Beth Israel Deaconess Medical Center
Education Strategic Review

Final Report: June, 2004

Executive Summary
Key Elements
Mission Statement
Challenges
Strategic Recommendations
- Governance
- Finance and Resources
- Programs
Next Steps
Additional Issues and Considerations

Executive Summary

The Beth Israel Deaconess Medical Center's Mission Statement has been encapsulated in one line: "To provide extraordinary care, where the patient comes first, supported by world class education and research." As the Medical Center developed its strategic plan in the summer of 2003, it was apparent that one aspect of the institutional mission – that of medical education – warranted its own extensive study and planning process. Medical education is entering a new era with increased demands on faculty, increased oversight by accreditation agencies, an explosion in the medical knowledge and personal skills that must be taught to and nurtured within our trainees, and the need to insure integration of the educational enterprise with our other key missions.

To assess the state of medical education at BIDMC and to prepare us for the future, Mr. Paul Levy, Dr. Michael Epstein and Dr. Jeffrey Flier authorized an Education Strategic Planning process for the Medical Center in August 2003. The review was envisioned as a year-long project undertaken simultaneously with the curriculum reform effort underway at Harvard Medical School. Dr. Richard Schwartzstein, Director of Graduate Medical Education, was appointed by Dr. Flier to spearhead this effort.

A Coordinating Committee, composed of leaders in undergraduate and graduate medical education and the administrative leadership of the Beth Israel Deaconess Medical Center and Harvard Medical School, was charged with oversight of the review process. Subcommittees on Finance, Undergraduate Medical Education, and Graduate Medical Education assisted in these efforts, supported by the work of a Survey Committee that designed the tools necessary for the self-study portion of the review process (see Appendix 2 for a listing of the membership of each of these groups). Four national experts in medical education were invited as a Visiting Committee to review the self-study materials, interview faculty, students, and residents, and to tour the educational facilities. The self-study also included an open "town meeting" to solicit additional input from over 100 members of the BIDMC academic community. Following the self-study portion of the review, each of the subcommittees met for three months and prepared

recommendations that were subsequently reviewed by the Coordinating Committee and incorporated into this report.

It is clear from our review that education at BIDMC is alive and well, but can be stronger. Our planning process points toward goals that meet the challenges facing all of academic medicine, with particular reference to BIDMC. Building upon the history and traditions of BIDMC as an institution committed to education and to innovation in teaching, we believe that our report outlines a program that, if implemented, will ensure BIDMC's leadership in medical education for the years ahead.

Return to top

Education Strategic Plan – Key Elements

- **Vision and Identity:** BIDMC will distinguish itself with an explicit commitment to the principles that enable students and residents to learn and faculty members to teach in the context of providing the highest quality patient care. We will insure that all members of the educational community interact with respect and dignity toward each other and their patients.

- **Governance:** BIDMC will create a Center for Education that will coordinate educational activities and professional development, and provide the supports necessary to foster innovation in education. The position of Vice President for Education will be created to provide leadership for the educational mission

- **Accountability in the Financing of the Educational Mission:** We will establish systems that will insure that the resources allocated to support teaching and the administration of educational programs are employed to maximize their utility. In addition, the system employed for the distribution of educational funds will be transparent to insure the confidence of the faculty and the credibility of the process.

- **Organization of Educational Space:** We will undertake a study of all existing educational space and design a plan that will endeavor to optimize the physical plant and the technology required to use the classrooms and conference rooms effectively based on the needs of the educational program.

- **Interdepartmental Programs:** We will foster the creation and implementation of interdepartmental educational exercises at both the undergraduate and graduate levels. Creation and use of a simulation center will enhance teamwork and communication among all members of the healthcare team.

- **Assessment of Programs:** We will embark upon a three-year plan to increase our ability to assess the quality and value of our educational programs. The assessment tools will include measures that will inform us, in part, of the contributions of the educational enterprise to the clinical and research programs at BIDMC.

- **Philanthropy:** We will work with the medical center administration and development office to develop a program for educational philanthropy to sustain new initiatives and to supplement scarce resources for the support of teaching.

Return to top

Section 1- Mission Statement for the Educational Program

The graduate and undergraduate medical education programs at Beth Israel Deaconess Medical Center strive to be renowned for a culture of respect for patients, trainees, and faculty, and a dedication to fostering inquisitiveness and lifelong learning. In collaboration with Harvard Medical School and our colleagues at the other academic medical centers in the Harvard system, we commit to support faculty dedicated to excellence in patient care and education, to maintain first-rate educational facilities, and to sustain the highest quality educational programs for our trainees that will lead to the best care possible for our patients. We pledge to develop medical leaders who will serve the community locally, nationally, and throughout the world.

The educational mission is at the core of the very being of the Beth Israel Deaconess Medical Center (BIDMC). It is difficult to imagine the successes achieved over the past century at the BIDMC in patient care and research without its strong institutional commitment to education. The first-rate faculty attracted to the medical center by virtue of the strength of the students and residents who pass through its corridors and the energy, insights, and stimulation provided by the educational environment are key to the rise of the BIDMC to the position of prominence it now holds. Nevertheless, one cannot remain a leader in any field without identifying and responding to the challenges that inevitably arise with time. As the delivery and economics of healthcare have undergone near revolutionary changes in the past two decades, medical education has also been transformed. This strategic plan has at its foundation a set of fundamental changes in the educational enterprise that will best prepare BIDMC to successfully address its educational objectives and to insure that the enterprise continues to enhance the clinical and research missions of the medical center.

The principal changes that will take place in implementing the strategic plan include:

- ***Change in the way we organize and provide leadership for our educational programs.*** Although primary responsibility for the content and delivery of the majority of the education at BIDMC will remain within the individual departments, a central educational leadership will be established to foster coordination and integration of programs, to establish priorities for allocation of scarce resources, to enhance faculty development and program evaluation, and to stimulate innovation. A Beth Israel Deaconess Center for Education will be established and directed by an individual who will serve both as Vice President for Education within the medical center's administrative structure and as Faculty Associate Dean for Medical Education at Harvard Medical School. This individual will report to the Chief Academic Officer. The VP for Education will have the authority to insure that undergraduate and graduate medical education will be viewed as part of a continuum of training, will establish an annual plan for the educational mission, and will work with medical center administration and department chairs to strengthen the ability of these key groups to successfully contribute to and manage the shared educational vision.

