

# A Decade of Reports Calling for Change in Medical Education: What Do They Say?

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## Abstract

### Purpose

To review the recommendations of 15 U.S. and Canadian reports, published in the last decade, that call for significant change in medical education.

### Method

The author selected for review 15 reports published over the last ten years that emphasize general recommendations for change in medical education in the United States and Canada and that represent a broad spectrum of sources.

### Results

The purpose, methods, and content of each report are briefly described. The reports were selected because they address comprehensive change in medical education and have been recently published. The reports are categorized based on their inclusion of eight major themes: integrating the educational continuum, need for evaluation and research, new methods of financing, importance of leadership, emphasis on social accountability, use of new technology in education and medical practice, alignment with changes in the health care delivery system, and

future directions in the health care workforce. The author provides an overview and synthesis of these reports and reveals a number of common themes to help medical educators implement changes in medical education in the next decade and beyond.

### Conclusions

There is remarkable congruence in the recommendations of the 15 reports. The author proposes that the problems facing contemporary medical education have been thoroughly identified and that it is time to set forth on meaningful new paths; many hopeful possibilities exist.

Every decade brings calls for improvement in medical education. These past ten years have produced a significant number of reports calling for medical education reform in the United States and Canada. We are experiencing the 100-year echo of 1901–1910, the decade of medical education reform that culminated in the Carnegie Foundation report by Abraham Flexner.<sup>1</sup> Calls for change have come from national professional organizations, foundations, and advocacy groups. Reports have been produced by consensus panel, advisory groups, and individual authors. Some efforts have resulted in ongoing work, with subsequent reports responding to and building upon the initial recommendations.

In addition to reports offering general recommendations for change in medical education, a number of content-specific reports have been developed on a variety of topics. The Liaison Committee for Medical Education (LCME) continues to expand the general requirements for

medical school accreditation, in part as a response to the recommendations for changing undergraduate medical education. The LCME is the recognized accrediting authority for medical education programs leading to the MD degree in U.S. and Canadian medical schools and is co-sponsored by the Association of American Medical Colleges and the American Medical Association. All medical schools must now meet 140 specific standards determined by the LCME to maintain their accreditation standing.<sup>2</sup>

In this report, I review the recommendations of a selected group of U.S. and Canadian calls for medical education reform from the past decade (2001–2010), provide brief summaries of the reports, and identify common themes in the recommendations across reports. The goal is to provide an overview and synthesis of themes to help medical educators address these important calls for change in the next decade and beyond.

### Method

I selected for review 15 reports emphasizing general recommendations for change in medical education in the United States and Canada. The reports

represent a broad spectrum of sources: professional associations (the Association of American Medical Colleges,<sup>3–5</sup> the American Medical Association,<sup>6</sup> the Association of Faculties of Medicine in Canada<sup>7</sup>), foundations (Commonwealth Fund,<sup>8,9</sup> Josiah Macy Jr. Foundation,<sup>10–12</sup> Carnegie Foundation for the Advancement of Teaching<sup>13</sup>), consensus reports (the Institute of Medicine,<sup>14,15</sup> the Blue Ridge Academic Health Group<sup>16</sup>), and a series of reports from a U.S.-government-funded demonstration project, Undergraduate Medical Education for the 21<sup>st</sup> Century.<sup>17</sup> I selected reports that have been widely discussed and are frequently referred to when medical education leaders are asked about new directions for medical education. I also included four reports published in the past year to include the most recent recommendations. I did not include reports that considered more specific areas of change, such as suggested reforms addressing quality and patient safety or public health and medical education. I also did not select reports that focused primarily on graduate medical education reform. The reports all reflect on the heritage of medical education change associated with the Flexner Report a century ago.

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## Results

I categorized the content of the selected reports based on their inclusion (or not) of eight major themes: integrating the educational continuum, need for evaluation and research, new methods of financing, importance of leadership, emphasis on social accountability, use of new technology in education and medical practice, alignment with changes in the health care delivery system and future directions in the health care workforce. The eight themes were developed by the National Advisory Panel for the conference called “New Horizons in Medical Education: A Second Century of Achievement” ([www.aamc.org/meetings/newhorizons/2010/start.htm](http://www.aamc.org/meetings/newhorizons/2010/start.htm)), jointly sponsored by the American Medical Association (AMA) and the Association of American Medical Colleges (AAMC). The conference will be held in September 2010 in Washington, D.C, just after this issue of *Academic Medicine* is published. These themes will be used during the conference to focus recommendations for future directions in medical education. The eight themes overlap in content to some degree and aren’t distinguished by a bright line in some reports. A report was categorized as including a theme if the topic is listed as one of the major recommendations or is extensively discussed in the body of the report. Later in this report, I summarize how the 15 reports’ recommendations and other statements embody the eight themes.

