definitely not	Not certain
Expansion of existing campus	____	____	____	____	____	____
New clinical affiliations	____	____	____	____	____	____
A new satellite/regional campus	____	____	____	____	____	____
Other, specify:_____	____	____	____	____	____	____

b. Why are/were you increasing or considering increasing enrollment? (Check all that apply)

__ Perceived need or physician shortage in state/region
__ Perceived need or physician shortage in the nation
__ Legislative mandate
__ To increase opportunities for in-state residents to attend medical school
__ Tuition revenue increase
__ Recent AAMC Physician Workforce Statement
__Other(s) → Please specify: _____

c. Is/was funding available for the expansion?

__ Yes → **How much funding is/was available?** Public: $_____
__ No Private: $_____

d. Would an increase in enrollment be targeted to specific population groups or community?

__ Yes → Please describe: _____
__ No

e. Has there been an assessment/study of the feasibility or cost/benefit of the expansion?

__ Yes →
__ No

Who conducted the assessment/study? (Check all that apply)
__ Medical school staff
__ State agency
__ Private consultants
Other, specify:

f. Has there been a financial analysis of the cost of the expansion?

__ Yes →
__ No

What is/was the estimated cost of the expansion? Total: $_____
Per additional student: $_____

g. Are/were you considering innovations in medical education related to the expansion?

__ Yes →
__ No

Check all the options that you are/were considering to adopt.
__ IT-based self-directed/independent learning
__ Simulations
__ Telemedicine, distance learning, or video conferences
__ Community-based service/hands-on learning
__ Interdisciplinary courses
__ Sharing courses/faculty with other departments/institutions
Other, specify:

5. On a scale of 1 to 5, with 1 being "Not a problem" and 5 being a "Very significant problem", please rate how much of a problem the following items would be to expanding enrollment at <u>your</u> medical school.

	Not a problem 1	Small problem 2	Moderate problem 3	Major Problem 4	Very significant problem 5	Don't know
Limited classroom space	____	____	____	____	____	____
Limited lab space	____	____	____	____	____	____
Limited library and study space	____	____	____	____	____	____
Limited clinical training sites	____	____	____	____	____	____
Limited clinical faculty	____	____	____	____	____	____
Limited basic science faculty	____	____	____	____	____	____
Limited ambulatory preceptors	____	____	____	____	____	____
Costs of expansion	____	____	____	____	____	____
Available scholarships for students	____	____	____	____	____	____
Regulatory or accreditation requirements	____	____	____	____	____	____
Quality of applicants	____	____	____	____	____	____
Other, Specify: _____	____	____	____	____	____	____

6. Please rate how concerned you would be with the adequacy/quality of the <u>overall</u> applicant pool to support an expansion of your medical school of the amount indicated.

% expansion in enrollment slots	Not concerned at all 1	2	Of concern 3	4	Very concerned 5	Don't know
5%	____	____	____	____	____	____
10%	____	____	____	____	____	____
20%	____	____	____	____	____	____
30%	____	____	____	____	____	____
40 %	____	____	____	____	____	____
50% or greater	____	____	____	____	____	____

7. If there were a national policy consensus recommending a reduction in the number of international medical graduates entering the US health care system, would you consider expanding your enrollment beyond that which is already planned or being considered?

__ Definitely __ Probably __ Probably not __ Definitely not __ Not certain

8. What roles, activities or services would you like to see from AAMC related to assisting medical schools to determine whether or how they change their enrollment?

9. Do you know of any new medical schools in your state that are under development, being planned or under consideration? If so, please indicate below.

10. Any additional comments on medical school enrollment plans and AAMC.

Please provide your contact information if we need to contact you for data verification:

Name: _____ Phone: _____

School: _____

Thank you very much for your participation!

For additional information or questions, please contact Edward Salsberg, AAMC Center for Workforce Studies at (202) 828-0415 or by email at: esalsberg@aamc.org

Appendix II. Summary of Comments Regarding AAMC's Roles, Activities and Services for Medical School Expansion

Data/Studies

Enrollment Expansion Studies (N=20)

Justify and explain the need for enrollment expansion and the size of expansion. (N=7)

- Lay out reasons with documentation for class expansion
- Provide a clear explanation and justification of any proposed expansion plans, linked to an overall set of national objectives.
- A clear statement of the % that AAMC believes enrollment should be increased by.
- National and regional data to support or reverse out planned enrollment targets
- Data analysis (support) to determine appropriate enrollment limits
- We conducted a systematic, rigorous, data-based assessment before reducing class size 6 years ago and in recently affirming the college's intention to maintain current class size. We would expect the AAMC to recommend the same process to all medical schools and to apply the same standard at the national level as data is aggregated and reported.