- ***Change in the way we monitor and allocate educational funds.*** The data collected during the self-study portion of the strategic review substantiated the widely held view that there are insufficient funds available to fully support the time devoted to teaching medical students and residents. Nevertheless, the data also indicated that the funds available were not consistently expended in support of the educational mission. The Center for Education at BIDMC will monitor the allocation of teaching funds within each department and insure that there is increased transparency in the process by which these funds are disbursed. Each department will develop a system to guide the allocation of teaching funds and will create a system for the evaluation of the faculty with respect to their teaching. A portion of teaching funds will be held in reserve for allocation to top performing teachers. These changes will increase faculty morale given the common perception now that there is an insufficient relationship between the quantity and quality of teaching provided and the disbursement of educational dollars. In addition, the

requirement that departments develop and utilize evaluation tools for assessment of teaching and consider these evaluations in the allocation of educational funds will provide incentives for faculty to teach. Opportunities to expand the pool of funds available to support education will be sought and will include joint ventures between the medical school and medical center as well as targeted philanthropy.

- ***Change in the educational supports provided at the departmental level***. Too often our faculty feel that they are isolated as they attempt to fulfill the educational component of their positions. They are assigned teaching tasks for which they may feel inadequately prepared. Evaluations of and feedback provided to students and residents is limited by the comfort of the faculty in performing these functions. To address these problems, we will create a cadre of resource faculty drawn from each of the core clinical departments. These faculty members will be chosen based on their skills as educators and their commitment to teaching. They will be required to fulfill a minimal number of educational credits each year to improve upon their own skills, will be expected to assist in the development and implementation of faculty evaluation assessment tools, and will participate in professional development activities within their departments. Financial support for the resource faculty will be provided jointly by the Carl J. Shapiro Institute for Education and Research, the BIDMC, and Harvard Medical School.

- ***Change in the way we provide professional development***. Historically, medical education has been viewed as a shared responsibility of all physicians regardless of their knowledge and skills as educators. Ultimately, the success of any educational enterprise depends upon our ability to put the right teachers with the proper training in front of our students. In recent years, greater efforts have been made to "professionalize" medical education by providing instruction to faculty on topics ranging from cognitive theory, to principles of adult learning, to small group instruction. For the most part, these sessions have been taught as isolated lectures that are difficult for most faculty to attend. In concert with The Academy at Harvard Medical School, BIDMC will provide an expanded professional development program that will target specific needs of divisions and departments and utilize a range of venues to insure the greatest opportunities for participation by faculty.

- ***Change in the way we prioritize and organize educational space***. Too often educational space has been an afterthought as the BIDMC has struggled to optimize clinical and research activities. Competition for conference rooms, classrooms, and lecture halls can be intense and these spaces frequently are not technologically enabled to permit maximum utilization of new teaching methods. On-call room space has been haphazard and opportunities for trainees to congregate in informal settings have been limited. The BIDMC will undertake a systematic examination of the educational space presently available and develop a long-range plan to create a centralized core of classrooms to optimize interdepartmental teaching and collaboration.

The changes outlined above represent the culmination of nine months of study and discussions required to complete this Strategic Plan. Educational leaders from the medical school and each department at BIDMC have participated in the process along with key members of the hospital

administration and a committee of nationally recognized educational experts. A major self-study process was completed in order to assess existing strengths and weaknesses in the educational enterprise prior to the development of the plan. We have discussed the rationale for change, the principal strategic objectives we hope to accomplish, and the risks and challenges associated with the effort. In many cases we are treading on "sacred ground" and threatening long-held traditions. The discussions, however, have been open and frank and consensus was achieved over the course of many months.

This plan reflects a strong belief that the BIDMC is uniquely positioned to build upon a history of leadership in medical education and forge a new pathway into the 21st century that will enhance its reputation as one of the foremost academic medical centers in the world. Emphasis on centralized planning, financial accountability, the development of the best teaching faculty possible, and a willingness to embrace innovation will create an educational environment second to none. Collectively, these initiatives will position the BIDMC to fulfill its mission as a world leader in medical education and contribute to the overall success of the medical center.

Return to top

Section 2 – Challenges to the Educational Enterprise That Create the Need for Change

Overview and Context

Excellence in medical education has been an integral part of the Beth Israel Deaconess Medical Center's mission throughout its history. However, the changing economics of healthcare have provoked many to question whether we can continue to provide high quality medical education at BIDMC. Challenges to the educational enterprise at this institution must be understood in the context of the changes at the national level that have affected both health care delivery and medical education.

In ***Time to Heal***, a history of the last hundred years of American medical education, Kenneth Ludmerer summarizes the social and economic forces that have led to an erosion of the learning environment since the 1960s. Medical education since the late nineteenth century has essentially been a product of the University-based medical school. Health care delivery occurs in clinical settings (e.g., hospitals, physician offices) that are operationally and financially distinct from medical schools, though they are essential sites for the training of medical students, residents and fellows. Major changes in the culture of Western universities are most often initiated outside the University walls, and the University's role in social change has tended to be indirect and conservative[1]; in hospitals, the demands of providing clinical services typically resulted in a more rapid response to change. However, as medical schools became increasingly economically dependent on providing patient care, they developed a stake in the fate of the health care delivery system in ways not experienced by other schools within the University.[2]

The 1960s saw the establishment of Medicare, which came to have an important role in the funding of graduate medical education. At the same time, developments in medical knowledge and technology made it possible to treat more complex medical problems. The tradition of inpatient teaching of medical students continued from the earlier years of medical education in which the care of acute conditions predominated.[3] In the 1980s, the inpatient setting as a learning environment was seriously affected by Medicare's implementation of the Diagnostically Related Group (DRG) method of prospective payment. Length of stay was cut by 25-50%. The reduction in length of stay was exacerbated with the growth of managed care in the 1990s. Hospitals have had to respond rapidly to these changes; at the same time, medical educators on hospital payrolls were expected to communicate an exponential growth in medical knowledge while caring for patients and conducting research. This combination of forces affected the educational experience of trainees in significant ways:

- Acquisition of medical knowledge was affected when reduced length of stay and same-day surgery meant that students could not see and discuss with faculty the issues encountered over the course of the disease or therapy.

- There has been less time to hone problem-solving skills, and a more complex and pressured atmosphere in which these skills must be learned, taught, and assessed.

[1] Ludmerer, ***Time to Heal***, pp. 345-6.
[2] *Ibid.*
[3] *Ibid.*, p. 357-8.

- Issues of patient safety and quality of care have arisen with the complexity of therapies and services.