### Descriptions of reports

*The Education of Medical Students: Ten Stories of Curriculum Change.*<sup>3</sup> Supported by the Milbank Memorial Fund, the AAMC convened a group of authors to describe changes in medical education occurring in ten medical schools. The schools are used as exemplars to discuss general trends across and unmet needs within medical school curricula. The report, published in 2000, assesses responses of medical schools to changing expectations of the educational needs for physicians in the 21st century. Specific recommendations are not developed, but an extensive discussion of ongoing challenges of curricular reform and an analysis of the innovations at the ten schools is provided.

The report stresses that the majority of curricular innovations at the schools occurred within the first two years of

medical student education. The use of innovative pedagogical strategies and the importance of strong leadership committed to educational reform are discussed. Pressures on medical education from changes in health care delivery are extensively reviewed. Suggestions include the need to extend curricular innovations into clinical training, with emphasis on more teaching located in ambulatory settings. The importance of modeling professionalism and the skills of lifelong learning are emphasized. The report addresses the themes of the education continuum, leadership, social accountability, and trends in health care delivery.

*Training Tomorrow’s Doctors: The Medical Education Mission of Academic Health Centers.*<sup>8</sup> This report by the Commonwealth Fund Task Force on Academic Health Centers is the fifth in a series describing the interaction of health system change and the missions of academic health centers (AHCs). Representing universities, medical schools, health systems, and government, the 20 task force members and staff highlight strengths and weaknesses of AHCs in providing medical education for our future physicians.

Recommendations include the need for AHCs to support high-quality medical education as one of their highest priorities. The report acknowledges the challenge of clinical environments perceived to be unreceptive to medical education, variability in educational quality across institutions, and the need to train more physicians from underrepresented groups. The report remains optimistic that AHCs will continue to play a central leadership role in training physicians to provide high-quality medical care and engage in lifelong learning. Recommendations include adding new curricular content on disease prevention and health promotion, learning to work within teams of health care professionals, increasing efforts to recruit underrepresented minorities, and preparing physicians to care for increasingly diverse populations. The report emphasizes the need to support research on the costs and quality of medical education, the opportunity to use new educational technology in cost-effective ways, and the need for a comprehensive public strategy to address the added costs of providing medical

education in clinical care settings. The report addresses seven themes: the education continuum, evaluation/research, financing, leadership, social accountability, technology infrastructure, and trends in health care delivery.

*Academic Health Centers: Leading Change in the 21st Century.*<sup>14</sup> In 2003 the Institute of Medicine Committee on the Roles of Academic Health Centers in the 21st Century produced a report on the need for AHCs to adapt their core missions to continue to meet the public’s health care needs in the future. The report urges AHCs to provide leadership for reforming health professions education, to encourage teaching environments to model the delivery of health care, and to strive to improve health for populations and communities. New financing strategies, including a mix of public and private payers, are outlined calling for support of demonstration projects that model new clinical education and care delivery innovations. Demonstration projects should strive to enhance the use of technology in patient care, integrated decision making, and performance assessment and should address the continuum of medical education. Those who teach and conduct research on clinical education deserve more robust mechanisms for recognition and reward. AHCs should lead in addressing important social issues, such as reducing health disparities and responding to bioterrorism. The report addresses the themes of the education continuum, evaluation/research, financing, leadership, technology infrastructure, and trends in health care delivery.

*Reforming Medical Education: Urgent Priority for the Academic Health Center in the New Century.*<sup>16</sup> This report, produced by the Blue Ridge Academic Health Group in 2003, is the seventh in a series on the role of AHCs in improving the health care system. The Blue Ridge Group members—leaders of AHCs and experts in health policy and practice—meet annually for three days to address a selected topic. Members review existing literature, hear presentations from invited experts, and develop consensus reports based on discussion and analysis. The report’s major emphasis is on physician education, but a significant portion of the report includes discussion about and standards for health professions education, broadly defined.