Analyze the size of potential applicant pool in conjunction with the applicant quality and the increasing representation of minority applicants (N=3)

- Study regarding size of pool and issues related to "new enrollee" pool you could go to maintain the quality with "quantity"
- Identifying and effecting incentives to encourage underrepresented minorities to enter medicine
- Projections on applicant pool

Provide medical schools with consulting services or information or technical assistance necessary for studying enrollment expansion through benchmarking and study templates, etc. (N=7)

- Consult service to help determine needs, resources and cash.
- Help with planning, cost estimates and sharing information from other institutions expanding class size. Curriculum innovations to incorporate in class expansion.
- Definition of benchmarks upon which the determination of feasibility could be assessed by the School
- Template for a feasibility study that could be adapted to each school.
- Presenting statistics, policy, etc.
- Workshop on cost/benefit analysis
- Visits and analysis of needs with medical school staff

Develop best practices or benchmark statistics for enrollment expansion (N=3)

- AAMC to communicate "best practices" with regard to the expansion, particularly as regards innovative teaching methods to facilitate?
- Information made available of those schools who are successfully expanding
- Best practices.

Physician Manpower Studies (N=8)

Assess physician workforce needs at the national or state levels (N=5)

- Better data regarding health care needs nationally and by state
- Impact on meeting health care needs of: (1) increasing medical school class sizes, (2) changes in residency/fellowship programs (type, location, who fills positions), (3) practice issues (tort reform, fixing the badly broken physician remuneration system).

Study issues related to physician practice patterns (N=3)

- Long-term tracking data of where graduates from a school end up practicing 5-10 years after graduation
- A task force will need to [be] organized and charged with reviewing the physician workforce over the next 15-20 years. This group should question whether today's physician might be replaceable with a different type of non-physician provider. This could possible change the analysis of needed workforce dramatically.
- Impact of more women in medicine.

Financial Analyses

Identify and analyze costs associated with medical schools expansion (N=4)

- Compilation of costs incurred by medical schools who have already undertaken expansion, especially those who have established geographically separate sites to accommodate the increased needs for clinical teaching.
- Greater clarity regarding cost of doing this. Stakeholders with an interest in increased class size need to understand this better.
- Guidelines for the resources needed to expand and a recommended sequence of events needed to implement an expansion.

- Analysis of the incremental cost estimations for new students and something to support how new residency slots would be funded
- To a large extent, our inability to increase our enrollment is due to the considerable expense involved in educating medical students. A discussion of ways to educate medical students less expensively, without hurting educational outcomes, would be helpful.

Identify potential sources of funds for covering medical education due to enrollment expansion and for providing financial assistance to medical students (N=9)

- Website devoted to grant opportunities for School of Medicine expansion
- Loan repayment programs for primary care physicians
- Website solely for scholarship opportunities
- Tuition forgiveness through government programs.
- Scholarships and Financial Aid
- Scholarships- updated information, links
- Identify and implement strategies to reduce medical student indebtedness.
- Lowered cost to student, additional funding, scholarships.
- Recommendations for external funding to support expansion of the class.

Policy/Advocacy

Identify institutional incentives for enrollment expansion and work with institutions' authorities (N=3)

- Incentives to increase enrollment to meet 'manpower' demands of future.
- Ascertain incentives to the institutions' authorities
- Helping assure the additional tuition income was used to benefit the medical school.

Emphasize the importance of medical education to state and local officials and seek support for increasing appropriations to accommodate increased enrollment (N=3)

- Given the projected increases in needs for health among not only the currently uninsured and geriatric patients, but increasingly among the middle class as well, AAMC's role as an advocate for increasing the number of physicians is important to raise the issue above the state level.
- Continue efforts to emphasize the importance of this effort. Very helpful with local legislators, etc.
- Influence state governments to increase appropriations to accommodate increased enrollment. State supported scholarships would help. Elimination of out-of state tuition fees would definitely help (university needs to be convinced of this).

Advocate and develop for federally-funded resources to support medical education (N=2)

- Development of federally based resources to support medical education.
- Advocate for federal funds to support costs, otherwise school-based issues and problems prevail.

Work closely with federal agencies (such as NIH and CMS) to maintain and increase federal funds to academic medical centers to accommodate the increase in residency slots and medical teaching staff (N=4).

