

STATE OF THE DEPARTMENT  
2005  
MEDICAL GRAND ROUNDS PRESENTATION

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JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE  
SEPTEMBER 9, 2005

**Department of Medicine:  
Mission Statement**

The overarching mission of the Department of Medicine is to lead the world of medicine in discovery, healing, education, service delivery, and the shaping of public policy.

I am very proud to present this report to the faculty, trainees and staff of the Department of Medicine. It is a report of the efforts you have made, particularly in the last four years, to advance the mission of this great Department. The mission ([Figure 1](#)) is to lead the world of medicine in discovery, healing, education, service, and the shaping public policy.

We are evaluated yearly as a department in the world of medical school academic ratings via US News and World

Report. The deans and my peers rank this the outstanding Department of Medicine in the country for two years running.

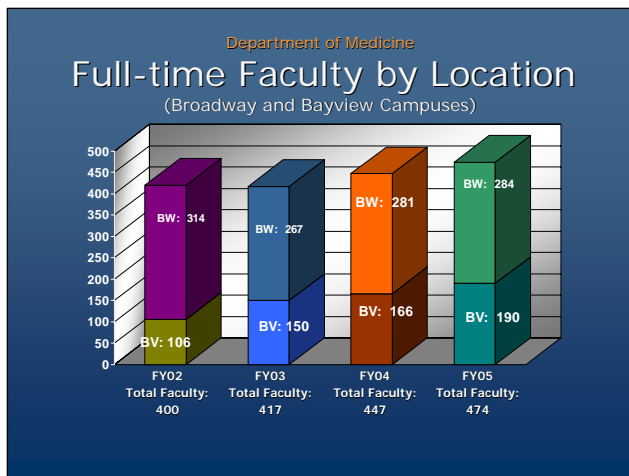
We have a number of our faculty who have been promoted to professors in the past year ([Figure 2](#)). I am very pleased to point out that among these faculty are some who do outstanding basic science, outstanding clinical research, outstanding teaching or administration, and/or institutional leadership.

Department of Medicine  
**FULL PROFESSORS  
PROMOTED 2003 – 2004**

Eric B. Bass, M.D., M.P.H.	General Internal Medicine
Ronald D. Berger, M.D, Ph.D.	Cardiology
Charles W. Flexner, M.D.	Clinical Pharmacology
Charles J. Lowenstein, M.D., Ph.D.	Cardiology
Susan M. MacDonald, M.D.	Allergy and Clinical Immunology
Pamela Ouyang, M.D.	Cardiology
Kerry J. Stewart, Ed.D.	Cardiology

We are a two-campus department. We have 467 full-time faculty (trainees who do not understand “full-time” versus “part-time” faculty: Full-time means your salary is paid by Johns Hopkins). Of the 467 full-time faculty, a full 40% are on the Bayview Campus (Figure 3).

Working in partnership with Dave Hellmann and his leadership team at Bayview, (Figure 4) shows our own assessments of the overall program strength of divisional units on the two campuses. This makes a very simple point, that we are a real two-campus department. We have an outstanding program on the Bayview Campus as well as on the Broadway Campus.



I am going to frame my comments in the context of an event that will occur in February 2006, which is the first “retreat” of this Department in ten years. Adrian Dobs is organizing this activity and Emma Stokes is administrator.

Specialty	East Baltimore	Bayview
Cardiology	++++	++
Chemical Dependency		++
Clinical Immunology		++++
Clinical Pharmacology	++	
Endocrinology	+++	++
Gastroenterology	++++	+
General Internal Medicine	++++	+++
Geriatrics	+	++++
Hematology	++	+
Infectious Disease	++++	+
Nephrology	+++	++
Pulmonary	++	++++
Rheumatology	+	+++

I am going to state the principles by which we have approached research, teaching, and patient care over the last four years, and then comment about some of the issues and questions in each of these areas that we clearly need to answer to maintain quality and excellence. These are the issues that I anticipate will have answers from our retreat:

## RESEARCH

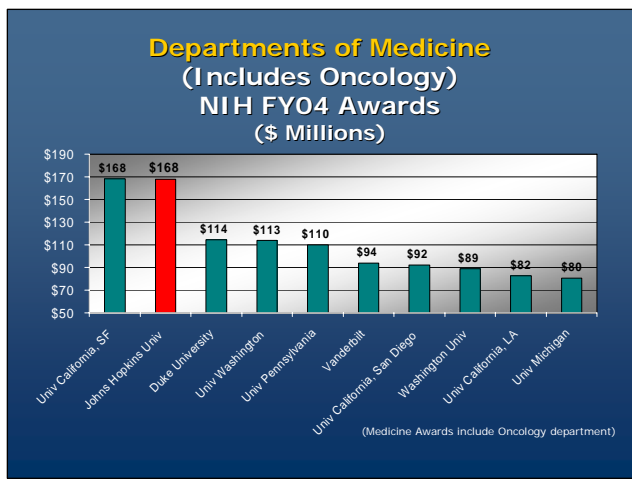
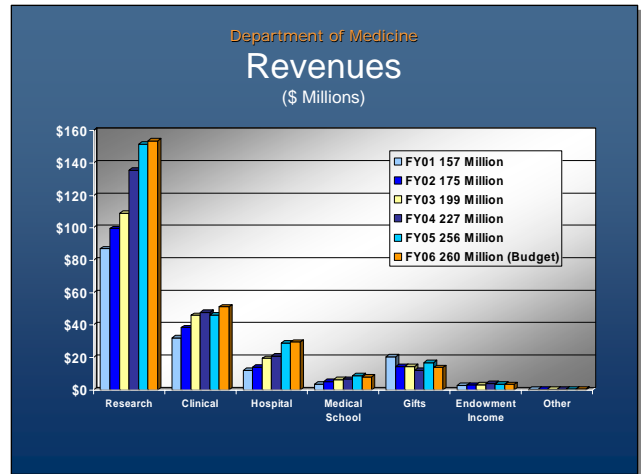
I am very proud that as I stood here four years ago, I said this was the time for us to develop more centers and multi-investigator programs (Figure 5). It seemed clear that this was the time that medicine and science had advanced to the point where we could take common human diseases and target multi-investigator research programs effectively to improve human health. This was before Dr. Zerhouni went to the NIH. If you think about his NIH Roadmap, it

### Current Principles: Research

1. Promote centers and multi-investigator grants
2. Use K Awards for fellows and new faculty
3. Space Allocation: Use Dollars per Square Foot as benchmark
4. Invest in Core Centers: Genetics, Proteomics, Epigenetics, Chemical analysis, and Imaging
5. Support integration across divisions and departments

is very, very much a reflection of this approach: “New pathways to discovery” by “Research teams of the future” with “reengineering of the clinical research enterprise.”

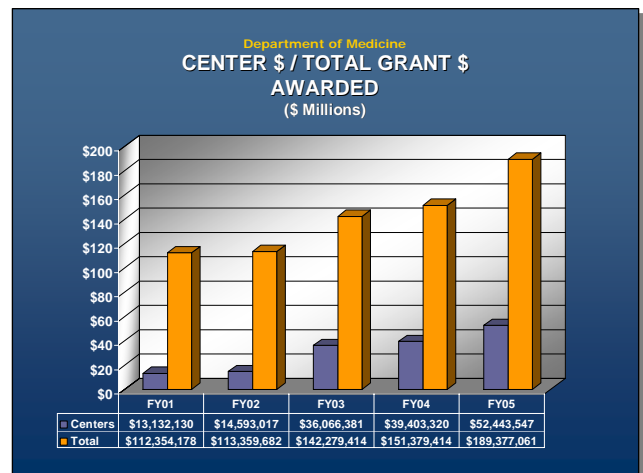
In addition, we use and have used K-awards for advancing the research of our fellows, and of our junior faculty. We have looked at space as a precious resource, and we have used dollars per square foot as a benchmark for space allocation. We have invested substantially in core centers like the Epigenetic Center, which you heard about earlier this morning, but also we have invested in genetics, proteomics, chemical analysis and in imaging. Finally, we have strongly supported integration across our divisions and integration across the other great departments in this Institution.