Recommendations from the report are presented in five major areas: education must be an explicit priority of the leadership of AHCs; health professions schools must pioneer advances in knowledge concerning cognitive development, styles of learning, and education theory and practice; AHCs must improve support for faculty, resident, and volunteer educators; schools must develop and support an appropriate and consistent learning environment; and the regulatory framework for all phases of medical education must be streamlined. A wide range of specific suggestions are presented. AHCs are urged to redefine and reassert the role of health professions schools as centers of responsibility, authority, and leadership for the lifelong education and training of health professionals. Consideration of options to make training less lengthy and expensive while improving productivity, quality, and patient satisfaction is needed. Incorporating humanistic and social science disciplines in health profession is recommended. The report provides recommendations for medical education change in all eight thematic areas.

*Envisioning the Future of Academic Health Centers: Final Report of The Commonwealth Fund Task Force on Academic Health Centers.*<sup>9</sup> The final report of the Commonwealth Fund Task Force on Academic Health Centers, published in 2003, follows the 2002 report<sup>8</sup> on the education mission of AHCs. Emphasis is placed on the social mission of AHCs, including educating health professionals, providing highly specialized medical services, and serving as an important source of care for poor and uninsured patients. AHCs will be affected by trends in economic, social, and health care domains, including aging and diversifying populations, behavioral influences on health, health disparities, and globalization. Leadership is needed in developing applications for information technology, responding to community needs, and training future professionals in teamwork, accountability, and patient centeredness. Education should include curricula that emphasize lifelong learning, continuous improvement, measurement of performance, and culturally competent care. The report addresses the themes of the education continuum, financing, leadership, social accountability,

technology infrastructure, and trends in health care delivery.

*Report of the Ad Hoc Committee of Deans: Educating Doctors to Provide High Quality Medical Care: A Vision for Medical Education in the United States.*<sup>4</sup> Published two years after the AAMC established the Institute for Improving Medical Education, the 2004 Report of the Ad Hoc Committee of Deans outlines a vision for U.S. medical education that fosters high-quality medical care. The report states that clinical education has not kept pace with shifting patient demographics, health system changes, new practice realities, and the use of new technology. Linking the mission of the U.S. medical education system to service to society, the report outlines 34 properties of the ideal medical education system. Nineteen strategies are proposed for effecting medical education reform, including early clinical experiences in patient centered care settings, enhanced formative and summative assessment programs, opportunities for improved efficiency to avoid redundancy in the educational process, and incorporating new technology and learning resources at each stage of education. The major themes addressed by the report are the education continuum, leadership, social accountability, trends in health care delivery, and workforce.

*Undergraduate Medical Education for the 21st Century: A National Medical Education Project.*<sup>17</sup> A series of articles on the Undergraduate Medical Education for the 21<sup>st</sup> Century project was published in a January 2004 supplement of *Family Medicine*. This national medical education demonstration project was funded by the U.S. Health Resources and Services Administration through Title VII funds. Eighteen schools received a total of \$7.6 million in funding over a five-year period to develop model curricula in nine content areas representing contemporary trends in health care delivery. The articles in the supplement highlight common curricular content across schools and lessons learned. Strategies outlined to implement similar projects at additional medical schools include the need for the support of the dean and the administration to sustain faculty efforts. Essential components for successful curriculum innovation include robust communication strategies, curricular innovation designs incorporating

flexibility, creative approaches to faculty development, and physician role models able to validate the importance of new curricular content. The major themes that the report addresses are the education continuum, evaluation/research, financing, leadership, social accountability, trends in health care delivery, and workforce.

*Recommendations for Clinical Skills Curricula for Undergraduate Medical Education.*<sup>5</sup> This 2005 report contains the recommendations of the AAMC Task Force on Clinical Skills Teaching. Task force work began in 2003 and included representatives from the seven national core clerkship organizations, the Alliance for Clinical Education, and the American Academy on Physician and Patient. The report proposes a model undergraduate clinical curriculum intended to inspire educators on ways to teach core clinical skills competencies. A strong motivation for developing a common set of principles for teaching clinical skills in core clerkships was concern that opportunities to for students' clinical skills development was threatened by the fact that clinical teaching sites need to compete for economic viability in the contemporary health care market. The report addresses the themes of evaluation/research, technology infrastructure, trends in health care delivery, and workforce.