- As medical education became more tangential to medical practice in clinical settings, there has been a tendency for the more "corporate" values of health care delivery to take priority in the educational experience, orienting trainees to the more technical "job" aspects of their work, with a corresponding de-emphasis of professionalism.

These forces have also affected faculty, medical schools, and health centers:

- The faculty is under greater pressure to generate income for the clinical center, while clinical revenues have been receding. An increase in the volume of clinical activity nets a decrease in available teaching time. Moreover, universities have historically not rewarded medical teaching with salary support or academic promotion. Thus, the motivation to teach, which has been largely self-generated by individual faculty, is eroded as other demands take precedence.

- Universities and medical centers are challenged to help trainees learn to "work smarter" but have not developed or funded the personnel or physical resources needed for faculty development at the levels needed to take on this work.

- The history of medical education has fostered departmentally based education experiences, though the complexity of medical knowledge and services demands integrated approaches to patient care and medical education. Medical education today requires experiences that integrate basic and clinical sciences, that bridge university and hospital cultures, and that focus increasingly on ambulatory care environments. The traditional isolation of educational programs within departments has frustrated attempts to develop an integrated planning for education and patient care, and has sustained financial inefficiencies and inequities within these systems.

- Hospitals and hospital-based graduate medical education programs must meet increasing regulatory requirements by accrediting agencies, which have resulted in additional costs for the educational enterprise.

There have been recent changes in the local environment – specifically, at BIDMC – which pose additional challenges to medical education:

- <u>The two-campus model has placed particular strains on the educational enterprise.</u> The merger of the Beth Israel and Deaconess Hospitals in 1996 created a "two campus" institution, which resulted in greater distance between services, faculty, trainees, and educational resources such as conference space and educational media. Resources were initially reallocated without a full understanding of the needs of merged and combined services.

- The need to adapt to new curriculum demands of Harvard Medical School. Curriculum reform efforts underway at the Harvard Medical School create challenges and opportunities as BIDMC competes with other Harvard hospitals for the best students and residents.

- The need to integrate the educational mission with the clinical and research strategic plans. The development and approval of a Medical Center-wide Strategic Plan and Annual Operating Planning Process demand a focused, integrated program for medical education that, along with patient care and research, is central to the BIDMC mission.

Problems Identified During BIDMC Self-Study

In September and October 2003, the Education Strategic Planning Subcommittees engaged in a "self-study" of the state of medical education at BIDMC and identified a number of problems to be addressed, many of which were validated in the report of the independent Visiting Committee in December 2003. After reviewing the recommendations of each group, the Coordinating Committee identified the following issues for action by the Medical Center and Medical School administration.

- The need to improve faculty development programs. A survey of our residents and fellows revealed that our trainees are highly satisfied with their educational experience, and gave high marks to the teaching of patient care, procedures, self-directed learning, and evidence-based medicine. However, in other areas, e.g., the practice of cost-effective care, epidemiology, experimental design and the availability of community resources, residents felt their training was deficient.

- The need to improve incentives for teaching. Faculty emphasized the constraints of insufficient time and remuneration for teaching, and as well as a sense that teaching is undervalued by their departments, the Medical Center, and the Medical School. Many faculty members expressed that communication with chiefs about the allocation and distribution of teaching monies was poor.

- Inadequate educational space. Faculty and trainees alike cited the inadequacy of on-call rooms and teaching space (including conference room space, ambulatory exam rooms and adjacent teaching space, and appropriate access to technological supports when teaching).

- The need to improve medical student teaching and enhance the learning environment. Medical students reinforced the reputation of the Beth Israel Deaconess Medical Center as a welcoming, supportive environment in which to learn, and gave particularly high marks to the quality of faculty teaching. However, students also cited problems which have become more common in all academic medical centers: a reliance on student shadowing of faculty in lieu of more formal teaching, inadequate observation by faculty of student practice, and little direct feedback to students on their performance. Students cited the Core Clerkship in Surgery as providing an environment that was particularly

non-conducive to student learning, though they praised the clerkship director for his efforts in meeting their educational needs.

- The need to improve management of educational funds. Funding for teaching comes to BIDMC through Medicare and Medicaid reimbursements, affiliation agreements, and Harvard Medical School. The management of these funds, however, is not centralized. Since teaching has been conducted at the Departmental level, faculty teach in a variety of settings, for differing lengths of time and at different cost to their clinical department and/or research laboratory. Moreover, the administrative functions required to support teaching (e.g., program direction, coordination) are variably funded across the institution. There is a general lack of transparency and accountability in the allocation of educational funds. It is also apparent that efforts to generate philanthropic support for the educational mission have been sporadic and uncoordinated.

- Decentralized planning and administration of the educational enterprise. Administratively, there is a need to centralize oversight of the educational mission in a way that recognizes the demands and contributions of both the Medical Center and Medical School.

The BIDMC faces these challenges, however, with a number of opportunities afforded by the Carl J. Shapiro Institute for Education and Research. As a consequence of the Institute's operation in the past several years, the BIDMC has a unique relationship with Harvard Medical School and is an excellent position to take a leadership role in the curriculum reform movement. The interactions with educational leaders nationally that occurred during the Millennium Conferences, co-sponsored by the Shapiro Institute and the Association of American Medical Colleges, have provided insights into many of the problems outlined above. Finally, we have the core structures for educational technology and professional development programs within the Institute. Building upon this foundation and the historical strengths of the BIDMC as an institution committed to medical education, the following strategic recommendations will enable the medical center to maintain a pre-eminent position in education.

Return to top

Section 3 - Strategic Recommendations

The current models governing undergraduate and graduate medical education at BIDMC are based upon approaches developed approximately 20 or more years ago. At the undergraduate level, Harvard Medical School pursued sweeping curriculum reform in the early to mid-1980's. This reform, however, to which the name, "the new pathway" was bestowed, focused almost exclusively on the basic science curriculum that is presented in the first two years at the quadrangle. The clinical curriculum that is the mainstay of years 3 and 4 at the medical school has not undergone significant revision for several decades.

Similarly, graduate medical education has undergone relatively little structural change since the advent of Medicare in the mid-1960's. To be sure, there have been important modifications such as the institution of a "firm system" in the medical residency and the increased focus on ambulatory training in a number of specialties. The nature of the interactions between faculty and residents and among residents in different departments, however, appears today much as it has for the last three decades.

Although the way in which we train our young physicians has changed little, the environment in which we practice medicine, the way in which we deliver services in the medical center, and the requirements of the accreditation bodies that oversee our activities are undergoing rapid transformations. To respond to these challenges, and to continue to integrate optimally education with the clinical and research missions of the medical center, the educational enterprise must adapt.