So, what is the quantitative result? If you concentrate for a minute on the left of [Figure 6](#), you have the growth of research funding spent in this Department. The green bar on the far right is '06 “to date.” This does not include grants that almost certainly will come through during this academic year. If you look at the first two sets of bars, four years ago there was about \$2.00 of research funding for every dollar of clinical outside revenue coming into this Department. Now, \$4.00 of research revenue for

every dollar of clinical revenue is coming into this Department. Also, note that this Department’s overall revenues available to support our faculty and our programs now exceed a quarter of a billion dollars. [Figure 7](#) shows NIH funding of departments of medicine, including oncology which here is a separate department.

[Figure 8](#) is the most important depiction relative to our strategy of research funding. The orange bars are the total amount of money coming to principal investigators in the Department of Medicine, whether the money stays in Medicine, or whether it is spent in other departments.

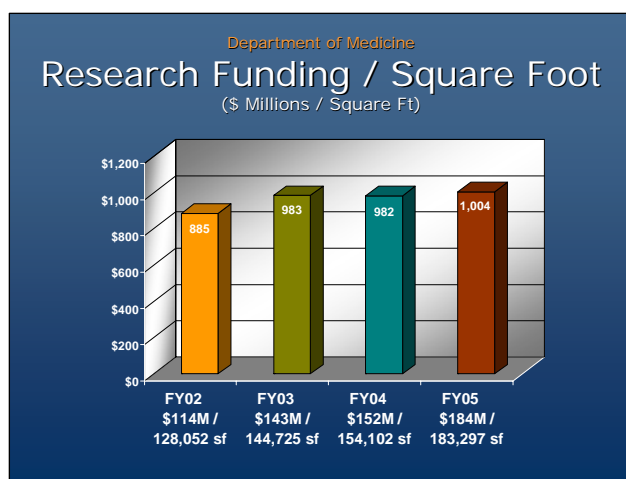


Therefore, this number is larger than the Figure 6, which was the amount of money brought in by Medicine principal investigators spent only in Medicine. What is shown is that the total funds brought into Hopkins by Principal Investigators in the Department of Medicine without Oncology is \$190 million. If you take our 467 faculty (and we acknowledged that at least 125 are clinician-educators who do not intend to do outside peer review research), then 350 faculty who have research commitment bring in an average of \$500,000 per faculty per year in outside funding. This is a staggering amount of outside support for our research enterprise. The blue bars are the funding of centers and large program projects within the Department of Medicine. Clearly, of the growth in funding, that has occurred over the last four or five years, two-thirds of that growth are in the multi-investigator and center grants in which the PI of the overall grant is in the Department of Medicine.

## SUCCESS OF STRATEGY!

We have as well a luxurious research portfolio across all of our divisions.

Figure 9 shows the overall picture of funding of the Department for research per square foot of space. In the lower portion of the figure is the increase from 128,000 square feet to 183,000 square feet over four years, a significant contribution from Johns Hopkins to growth of programs. We have been successful in maintaining, if not even increasing, the total dollars per square foot coming into the Department to justify that space allocation. The figures for the peer institutions are considerably less.



Therefore, we have succeeded in part by following the principles that we have emphasized in the last few years (Figure 5).

The important issues in my view for research at our retreat are:

1. What are the next generations of technologies?
2. What new core centers do we need to develop?
3. How can we better advance the research of our fellows and junior faculty? They are the next generation that will sustain this Department and this Institution.
4. What are the critical new programs that we want to support?
5. How do we fund our ambitions?