*Initiative to Transform Medical Education. Recommendations for Change in the System of Medical Education.*<sup>6</sup> The AMA created the Initiative to Transform Medical Education (ITME) in 2005 to promote excellence in patient care and implement reform in the medical education system across the continuum. Published in 2007, the ITME report outlines ten recommendations for innovation developed by a consensus of approximately 100 medical education leaders. Recommendations include apportioning more weight to interpersonal factors in the admission process, creating flexibility in the sequence of the medical education continuum, developing core competencies across the continuum in new content areas needed for practice in the evolving health care system, using new assessment and evaluation methods, providing faculty development in new content areas, ensuring the learning environment is conducive to the

development of professionalism, and supporting enhanced funding for medical education research and outcome evaluation. The AMA ITME continues work on implementation plans for these recommendations. The major themes in the report are the education continuum, evaluation/research, financing, technology infrastructure, social accountability, trends in health care delivery, and workforce.

*Revisiting the Medical School Educational Mission at a Time of Expansion.*<sup>10</sup> After reviewing five commissioned articles, approximately 35 invitees attended a three-day consensus conference sponsored by the Josiah Macy, Jr. Foundation. The theme of the 2009 conference report is the strong desire to better align medical education with societal needs and expectations. Attendees acknowledged that considerable progress has occurred in medical education pedagogy since the Flexner Report. Schools now incorporate techniques of problem-based and team learning, small-group discussions, and learning through simulation. However, developing new medical schools in recent years offers the opportunity to modify required curricula to include interprofessional, community-based education at the inception. Additional topics discussed in the report include concerns about growing medical student debt, the ongoing imbalance of racial and ethnic diversity among our students, and gaps between professionalism standards and actual behavior in present-day learning environments.

Recommendations include the importance of promoting strong institutional leadership for change, aligning the core missions of medical schools to meet the health care needs of the public, fostering professionalism, including opportunities for interprofessional education, producing a balanced workforce, implementing changes in admission processes, addressing increasing medical student debt, fostering innovation in curricular content and pedagogical approaches, and using new technology in education and health care. Faculty must assure a positive learning environment. Accrediting bodies should promote innovation across the continuum of medical education. An increase in federal funding for medical education is proposed, along with an

increase in the available positions with the National Health Service Corps. All eight major themes were addressed in this report.

*New and Developing Medical Schools: Motivating Factors, Major Challenges, Planning Strategies.*<sup>11</sup> Michael Whitcomb, MD, was commissioned by the Josiah Macy, Jr. Foundation to provide a follow-up report to the 2008 Macy conference on medical school mission at a time of expansion of the number of medical schools.<sup>10</sup> Whitcomb addresses the how and why of the 10 emerging new medical schools and branch campuses described in the report. He conducted interviews with leaders and key stakeholders at the schools to study the motivation, challenges, and responses of the featured schools. Whitcomb focuses on historic perspectives and lessons learned. No analysis of curricular content is provided, as the schools are in the first stages of development. The major themes in the report are financing, leadership, social accountability, trends in health care delivery, and workforce.

*Redesigning Continuing Education in Health Professions.*<sup>15</sup> This 2009 Institute of Medicine (IOM) report addresses issues of continuing professional education and the need for a comprehensive, well integrated system of continuing education (CE). Following earlier conferences calling for needed changes in CE, the report considers a range of options from supporting the status quo to fostering a coalition of existing CE groups to forming a national interprofessional continuing education institute. The report recommends creation of a private-public institute to foster collaboration among all stakeholders and to improve the nation's system of CE for all health professionals.

The following challenges are listed in the report: major flaws exist in current CE systems, including regulatory barriers; the scientific underpinning of CE is fragmented and underdeveloped; and CE should bring students of various health professions together to participate in tailored learning environments with an emphasis on team-based learning. A new comprehensive vision of professional development is described that supports lifelong professional learning. The major themes in the report are the education continuum, evaluation/research,

financing, leadership, social accountability, trends in health care delivery, and workforce.