The main factors contributing to the need for change include the following:

- Increased competition for scarce financial resources to support education.
- Increased pressures on the faculty to spend time in clinical and research activities at the expense of teaching.
- Increased administrative requirements imposed by the JCAHO and the ACGME on educational programs.
- Demand for more explicit outcome measures in the assessment of the competence of medical students and residents.
- Increased recognition that faculty require specific training in medical education to fulfill their roles as teachers in a more complex healthcare environment.
- A perception that medical education is being neglected and undervalued in the strategic planning underway for the medical center, and that the BIDMC's historic identity as a leader in education is eroding. Increasingly, the question, "Why should I, as a committed clinician-educator, come to or stay at BIDMC?" is being asked. How do we maintain our

competitive advantage in recruiting not only first-class faculty, but also the outstanding residents and fellows who make our successful clinical and research enterprises possible?

To be sure, the problems and challenges faced by the BIDMC are not unique. Academic medical centers throughout the nation are struggling with similar issues. The BIDMC, through its support and participation in the Carl J. Shapiro Institute for Education and Research, has sponsored several national conferences in the past three four years to examine many of these concerns. Nevertheless, the fact that the BIDMC, since the merger of its parent institutions, has been compelled to re-examine the fundamental assumptions of the clinical and research missions, and that it has demonstrated the willingness to institute major organizational changes to meet the demands of the new healthcare environment, provides us with a unique opportunity to examine the fundamental ways in which we train physicians in the 21st century. Furthermore, this is a propitious time for such a review because of the following:

- The presence at the BIDMC of the Shapiro Institute for Education and Research. The Institute offers a unique collaboration between Harvard Medical School and one of its major teaching centers, and offers programs in professional development and educational technology. The Institute board of directors has been calling for a re-examination of the vision for the organization in the past year.

- The office of Graduate Medical Education has been restructured in the past two years.

- Harvard Medical School has initiated a major curriculum reform effort that will encompass basic science *and* clinical training.

In concert with these efforts, and desirous of creating a structure that will allow the BIDMC to re-establish itself as one of the premier medical education centers in the country, the medical center initiated a strategic review of the educational program, including a review by a Visiting Committee of prominent leaders in medical education. *Together with the initiatives outlined above, the BIDMC has the opportunity to create an educational structure that will be evidence of a quantum leap to the forefront of medical education.*

The strategic initiatives outlined in this plan represent major changes in three aspects of medical education at BIDMC:

- *Governance*, with the creation of a centralized structure to organize, integrate, support, and supervise the varying elements of the educational mission.

- *Finances and resources*, with the institution of mechanisms to insure the transparency of and accountability for the allocation of educational funds, the development of a comprehensive space plan for education, and the creation of targeted philanthropy to assist in the support of the educational mission.

- *Programs*, with the development of a simulation center, interdisciplinary educational experiences, a resource faculty, enhanced professional development, and improved evaluation and assessment of the elements of the educational mission.

At its core, the plan calls for the creation of a new culture of education at BIDMC. This culture will be epitomized by a trainee and faculty Statement of Principles and Responsibilities that will guarantee mutual respect of patients, students, residents, and faculty, will define what is and what is not acceptable behavior, and will lead to an environment that is safe for and supportive of learning. This culture will also be characterized by a professionalizing of medical education, by the acknowledgement that first-class education, like clinical and research activities, demands the commitment of trained faculty with the resources to perform their jobs and accomplish their goals. It is our belief that these cultural changes have the potential to result in the creation of a model that will receive national attention for the successes that will follow.

The remainder of this section discusses the specific recommendations for maintaining and enhancing our national prominence as a center for medical education.

Return to top

GOVERNANCE

Recommendation 1 – Create a Centralized Administrative Structure for the Oversight of Medical Education.

The BIDMC, like most academic medical centers, has been limited historically in its capacity to develop interdisciplinary and interdepartmental educational programs at both the undergraduate and graduate levels by a very decentralized administrative approach to the educational enterprise. To counter this centripetal tendency, we should develop a centralized administrative structure to facilitate planning and coordination of educational programs. We propose the ***creation of the Beth Israel Deaconess Center for Education*** that will consist of the following:

- The Office of Graduate Medical Education
- The Office for Undergraduate Medical Education
- The Shapiro Institute for Education.

The Office of Graduate Medical Education has undergone extensive reorganization in the past two years, in large part as a response to the probationary status imposed on BIDMC by the Accreditation Council for Graduate Medical Education (ACGME), and has become much more active in the following areas:

- Quality control of our residency and fellowship programs.
- Assisting program directors with the development of educational materials and tools for assessment of the competencies of trainees.
- Tracking of graduate medical education funds.

Through the activity of the Graduate Medical Education Committee and its primary subcommittee, the Council of Program Directors, we are addressing:

- Regulations that govern duty hours.
- Supervision of trainees.
- Prioritization of requests to expand existing programs and develop new programs.

As the regulatory burdens imposed by the ACGME increase, as our efforts to develop interdepartmental educational programs evolve (see recommendation 7), and as we provide more centralized oversight for the financing of graduate medical education (see recommendations 3 and 4), the physician resources devoted to this office will need to increase from the present 0.7 FTE to 1.1 FTE.

To date, there has been no institutional coordination or supervision of the undergraduate clinical education programs at BIDMC. We propose the creation of an Office of Undergraduate Medical Education that will mirror in its general function the Office of Graduate Medical Education. Drawing upon existing staff within the Shapiro Institute, this office will support an Undergraduate Medical Education Committee that will foster interdepartmental collaboration and BIDMC initiatives in response to curricular changes at Harvard Medical School. The specific issues that will be addressed include:

- A possible pilot program for a unified core clerkship experience at BIDMC.

- A clinical physiology grand rounds that will unify basic and clinical science and will draw students from clerkships in different departments as well as students in their pre-clinical years.
- Institution of virtual patients for teaching and assessment.

The office will also monitor educational funds provided by the medical school.

Within the Center for Medical Education, the Shapiro Institute will serve as the support structure for both undergraduate and graduate medical education. Within it will be housed the Center for Educational Technology which will work with clerkship and program directors to develop new teaching tools and to facilitate use of technology to improve assessment and evaluation of trainees and programs. In addition, the Center for Professional Development will address the career development needs of faculty through the activities of the Center for Faculty Development, and expand our programs in the development of the faculty's teaching skills (see recommendation 10). A new Simulation Center will coordinate teaching and assessment practices that make use of new technology in this area (see recommendation 11).