## PATIENT CARE

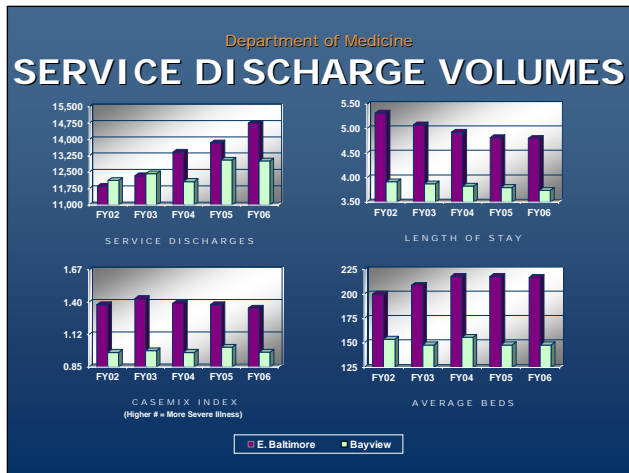
Let me shift the focus entirely now to clinical care and our Hospitals at Bayview Medical Center and Johns Hopkins Hospital (Figure 10). The principle focus has been to lead these Hospitals in quality of care and lower cost. We have emphasized those factors that we believe will shorten length of stay and at the same time do so through improving quality of care. We have on both campuses implemented efficient order entry across the Department. This is an important factor in safety, quality of care and efficiency of care. We have advanced “Hospitalism” and “Hospitalists.” Hospitalists are experts in quality of care and efficient care for in-hospital patient management.

### Current Principles: Patient Care

1. Lead the Hospital in quality care with lower cost
  - a. Length of Stay
  - b. Physician Order Entry
  - c. Hospitalism
2. Expand our service reflecting the aging population
3. Priority to community patients and patients we can uniquely treat

We have continued to expand our services in terms of number of patients we admit and provide care. I believe that the trend of growing discharges from Medicine is accelerating and will continue because of the demographics of our society, and because surgery and other disciplines are more skilled at doing procedures without hospitalization. On procedural services when hospitalization was prolonged, it is usually prolonged because of medical problems and problems where I believe medically trained Hospitalists will ultimately have a major role in care.

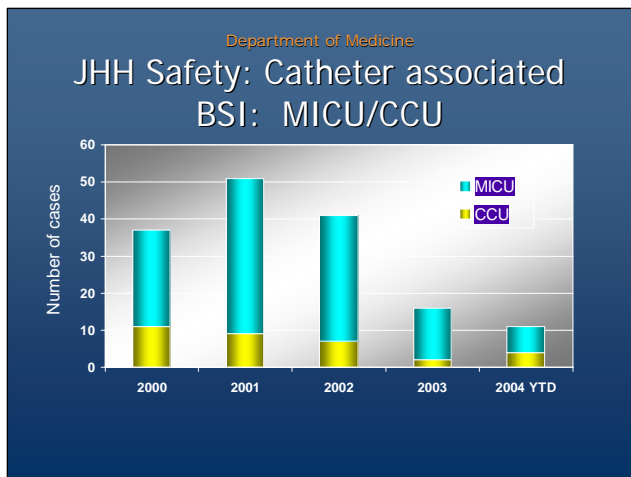
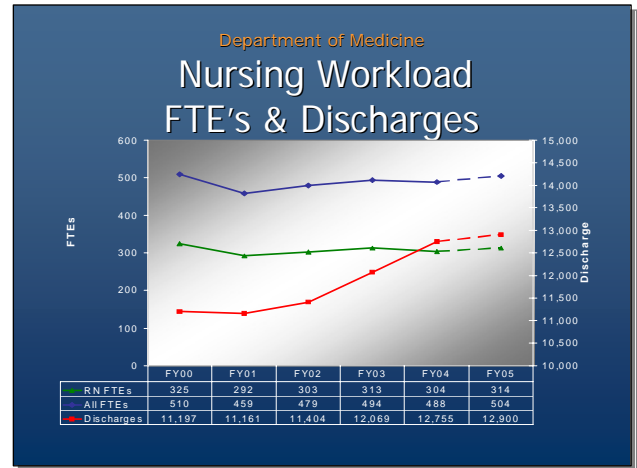
We have two specific priorities in our patient care focus: Firstly, is our local East Baltimore community. We offer as much quality and greatly needed services as we can provide. This is a great tradition of this Institution. Secondly, we have a commitment to those patients for whom we can offer unique treatments that can benefit them in terms of their health.