*The Future of Medical Education in Canada. A Collective Vision of MD Education.*<sup>7</sup> This report is the culmination of a three-year process sponsored by the Association of Faculties of Medicine of Canada. Published in January 2010, the report answers the question: How can education programs leading to the MD degree best respond to society's evolving needs? The comprehensive process used to develop consensus involved multiple steps, including in-depth research of the report's issues, analysis and literature review, stakeholder interviews, meetings with national experts, a young leaders forum, and international consultation with medical education experts in five countries. Evidence-based priority areas were developed and recommendations were vetted through extensive consultation and engagement. Comment was provided through two national fora and meetings with representatives of the 17 Canadian faculties of medicine.

Recommendations, based on evidence and best practices, were developed in 10 major content areas: to foster medical leadership, address individual and community needs, enhance admission processes, build on the scientific basis of medicine, promote prevention and public health, address the hidden curriculum, diversify learning contexts, value generalism, advance inter- and intraprofessional practice, and adopt a competency-based and flexible approach to medical education.

Additional recommendations call for realigning accreditation standards, building capacity for change, increasing national collaboration, the improved use of technology, and enhanced faculty development. The association is planning to follow a similar procedure to produce recommendations for graduate and continuing medical education now that the undergraduate medical education report has been completed. The current report addresses the themes of evaluation/research, financing, leadership, social accountability, technology infrastructure, trends in health care delivery, and workforce.

*Who Will Provide Primary Care and How Will They Be Trained?*<sup>12</sup> In April 2010, the

Josiah Macy, Jr. Foundation published this report of the outcome of a consensus conference addressing the primary care needs of the U.S. population. The conference was attended by approximately 50 individuals representing a full spectrum of the multiple disciplines engaged in primary care: allopathic and osteopathic physicians, nurses, physician assistants, and others. The report begins with a literature review documenting a substantial shortage in primary care services in the United States, evidence that a strong primary care system is a basis for optimizing health in other countries, and the observation that the U.S. health care system has not developed a strong primary care sector.

The report's major conclusions suggest changing the way primary care is valued and integrated into the evolving health care system, reforming the educational model for training the primary care workforce of the future, and supporting strong leadership in primary care. Specific suggestions include financial incentives for innovative models of primary care delivery, removal of barriers in practice for nurse practitioners and physician assistant providers, investment in primary care information technology to enhance data sharing for quality improvement, support of known mechanisms to increase primary care careers, leadership development programs, and required interprofessional education experiences. The report addresses the themes of evaluation/research, financing, leadership, social accountability, technology infrastructure, trends in health care delivery, and workforce.

*Educating Physicians: A Call for Reform of Medical School and Residency.*<sup>13</sup> This book, published in June 2010 and produced by the Carnegie Foundation for the Advancement of Teaching, is a component in the foundation's Preparation for the Professions Project and marks the 100th anniversary of the foundation's sponsorship of the Flexner Report. Three authors led a research team visiting 11 medical schools and three teaching hospitals. During the visits they conducted interviews with focus groups and participated in clinical observations. The schools were selected to illustrate schools that are implementing interesting educational innovations, that represent a

variety of institutional types, and that are widely distributed geographically.

The content of the book is comprehensive, with strong emphasis on professional identity formation, the science of learning, and descriptive illustrations, including case studies and examples from individual schools. Recommendations for educators include using standardized learning outcomes and assessment of competencies, team learning with other health professionals, a stronger continuum across formal and experiential learning, making professional formation an explicit focus, and cultivating a spirit of inquiry. Suggestions also include developing more flexible curricula by allowing individual progress in achieving standardized competencies and readiness assessment, enhancing the distinction between core and elective curricula and developing of lifelong learning skills. The authors also advocate policy recommendations calling for key stakeholders in medical education to support systemic change that would allow the realization of the education goals outlined in the book. Seven of the eight themes are covered, and some description of the eighth theme—use of technology in education and health care delivery—is provided in the case studies (registries, electronic records) and pedagogic analysis (simulations, Web-based learning).

#### **Integrated summary of the reports' themes**

Table 1 displays the medical education themes addressed by the 15 medical education reports. I judged that a report includes a theme if the topic of the theme is listed in the report's recommendations and/or if a substantial discussion of the theme is included in the body of the report.