- The size of teaching faculty would have to increase in order to accommodate an increased class size. AAMC would have to continue to address the threats to the AMC finances (decreasing NIH budget, Medicaid, Medicare reimbursements, etc.)
- availability of residency positions
- Create a task force to look at how to address the shortfall in the US between number of graduates from allopathic medical schools each year and number of PGY1 slots.
- Increasing resident positions with funding form CMS and insurers

Work with LCME to develop clear guidelines as to the relationship between institutional resources and class size to facilitate enrollment expansion and increased training slots (N=3)

- AAMC needs to have the LCME state a policy on the relation between resources and number of students. Their current 'policy' is undefined and arbitrary. The lack of better guidelines makes planning for expansion more difficult.
- Working with LCME in addressing some standards a limited role
- The AAMC can also work closely with the LCME should further expansion in training slots be required.

Other

- Changes occurring in enrollment and planning in the DO Schools
- Identify faculty effort for teaching both basic sciences and clinical curriculum.
- Recruiting information- best practices, updated information, links

Appendix III: US Allopathic Medical School by Institutional Type

Community Based (17)

East Tennessee State University James H. Quillen College of Medicine
Eastern Virginia Medical School
Joan C. Edwards School of Medicine at Marshall University
Mercer University School of Medicine
Michigan State University College of Human Medicine
Morehouse School of Medicine
Northeastern Ohio Universities College of Medicine
Southern Illinois University School of Medicine
Texas Tech University Health Sciences Center School of Medicine
The Brody School of Medicine at East Carolina University
The Texas A & M University System Health Science Center College of Medicine
University of Hawaii at Manoa John A. Burns School of Medicine
University of Nevada School of Medicine
University of North Dakota School Medicine and Health Sciences
University of South Carolina School of Medicine
University of South Dakota School of Medicine
Wright State University School of Medicine

Private Freestanding (14)

Albany Medical College
Baylor College of Medicine
Chicago Medical School at Rosalind Franklin University of Medicine and Science
Eastern Virginia Medical School
Jefferson Medical College of Thomas Jefferson University
Loma Linda University School of Medicine
Mayo Medical School
Medical College of Wisconsin
Meharry Medical College School of Medicine
Morehouse School of Medicine
New York Medical College
Ponce School of Medicine
Rush Medical College of Rush University Medical Center
Universidad Central del Caribe School of Medicine

Research Intensive (40)

Albert Einstein College of Medicine of Yeshiva University
Baylor College of Medicine
Boston University School of Medicine
Case Western Reserve University School of Medicine
Columbia University College of Physicians & Surgeons
Cornell University Joan and Sanford I. Weill Medical College and Graduate School of Medical Sciences
Duke University School of Medicine
Emory University School of Medicine
Harvard Medical School
Indiana University School of Medicine
Johns Hopkins School of Medicine
Keck School of Medicine of the University of Southern California
Mount Sinai School of Medicine of New York University
New York University School of Medicine
Northwestern University The Feinberg School of Medicine
Oregon Health & Sciences University School of Medicine
Stanford University School of Medicine
University of Alabama School of Medicine
University of California, Los Angeles, Davie Geffen School of Medicine at UCLA
University of California, San Diego, School of Medicine
University of California, San Francisco, School of Medicine
University of Chicago Division of the Biological Sciences Pritzker School of Medicine
University of Colorado School of Medicine
University of Iowa Roy J. and Lucille A. Carver College of Medicine
University of Maryland School of Medicine
University of Michigan Medical School
University of Minnesota Medical School - Twin Cities
University of North Carolina at Chapel Hill School of Medicine
University of Pennsylvania School of Medicine
University of Pittsburgh School of Medicine
University of Rochester School of Medicine and Dentistry
University of Texas Medical Branch, University of Texas Medical School at Galveston
University of Texas Southwestern Medical Center at Dallas Southwestern Medical School
University of Virginia School of Medicine
University of Washington School of Medicine
University of Wisconsin Medical School
Vanderbilt University School of Medicine
Wake Forest University Health Sciences (School of Medicine)
Washington University School of Medicine
Yale University School of Medicine

Appendix IV. US Allopathic Medical Schools by Region and by Ownership

NORTHEAST (35)

Public (12)

New Jersey Medical School
Pennsylvania State University College of Medicine
Robert Wood Johnson Medical School
State University of New York Downstate Medical Center
State University of New York Upstate Medical University
Stony Brook University Health Sciences Center
The University of Vermont College of Medicine
Uniformed Services University of the Health Sciences F. Edward Hebert School of Medicine
University at Buffalo, State University of New York School of Medicine & Biomedical Sciences
University of Connecticut School of Medicine
University of Maryland School of Medicine
University of Massachusetts Medical School