The relationships between the components of the Center for Education can be seen in Appendix 1. We are in the process of developing a three-year plan that will outline in greater detail the goals of the Center.

Recommendation 2 – Create the Position of Vice President for Education to Provide Oversight for the Educational Mission

Within the administrative structure of the BIDMC, there has been no consistent voice to speak for the educational mission. As changes in clinical and research programs are planned and decisions are made with respect to use of space, the implications for educational programs are not always apparent. To rectify this problem, we propose the creation of the position of Vice President for Education. This individual will also serve as the Executive Director of the Shapiro Institute and, as agreed to by Dean Joseph Martin, will hold the position of Faculty Associate Dean for Medical Education at Harvard Medical School. The VP for Education will be responsible for implementation of the recommendations outlined in this plan. Specifically, the VP for Education will:

- Serve as the Designated Institutional Official (DIO) for BIDMC with the ACGME.
- Meet regularly with the BIDMC Board of Directors, Chief Academic Officer and medical center leadership. Participate fully in the planning and decision-making processes for clinical and research activities to insure the interests of the educational mission are given due consideration. This should include regular participation in appropriate meetings of the BIDMC leadership, including formal membership in the Medical Executive Committee and in ad hoc committees formed to assess space allocation and new clinical programs.
- Provide leadership for and oversight of all aspects of medical education activities at BIDMC.
- Present plans for the educational program at periodic intervals to the BIDMC Board of Directors.
- Create an educational cost center under the direction of the VP for Education for the implementation of this plan.
- Foster interdisciplinary and interdepartmental education experiences.
- Foster the development of appropriate programmatic assessment tools.
- Foster the development and implementation of educational technologies in curricula.
- Promote integration of faculty development programs based upon individual and department-wide needs assessments.
- Participate with Department Chairs in developing models for allocation of funds, including Medicare funds for graduate medical education, medical school funds for undergraduate education, and BIDMC special funds restricted to medical education, to support teaching and administration of educational programs.
- Participate as a standing member in the Council on Education Policy, the governing body of the Program in Medical Education at Harvard Medical School.

The creation of this position is not intended to circumvent the critical role of the Department Chairs in the educational enterprise. Rather, the VP for Education will serve to integrate and coordinate educational planning and programs as well as insure the most efficient utilization of scarce resources to support the educational mission.

Return to top

FINANCES AND RESOURCES

Recommendation 3 – Increase Transparency in and Rationality of the Allocation of Funds for Medical Education

The surveys conducted during the self-study portion of the strategic review clearly indicated that faculty members are generally unaware of the amount of money coming to their departments or divisions to support education and the factors that determine how that money is disbursed. Furthermore, this lack of knowledge and the perceived arbitrary nature of the process breeds discontent among the teaching faculty. At a program level, there are often discrepancies in the degree of support provided by the medical center based on a variety of "agreements" developed on an ad hoc basis over many years. Consequently, in the case of many of our specialty fellows, it is nearly impossible to determine how and why an individual trainee is being paid and to track the totality of funds expended.

To address the problem of transparency in the allocation of funds, we recommend the following:

- Each department (and division within each department) will develop a model that addresses the allocation of funds for teaching of students and residents, ***and*** for the administration of training programs within the department. The individual models will be reviewed by the VP for Education and, if there are concerns about the appropriateness of the model, discussions will follow between the department chair and the VP for education to correct any problems. The Chief Academic Officer will arbitrate any disputes that cannot be resolved between the department chair and the VP for education. The model will be shared with all faculty members.
- Each faculty member receiving teaching funds will be notified of the amount received.
- A portion of the teaching funds, equal to 5% of the total funds available, in each department/division will be set aside as "incentive" money for high quality teaching. Each department will develop a system, to be reviewed by the VP for Education, for the evaluation of teaching. These evaluations will form the basis for the disbursement of the incentive money.

The recommendations outlined above would apply to money received by departments from the medical center for the support of GME programs as well as money received from Harvard Medical School for the support of undergraduate teaching (money in support of core clerkships and the special teaching allocation). The formula presently utilized for the allocation of funds between departments for the teaching and administration of GME programs will continue to serve as the basis for disbursements of the total GME funds.

To increase the rationality of the use of funds and improve the ability to track the funds for GME programs, we recommend the following:

- The salary and benefits of all fellows in approved ACGME programs will be paid by the medical center.

The cost to the medical center associated with implementation of this final recommendation is impossible to calculate at this time because of the inability to decipher the variable ways in

which fellows are presently paid across departments. However, this system will enable us to understand the true costs of the educational program moving forward and allow rational decisions to be made subsequently in the context of the overall financial pressures faced by the medical center and priorities established across the three missions of the institution.

Recommendation 4 – Develop and Implement a Comprehensive Educational Space Plan.

As the two-campus model evolved since the merger of the New England Deaconess and Beth Israel Hospitals and as attempts were made to locate as many clinical activities as possible on the West Campus, space allocated for support of educational programs was sacrificed and often became very fragmented. In addition, the technological capabilities required for teaching - e.g., access to the Internet, access to the PACS radiology system, computer projection facilities – have become more sophisticated and important. Competition for appropriate classroom and conference room space is intense both for undergraduate and graduate programs. On-call rooms for medical students and residents, although improved within recent months, still require work.

Although we had originally hoped to develop a recommendation with respect to educational space as part of this report, we did not have sufficient time and resources to undertake the task. Merely categorizing the space available, some of which is under the tight control of departments and some of which is within the general pool of conference room space utilized for a range of medical center activities, has been difficult. *Therefore, we recommend that a comprehensive educational space plan, that includes attention to the following items, be developed*.

- Determine the space requirements of the existing educational programs; categorize all regularly scheduled teaching sessions and conferences and the size and capabilities of the space required to support each of the activities.
- Categorize the location, condition, and technological capabilities of all existing educational space.
- Delineate the non-educational activities that compete for conference room and classroom space.
- Analyze the advantages and disadvantages of a centralized versus decentralized model for educational space.
- Analyze the advantages and disadvantages of co-locating educational administrative and teaching space.
- Assess the impact of new educational programs, e.g., simulation center, on future space needs.
- Assess the space implications of general supports necessary for trainees, e.g., lounges, lockers.
- Continue to monitor the effectiveness of the present on-call room model and examine alternative solutions should Farr 11 be reclaimed for clinical activities.