#### **Integrating the educational continuum.**

This theme was found in recommendations to define competency benchmarks across undergraduate (UME), graduate (GME), and continuing medical education (CME); for using competency benchmarks or milestone to promote flexibility in the time requirements for UME, GME, and CME; and for calls to decrease barriers across accrediting, licensing, and certifying organizations involved in UME, GME, and CME. Recommendations for new approaches to supporting lifelong

learning across the education continuum were also judged to embody this theme.

**Need for evaluation and research.** This theme was found in recommendations for research on best practices and outcomes of medical education, for funding for education evaluation, and for calls to increase the number of faculty trained in translational and education research methods.

**New methods of financing.** This theme was found in recommendations for new strategies to fund medical education, analysis of methods to fund the education mission of AHCs, and in calls to increase education funding from multiple sources.

**Importance of leadership.** This theme was found in recommendations to leaders of medical schools and AHCs to actively advocate changes in medical education and to create a positive learning environment and organizational culture, and in recommendations emphasizing the importance of the support of senior leadership in implementing innovations in medical education.

**Emphasis on social accountability.** This theme was found in recommendations and discussion of the concept of the social contract of medicine and of the need to promote the highest ideals of professionalism, to increase the diversity of the medical workforce, and to address racial disparities. Reports recommending improving access to health care—including the need for more physicians to practice in underserved rural and urban settings and provide primary care—are also seen to embody this theme if the recommendation is discussed in the context of supporting societal needs.

**Use of new technology in education and medical practice.** This theme was found in recommendations to use developing technology to support new methods for learning, to promote efficient health care delivery, to improve health care quality, and to integrate teaching about electronic health records and other support tools into the clinical education of learners and trainees.

**Alignment with changes in the health care delivery system.** This theme was found in recommendations to align

**Table 1**  
**Themes Included in Each of 15 Reports Calling for Change in Medical Education\***

Report	Year published	Medical education themes							
		Integrating the educational continuum	Need for the evaluation and research	New methods of financing	Importance of leadership	Emphasis on social accountability	Use of new technology in education and medical practice	Alignment with changes in health care delivery	Future directions in the health care workforce
Ten Stories of Change <sup>3</sup>	2000	✓			✓			✓	
Training Tomorrow's Doctors <sup>8</sup>	2002	✓	✓	✓	✓	✓	✓	✓	✓
AHCs: Leading Change <sup>14</sup>	2003	✓	✓	✓	✓	✓	✓	✓	✓
Reforming Medical Education <sup>16</sup>	2003	✓	✓	✓	✓	✓	✓	✓	✓
Envisioning the Future <sup>9</sup>	2003	✓	✓	✓	✓	✓	✓	✓	✓
Vision for Medical Education <sup>4</sup>	2004	✓			✓	✓	✓	✓	✓
UME-21 <sup>17</sup>	2005	✓	✓		✓	✓	✓	✓	✓
Clinical Skills Curricula <sup>5</sup>	2005	✓	✓		✓	✓	✓	✓	✓
AMA ITME <sup>6</sup>	2007	✓	✓	✓	✓	✓	✓	✓	✓
Revisiting Mission <sup>10</sup>	2009	✓	✓	✓	✓	✓	✓	✓	✓
New Medical Schools <sup>11</sup>	2009	✓	✓	✓	✓	✓	✓	✓	✓
CME Redesign <sup>15</sup>	2009	✓	✓	✓	✓	✓	✓	✓	✓
Future of Med Ed (FMEC) <sup>7</sup>	2010	✓	✓	✓	✓	✓	✓	✓	✓
Primary Care Training <sup>12</sup>	2010	✓	✓	✓	✓	✓	✓	✓	✓
A Call for Reform <sup>13</sup>	2010	✓	✓	✓	✓	✓	✓	✓	✓

\* One report was from Canada; the rest are from the United States; all were published in the last ten years. Superscripts refer to the citations of the reports in the reference list.

contemporary medical education more closely with current medical practice, to provide more training in nonhospital settings, to foster interprofessional and team training, and to teach new content that emphasizes behavioral and social sciences, chronic disease management, quality improvement, and patient safety. Discussion of the effects of trends in health care delivery on contemporary medical education also embody this theme.

**Future directions in the health care workforce.** This theme was found in recommendations for increased enrollment in medical schools, increased positions for GME, and to align the distribution of future physicians' specialty career choices with the needs of patients. Recommendations for significant faculty development in contemporary content areas and for training in sites with patient-centered medical homes also embody this theme.