In terms of our programs to increase efficiency of care and expansion of our service see Figure 11. The purple bars here represent the Broadway Campus; the Bayview Campus is represented by the lighter bars. I would note that the figure includes the projections for this year under FY’06. What you see for both campuses is the growth of discharges in the upper left, the shortening of length of stay in the upper right, the sustaining of case mix index

(means that we haven't changed the severity of illness), on the lower left, and on the lower right side you see that despite the remarkable growth in discharges, we have very modest growth in the number of beds and obviously that reflects the shortening in length of stay and the improved efficiency.

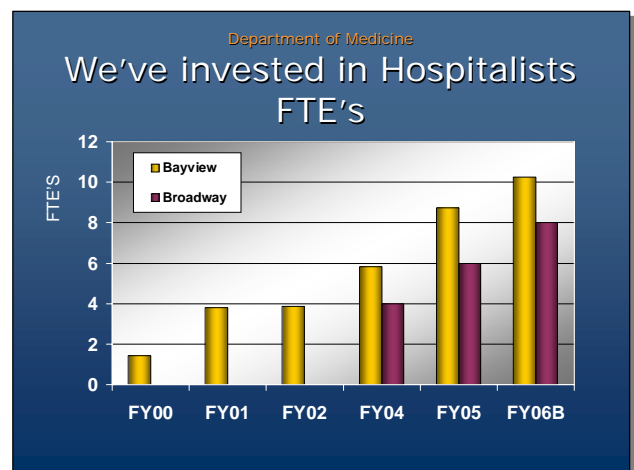
I want to compliment our nursing colleagues because they have truly shown a remarkable record. The red line in Figure 12 shows the number of discharges on the Broadway Campus. The green is the number of FTE nurses on the medical service, the blue the total number of staff under nursing at this hospital. What is depicted is that despite the increase in work as a result of more admissions and discharges, staffing is unchanged. Thus, the efficiency of nursing and the effectiveness of nursing have increased strikingly. We are also pleased that the use of agency nurses who are hired from outside commercial nursing companies has decreased strikingly in the last two years.



As an Institutional priority, "safety is number one." Figure 13 shows one outstanding record through the Infectious Disease Division led by Trish Perl and Sara Cosgrove in reducing bloodstream infections related to procedures that we do in the MICU and CCU. There is a striking decrease in the number of infections that is obviously a safety issue, a quality of care issue, and avoiding these infections shortens length of stay.

Figure 14 shows we have invested in hospitalists on both campuses. We now have eight and ten full-time Hospitalists respectively on the two campuses. You can see the rapid rate of growth.

How have we gone about reducing length of stay and at the same time improving quality of care? We insist on prompt



consultations, imaging and procedures that are under Medicine control and we try to influence the rest of the services to perform in a similar manner. We have tried to emphasize effective case management, morning rounds, and improved and increased social services. We have developed and now have expanded several services that target important complications of medical management and important conditions where a strategy of conscious, better management will improve safety and increase efficiency and effectiveness of treatment. These services include coagulation care, diabetes management and the sickle cell program. Yngvild Olsen is expanding our Substance Abuse program hopefully to take advantage of sublingual bupinorphen to increasing our effectiveness. The short-term serious goal is to use hospitalization as the “teachable moment” to end substance abuse, and also decrease of frequency of complications of substance abuse including admission to the Hospital for repeat medical complications.

We have implemented on both campuses universal Computer Physician Order Entry. We are working hard on quality feedback and warnings from the Computer System. There are major opportunities to create a system for improving patient management. In addition, we are particularly focused this year on the efficiency and effectiveness of our line insertion program and prompt imaging procedures.

The questions for our retreat in terms of patient care: What is, in fact, the broad trajectory of hospitalism? How do we integrate academics with hospitalism? Our current approach to a complex issue of Medicaid Managed Care is in flux. How can we provide this part of our community service in the best manner? How can we gain more elective time for a housestaff without compromising patient care education? Finally, how do we reasonably serve all patients coming to our Emergency Department without compromising our goals of community care and care for those patients who Hopkins can uniquely or directly help in terms of their care.