The successful implementation of our educational programs for trainees that are actively involved clinical activities will depend, in large part, on the ability to deliver that program in classrooms and conference rooms that are the appropriate size, in the appropriate location, and that have the necessary technological capabilities.

Recommendation 5 – Develop and Implement a Plan for Targeted Philanthropy to Support the Educational Mission.

In the final analysis, the funds allocated by the federal government and the medical school to support medical education are insufficient to sustain a first rate educational program in an academic medical center. Historically, the clinical revenues of both the medical center and the faculty educational mission have been used to subsidize the educational mission. In a healthcare environment, however, in which the financial margin on clinical activities continues to decline, this subsidization is becoming increasingly problematic. Agencies that provide grants for education are few in number and typically provide, at best, partial support for a faculty member's time. Furthermore, these grants rarely incorporate overhead costs.

To help fill the gap between funds available and needed to provide for stability to and growth of the educational mission, we recommend the development and implementation of a plan to solicit funds for the educational program in the following areas.

- Endowment funds for individual teaching faculty (i.e., "chairs" in medical education).
- Specific capital needs (e.g., the simulation center, and those that evolve from the educational space plan).
- Specific professional development programs (e.g., the Rabkin Fellowship in Medical Education).
- A general teaching endowment fund.

Efforts to raise money to support the educational mission should not be viewed as competitive with other developmental plans undertaken by the medical center. Rather, the goal is to cultivate individuals who may be predisposed to support this mission as compared to general capital, clinical, or research needs.

Return to top

PROGRAMS

Recommendation 6 - Transform the Culture of Education at BIDMC

Our self-study confirms the frequently reported, long-standing belief among trainees that the Beth Israel Deaconess Medical Center is a wonderfully supportive environment in which to learn, with faculty who are particularly devoted to teaching. Nevertheless, we continue to have intermittent episodes in which a student or resident is not treated with respect by a faculty member, when a trainee expresses a sense of fear about asking a question, when students or residents may work for months without receiving feedback and evaluations on their performance, or when resident-nurse or inter-resident interactions are not professional.

We believe that it is essential to explicitly create a "culture of education" at BIDMC as a first step towards the elimination of such episodes. This will mean:

- The development of an ethos that teaching and learning are "constants" at BIDMC, that they are part of the fabric of the institution, and that they are essential to the commitment of all successful physicians to life-long learning.

- That we appreciate that all members of the health care team are contributors to the educational process, supported by the resources of the BIDMC and the medical school.

- That we create a climate in which the provision of timely and specific feedback and assessment are interwoven in the educational experiences of both trainees and faculty.

To this end, we propose:

- Creation of a "Statement of Principles for Trainees and Faculty at BIDMC," outlining the "rights" provided to and the "responsibilities" expected of students, house officers and faculty in order to flourish as members of our educational community and to contribute to the provision of clinical care that meets the high standards of the institution. Established with the input of faculty and trainees, the document will serve as a reference point for standards of professional conduct in the learning environment that will be maintained across departments, disciplines, and educational experiences.

- Development of a regular Educational Grand Rounds series at BIDMC, in coordination with the program at HMS, which will strengthen awareness of the importance of education by encouraging the presentation of educational research within our community for discussion and feedback. We will investigate a videoconferencing system that will enable increased participation in these sessions among faculty at HMS and BIDMC. These sessions will allow members of the BIDMC community to share their educational experiences with the larger medical educational community.

Without an appropriate culture to nourish the faculty and trainees, the educational mission will not grow and thrive.

Recommendation 7 - Increase the Opportunities for Interdisciplinary and Longitudinal Educational Experiences

The practice of medicine in the 21st century has become increasingly complex and multi-disciplinary in nature. Surgeons, internists, pathologists, and radiologists provide care as teams, coordinating the biological data as best they can with the wishes and needs of the patient and her family. We and other medical centers have created formal inter-disciplinary units to foster these interactions and to meet the growing expectations of the public with respect to provision of quality medical care. Yet, despite these changes, the educational experiences of our students and residents are all too often limited to department specific encounters.

With the growing complexity of medical care, we also recognize that the break between medical school and post-graduate education is relatively arbitrary. The ACGME has defined six broad areas of competency expected of all physicians regardless of specialty. It is impossible, however, to achieve proficiency in all these areas by the end of medical school. Thus, graduate medical education must be viewed as part of a continuum of learning that starts in year 1 of medical school but does not end until many years after graduation.

To address these developments, we recommend:

- Development of integrated educational experiences among the core clinical clerkships.
- Development of integrated educational experiences among the core residency programs.
- Development of interdisciplinary educational experiences focused on the general competencies, such as professionalism, systems-based practice, and communication, span the transitions between undergraduate and graduate medical education.

By bringing together trainees from different departments in a collegial fashion for educational programs and by modeling the interactions among faculty from different disciplines, we can enhance learning while improving the subsequent clinical care for our patients.

Recommendation 8 - Establishment of Resource Faculty Within Core Clinical Departments

As the demands on faculty continue to increase, it is apparent that the organization of teaching in clinical settings must change if medical centers are to meet both their obligations to patient care and to teaching. Over the past two years, the Department of Medicine at Beth Israel Deaconess Medical Center piloted a "Core Faculty" model to teach students and housestaff on the medical service. In this structure, selected faculty members take on specific, extended teaching responsibilities: this model allows for a consistent and more predictable allocation of teaching time and responsibility, and facilitates "quality control" for assessment purposes. It has also facilitated formal and informal professional development activities within the department to improve the overall quality of teaching.

Although it is difficult to generalize this model to all departments, given the variety of ways that clinical care and educational programs are delivered, we believe that it is important to develop faculty within each of our major clinical departments, i.e., those departments that sponsor core residency programs, who have a commitment to and expertise in medical education. To this end, *we recommend the development of a resource faculty*.

Resource Faculty would consist of twenty faculty members selected from the nine core clinical departments who would be chosen for their career interest and abilities in education. These faculty members would be expected to:

- Participate in a minimum number of educational sessions each year in which they work to improve their own skills as teachers.
- Participate as instructors in professional development programs within their departments.
- Participate in the development of assessment tools for the training programs, both UME and GME, in their departments.
- Participate in the development of new curricular materials.
- Facilitate inter-departmental teaching activities (see recommendation #7).
- Serve as peer reviewers for other teachers throughout the medical center.
- Assist other faculty within their department in the development of teaching portfolios to facilitate academic promotion.