Private (23)

Albany Medical College
Albert Einstein College of Medicine of Yeshiva University
Boston University School of Medicine
Brown Medical School
Columbia University College of Physicians and Surgeons
Dartmouth Medical School
Drexel University College of Medicine
George Washington University School of Medicine
Georgetown University School of Medicine
Harvard Medical School
Howard University College of Medicine
Jefferson Medical College of Thomas Jefferson University
Joan & Sanford I. Weill Medical College of Cornell University
John Hopkins University School of Medicine
Mount Sinai School of Medicine of New York University
New York Medical College
New York University School of Medicine
Temple University School of Medicine
Tufts University School of Medicine
University of Pennsylvania Health System
University of Pittsburgh School of Medicine
University of Rochester School of Medicine and Dentistry
Yale University School of Medicine

SOUTH (43)

Public (30)

East Tennessee State University James H. Quillen College of Medicine
Florida State University College of Medicine
Joan C. Edwards School of Medicine at Marshall University
Louisiana State University School of Medicine in New Orleans
Louisiana State University School of Medicine in Shreveport
Medical College of Georgia School of Medicine
Medical University of South Carolina College of Medicine
Texas Tech University Health Sciences Center
The Brody School of Medicine at East Carolina University
The Texas A & M University System Health Science Center College of Medicine
University of Alabama School of Medicine
University of Arkansas College of Medicine
University of Florida College of Medicine
University of Kentucky College of Medicine
University of Louisville School of Medicine
University of Mississippi School of Medicine
University of North Carolina at Chapel Hill School of Medicine
University of Oklahoma College of Medicine
University of Puerto Rico School of Medicine
University of South Alabama College of Medicine
University of South Carolina School of Medicine
University of South Florida College of Medicine
University of Tennessee Health Science Center
University of Texas Medical Branch at Galveston
University of Texas Medical School at Houston
University of Texas Medical School at San Antonio
University of Texas Southwestern Medial Center at Dallas Southwestern Medical School
University of Virginia School of Medicine
Virginia Commonwealth University School of Medicine
West Virginia University School of Medicine

Private (13)

Baylor College of Medicine
Duke University School of Medicine
Eastern Virginia Medical School of the Medical College of Hampton Roads
Emory University School of Medicine
Meharry Medical College School of Medicine
Mercer University School of Medicine
Morehouse School of Medicine
Ponce School of Medicine
Tulane University School of Medicine

SOUTH, Private (continued)
Universidad Central del Caribe School of Medicine
University of Miami School of Medicine
Vanderbilt University School of Medicine
Wake Forest University School of Medicine

MIDWEST (31)

Public (20)
Indiana University School of Medicine
Medical College of Ohio
Michigan State University College of Human Medicine
Northeastern Ohio Universities College of Medicine
Ohio State University College of Medicine and Public Health
Southern Illinois University School of Medicine
University of Cincinnati College of Medicine
University of Illinois College of Medicine
University of Iowa Roy J. and Lucille A. Carver College of Medicine
University of Kansas School of Medicine
University of Michigan Medical School
University of Minnesota Medical School – Twin Cities
University of Missouri-Columbia School of Medicine
University of Missouri-Kansas City School of Medicine
University of Nebraska College of Medicine
University of North Dakota School of Medicine and Health Sciences
University of South Dakota School of Medicine
University of Wisconsin Medical School
Wayne State University School of Medicine
Wright State University School of Medicine

Private (11)
Case Western Reserve University School of Medicine
Rosalind Franklin University of Medicine and Science/ The Chicago Medical School
Creighton University School of Medicine
Loyola University Chicago Stritch School of Medicine
Medical College of Wisconsin
Mayo Medical School

WEST (16)

Public (13)
University of Arizona College of Medicine
University of California, Davis, School of Medicine
University of California, Irvine, College of Medicine
David Geffen School of Medicine, UCLA
University of California, San Diego, School of Medicine
University of California, San Francisco, School of Medicine
University of Colorado Health Sciences Center
University of Hawaii John A. Burns School of Medicine
University of Nevada School of Medicine
University of New Mexico School of Medicine
Oregon Health & Science University School of Medicine
University of Washington School of Medicine
University of Utah School of Medicine

Private (3)
Loma Linda University School of Medicine
Keck School of Medicine of the University of Southern California
Stanford University School of Medicine