Recommendations or significant discussion on each medical education theme is present in at least nine of the 15 reports. Three themes are recommended most frequently across the fifteen reports: trends in health care delivery, (15) leadership, (13) and social accountability. (13) Workforce development becomes a persistent theme in reports published after 2005.

## Discussion

There is remarkable congruence in the recommendations of the 15 reports described above that call for medical education change over the past decade. Because the reports recommending changes in medical education are responding, in part, to changes in the health care delivery system, it is not a surprise to find this topic central to all reports. All reports analyze certain trends in health care delivery, such as increased management of chronic disease, changing demographics of the U.S. population, mismatch between care delivery locations and clinical training in inpatient settings, and the rising importance of population health and behavioral and social sciences. More nuanced issues—changing models for reimbursement, proliferation of hospitalists, patient-centered medical homes—receive relatively little attention, even though half of the reports were produced in the last three years and early

implementation of these more recent changes in health care delivery is under way.

The theme of workforce development is identified in 10 reports, with most of the discussion present in reports published in the last few years. This finding likely reflects the more recent phenomena of increasing medical class size without a similar increase in entry-level GME positions.

The theme of leadership, noted in 13 of 15 reports, needs careful consideration. The task force chairs, editors and participants in consensus conferences are selected, in part, because they have already attained top tier leadership positions in the academy, professional societies, foundations, and government. The experience and insight accrued by these highly respected leaders in medical education contributes to the quality and wisdom of the analyses and recommendations put forward in the reports. However, individuals with proven success at the peak of their careers may place more weight on the influence of competent leaders' ability to affect change than would those yet to achieve such distinction. Additionally, with success comes not only wisdom but a tendency to be more risk-averse to ideas that may truly disrupt the status quo. Despite these observations, it is important to acknowledge that the courage to lead and to inspire others remains a central component in promoting effective systemic change.

The emphasis on social accountability is both encouraging and sobering. Altruism and social responsibility underlie the content of the discussions of and recommendations about this theme. The high congruence on social accountability across the reports parallels a strong emphasis on teaching and assessing professionalism that has been a prominent feature on the medical education landscape this past decade. A number of reports remarked upon the erosion of trust and confidence in the medical profession by the public. A firm moral compass and commitment to enhance the health of our patients, our communities, and the public could be strong antidotes to public skepticism. Yet, one wonders: if leadership and social accountability are truly thought to effect medical education change, what accounts

for our current roster of insolvable challenges in medical education. What is prohibiting medical education leadership from addressing the unsustainable rise in medical student debt and why is academic medicine so passive on the erosion of the numbers of young physicians choosing to practice in primary care and underserved areas in the past decade?

### Limitations and Next Steps

Limitations of this analysis require caution in making generalizations, as the analysis reflects an individual's assessment of the content and themes of the reports. But to what do we attribute the fact that the same themes are discussed repeatedly, with no more than incremental change in the past ten years? One factor to consider is that a relatively small number of individuals served on the consensus panels whose members wrote many of the reports, causing significant overlap and similarity of ideas. This consideration highlights a dilemma between the advantage of an enriched pool of diverse ideas contributed by new panel members versus the difficulties that can arise from constantly changing membership on new consensus panels. A second factor that may contribute to the homogeneous content of the reports is the tendency for many of the consensus panels and committees to be composed almost exclusively of mid- and senior-level faculty and administrators in medical education, without benefit of contributions of members from health professions, business, education, social sciences, and communities.

The preceding comparative analysis of content from a decade of reports calling for medical education change reveals a similarity that points to the fact that we medical educators have thoroughly identified and dissected the problems facing contemporary medical education. We can be assured that we don't need to keep asking "What should we do?" but rather "How can we get there?" As we continue the joyous work of guiding the development of the next generation of physicians, we need the courage and stamina to break through the constricting boundaries of our current education systems and set forth on meaningful new paths. Many hopeful possibilities exist,

including developing robust education demonstration projects linked to the work of our colleagues in translational research to evaluate outcomes, or requesting permission from the LCME to develop innovative tracks at branch campuses or create individualized learning timelines for selected groups of students. It only takes one success to create a new path.

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