The resources to assist in the support of these faculty would be provided from stipends ($10,000 to each faculty member) provided from funds supplied by the Shapiro Institute for Education ($100,000), Harvard Medical School ($50,000), and BIDMC ($50,000). The structure of the funding for this program acknowledges the joint responsibility of the medical school and academic medical center for the training of students and residents.

The goals of implementing this model include:

- To provide consistent and discipline-specific resources in faculty development across the departments.
- To provide commonly needed educational resources at the "local level."
- To meet common educational goals and objectives while acknowledging the discipline- and culture-specific needs of departmental teaching.

- To improve the feedback provided to trainees and the evaluation and assessment tools for students, residents, and programs.

We envision that this program would be organized within the first six months of implementing these recommendations.

Recommendation 9 – Design Objective Measures to Assess the Quality of Our Programs

The assessment of educational programs is a complex task, particularly in the realm of graduate medical education. It is not obvious which outcomes are most appropriate for measurement – the percentage of trainees who achieve board certification? The number of manuscripts published by graduates within five years of completing the program? The achievement of leadership positions in academic medicine by graduates of the program? The satisfaction of the trainees in the program? The percentage of graduates who are involved in malpractice cases? Many of these outcomes measures require long periods of time to assess the nature and success of the careers of the graduates, and the data may be difficult to acquire. Nevertheless, in order to improve a program, one must continuously be assessing the efficacy of the teaching and the educational experiences offered to the trainees.

Working with the director of assessment and evaluation at Harvard Medical School, we recommend that BIDMC develop specific, objective tools for assessing the quality of its graduate medical education programs and begin data collection to enable the program director, the VP for Education and the medical center to determine those programs that are performing well and those that are in need of remediation. Furthermore, the outcome measures should include elements that reflect how the educational programs contribute to the clinical and research missions of the medical center. For example:

- Assess patient satisfaction associated with interactions of residents and fellows with patents on both inpatient and ambulatory services.
- Assess the contributions of residents and fellows to the research projects conducted by faculty members.

The metrics associated with educational assessment are not as clean as exist for the clinical and research missions, and usually cannot be translated easily into a contribution to the medical center's "bottom line." Nevertheless, we must begin the difficult task.

Recommendation 10 - Expand Faculty Development Initiatives

Faculty and professional development issues have come to the forefront of medical education nationally. The historical model of "training by apprenticeship" has not been able to accommodate rapid changes in the volume of medical knowledge and technology available to clinicians. Research in education has demonstrated that there are qualities specific to teaching which can be developed and learned, and that this learning can occur efficiently in a variety of settings. Finally, there are characteristics of adult learning that have particular relevance to professional education. Faculty need support to develop their own knowledge and skills in these areas if they are to teach the next generation of physicians effectively.

The Rabkin Fellowship in Medical Education at the Beth Israel Deaconess Medical Center is in its sixth year of providing formal education to clinician-teachers. In this program, a selected group of interdisciplinary and inter-institutional faculty members meet weekly for one year and engage in a range of activities that are designed to further their skills as clinician-educators. The Center for Faculty Development has sponsored a range of programs that assist faculty with issues of academic promotion and career growth. We recommend that these programs be continued and that more formal assessments of their effectiveness be undertaken. In addition, we recommend the following initiatives.

- *Resident-as-Teacher Programs:* Recognizing that our residents and fellows are all teachers to peers and more junior trainees and students, and are likely to be future teachers later in their careers, the BIDMC should sponsor "Resident-As-Teacher" sessions for residents and fellows to introduce trainees more formally to the current theory and practice of medical education.

- *Department Focused Professional Development:* The Medical Education Center will collaborate with the department-based Resource Faculty (see Recommendation 8) in developing needs-based faculty development sessions. We envision a "service provision" format in which, based upon department's faculty requests, programs targeted to specific faculty development needs are provided on-site, for example, in the ICU or on in an ambulatory setting, in addition to more traditional, classroom-based formats. Peer review of teaching will also be provided.

- *Interdisciplinary faculty development programs:* The future of medical education is expected to incorporate whole or partial integration of core clerkships, and longitudinal education in the general competency requirements of the Accreditation Council for Graduate Medical Education. However, faculty members have not had the experience of teaching in such contexts, and will need to re-think the organization and presentation of medical knowledge and skills in these settings. To optimize learning and maximize efficiency, faculty development programs for these activities should be developed in conjunction with educational innovations planned for the coming years.

The Beth Israel Deaconess Center for Education will work with The Academy at Harvard Medical School to coordinate, when and where possible, professional development activities.

Ultimately the quality of any educational enterprise depends upon putting the right teachers with the students. The right teachers are those who not only are committed to education but those who have expertise in the content to be taught and the skills necessary to convey the material, to stimulate critical thinking, to generate excitement about the subject, and to provide timely and specific feedback to the trainee as she works to master the art and science of medicine.

Recommendation 11 – Develop a Medical Simulation Center

Complex tasks that depend upon the smooth interactions of a team are most likely to be successfully completed if the team is able to practice the task under simulated conditions. To the extent that completion of the task requires the rapid assessment of a range of variables, the ability to manipulate those variables in training sessions reduces the likelihood that the team will encounter a true "unknown" in practice. Formal use of simulators for training has been extensively applied in the airline industry and is increasingly being employed in the training of medical personnel. Harvard Medical School has created a Center for Medical Simulation that is regularly used by students during the first two years of the curriculum to allow them to gain "clinical" experience without posing any risk to patients as they begin to bring what they have learned in the classroom to the bedside. The Boston anesthesia departments have created a simulation center in Cambridge that recreates the atmosphere and equipment of an operating room. Residents and faculty travel to the center on a regular basis for training. At the Shapiro Institute for Education at BIDMC, under the direction of Dr. Daniel Jones, a series of simulators have been acquired to train surgical students and residents in the techniques of minimally invasive surgery.

To broaden the use of medical simulation for trainees and staff in all departments at BIDMC, we recommend the development of a medical simulation center under the auspices of the educational technology section of the Shapiro Institute. The simulation center would consist of the following:

- Creation of a facsimile of an intensive care room.
- A computerized mannequin that would be able to simulate a range of acute clinical problems.
- Incorporation of the simulation program for minimally invasive surgery.

A series of cases will be developed to test the skills of students, residents, nurses, and respiratory therapists in the management of a range of acute medical and surgical emergencies. Formal evaluation tools will be utilized to assess not only the medical competence of the trainees and staff, but the interactions among the members of the team. Use of appropriate communication skills will be emphasized. Cases will also be utilized to assist students and residents in the development of leadership skills as they assume increasing levels of responsibility.

The work of the Beth Israel Deaconess medical simulation center will be coordinated with the other centers for medical simulation at Harvard, to maximize the most efficient use of resources in the acquisition of equipment and the development of curricula and assessment tools. The Shapiro Institute for Education will provide initial funding for the center although it is hoped that we will be able to locate a donor to offset the costs and provide assistance with operating expenses.

We sincerely believe the Beth Israel Deaconess medical simulation center will improve the quality of care, reduce medical errors, and enhance working relationships between physicians from different departments and between physicians, nurses, and the clinical support staff. This is a very concrete example of the ways in which the educational mission can support the clinical mission of the medical center.

Recommendation 12 – Improve the Supports for Academic Promotion for Clinical-Teachers

One of the great frustrations of the members of the teaching faculty is what they perceive to be the very difficult and confusing path to academic promotion at Harvard Medical School. To assist the faculty in the achievement of its professional goals, we recommend that the Center for Faculty Development be formally made a component of the Center for Medical Education and increase its activities in the following areas:

- Work with HMS to make explicit the promotion criteria for clinical-teachers.
- Develop workshops and seminars available in a variety of venues from departmental retreats to lunchtime lectures to assist faculty members in understanding the criteria, and in the development of their curriculum vitae and individual teaching portfolios.
- Recruit senior clinical-teachers to serve as mentors to junior members of the faculty.

The resource faculty program, detailed in recommendation #8, will facilitate peer evaluation of teaching, an important component of a teaching portfolio and a necessary mechanism for individuals to identify areas in which they can work to improve their skills as teachers. The Center for Education will work with The Academy at HMS to coordinate joint programs in this area as deemed appropriate.

Return to top

Section 4 – Next Steps

Upon approval of this plan by the BIDMC Board of Directors, we propose that the following actions be taken as first steps in creating the structures and programs recommended herein.

- Creation of the position of Vice President for Education. The vice president will develop a plan to review allocation of all funds for medical education, in collaboration with hospital and medical center administrators and department chairs.

- Creation of a "Center for Medical Education" at BIDMC. The Center will consist of an Office of Graduate Medical Education, and Office of Undergraduate Medical Education, and the Shapiro Institute for Education that will provide support services for both the undergraduate and graduate education programs. The Medical Education Center will serve as a pilot program for similar initiatives at other Harvard teaching hospitals. Within the context of the Center for Medical Education, the VP for Education will:

    - Develop formal goals and objectives in areas of governance, finance and educational programs, with particular emphasis on provision of professional faculty development; assessment of faculty, trainees and programs; and resource development (educational space, philanthropy, educational media and simulation technology).

    - Develop a three-year business plan incorporating these goals and objectives, with projected annual and program budgets.

    - Organize and convene an undergraduate medical education committee, modeled on the existing graduate medical education committee, to improve the evaluation of and feedback to students, and address common problems in undergraduate education. The committee will also create interdepartmental and interdisciplinary learning experiences that approach medical education as a "continuum" and will work to create education "teams" that more realistically reflect contemporary patient care and practice.

    - Organize and convene working groups where appropriate which ensure cross-representation of the education community.

    - Organize an event for individuals who have donated previously to educational projects at BIDMC and others interested in medical education for the fall of 2004 to enlist their support of these efforts.

- Transform the Culture of Education at BIDMC

    - Develop a "Statement of Principles for Traineees and Faculty at BIDMC," modeled on BIDMC's Patient Bill of Rights, that embodies the commitment of the medical center to education as a core mission. This document will be created by BIDMC/HMS faculty, residents, fellows, medical students, and administrators under

the guidance of the Vice President for Education. As the first document of its kind, its creation and implementation will unite members of our academic medical center and will serve as a model statement of core educational values for such centers nationally.

- Begin needs assessment for professional development with each of the core clinical departments.

- Create a climate in which feedback and assessment are interwoven in the educational experiences of both trainees and faculty.

- Develop a process for identifying and recruiting "Resource Faculty" in every teaching department. These individuals will be charged with particular educational roles within the department, tailored to departmental needs, but similar in concept and design across the institution (e.g., development of particular assessment tools, assistance with promotion and teaching issues).

Progress toward all of these goals will be assessed at weekly meetings of the Shapiro Institute staff. Every month each of three areas will be addressed: professional development, evaluation and assessment, and educational technology in the context of both undergraduate and graduate medical education.

Return to top

Section 5 – Additional Implementation Issues and Considerations

Several variables are expected to affect implementation of this plan: they are mentioned here to underscore our recognition of the complexity of the work before us. Medical education has historically been provided by a fragmented delivery system, the elements of which have neither developed nor worked together. The Beth Israel Deaconess Medical Center's plan is intended to re-focus and consolidate the educational effort at this institution in ways which will reinforce the Medical Center's leadership in medical education both locally and nationally.

Projects and issues that will affect this plan and may require modifications over the next three years include:

The medical education reform effort at Harvard Medical School. The leadership of HMS has enthusiastically supported development of the BIDMC Education Strategic Plan. Changes in the curriculum are expected to bring changes in the requirements for teaching time and possibly in funding mechanisms. The Medical Education Center at BIDMC will continue to work with HMS to identify viable models for recognition of teaching time, remuneration, and faculty promotion, and will be active participant in curriculum development.

The work of the Academy at Harvard Medical School in faculty development. The organization of professional development initiatives at the BIDMC Medical Education Center will be particular to the BIDMC but done with consideration for programs evolving at Harvard Medical School.

Integration of the education mission with the research and clinical mission of the Medical Center. The BIDMC's existence as a premier academic medical center insures that we have individuals on our staff who are among the best clinicians, educators, and researchers in the nation. The presence of these individuals and the trainees who come to work with them make possible the high quality clinical and research programs on which we pride ourselves. We are committed to insuring that the goals of the educational programs continue to work in concert with the clinical and research missions to sustain BIDMC in the years to come.

The place of education research. Many of the ideas in this proposal warrant the serious design and evaluation of formal research studies in order to measure their effectiveness and assure ongoing improvement. Moreover, education research should be a "natural" component of the educational enterprise at a leading academic medical center. We plan to initiate such projects, and the findings of our own research will inform our future programmatic objectives.

The development of targeted philanthropy in support of the educational mission. We are working with the BIDMC Development Office to identify donors with specific interests in medical education who may wish to support particular projects. Implementation of the educational plan assumes the continuing support of Beth Israel Deaconess Medical Center and Harvard Medical School, but acknowledges that additional resources will be required to sustain the educational mission in the future.

Return to top