## EDUCATION

For the education agenda, we intend and I believe do play a major leadership role (Figure 15). We train our housestaff in particularly for leadership and for academic careers. Very importantly, we have emphasized in the last few years the need to be successful at increased diversity at every level, including the pipeline at the high school, college and medical school, housestaff, faculty and leadership. We also must succeed in fostering more career academic success for women.

### Current Principles: Education

1. Play a leadership role in Medical Student Education.
2. Train Housestaff for leadership and broadest academic careers
3. Advance diversity and gender issues at every level (within legal boundaries): pipeline, medical student, housestaff, faculty and leaders

Charlie Wiener, in addition to leading our graduate medical education programs, is the leader of the Medical School curriculum revision. He is fostering a major departure from the historic Hopkins approach to physician education.

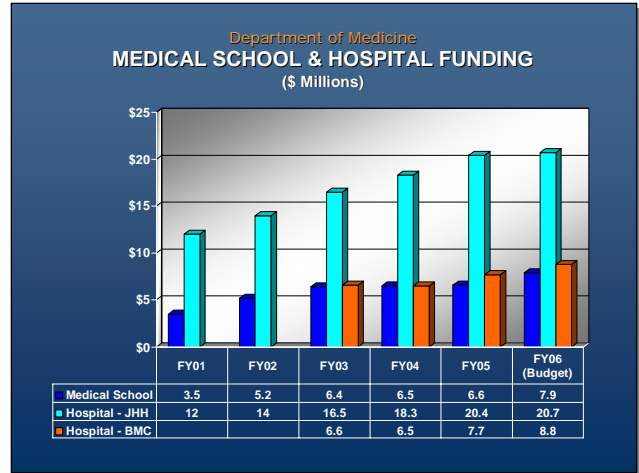
I am pleased that The Osler Housestaff Program on this campus has 15% underrepresented minority trainees. The Bayview program has 28%. The success rate of minority housestaff in gaining outstanding fellowships is remarkable. Their performance means that we are training the outstanding leaders of American medicine from the underrepresented community. Our fellowship programs where we have used similar strategies to increase diversity now have approximately 15% underrepresented minority among all those fellows in ACGME certified programs.

I want to highlight the overall success of the Bayview residency program. This program has increasingly successful matches. They have 100% pass on the boards for the last three years. They are approved by the Internal Medicine Residency Review Committee with commendation. This is through the work of Roy Ziegelstein who has led the program and, of course, Dave Hellmann as chair of the Department of Medicine at Bayview.

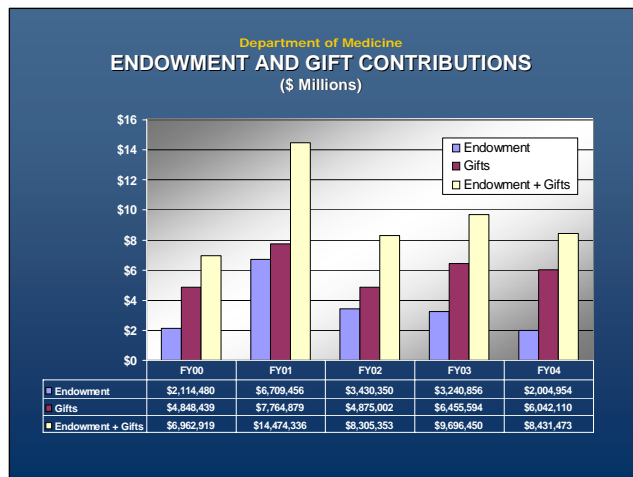
The questions for the retreat and our future in terms of education include:

- ◇ How can we optimize the use of the new Medical School College System for advising medical students? Over forty percent of the new faculty in the colleges will come from the Department of Medicine.
- ◇ How can we include more research education in the housestaff program? We are currently beginning focused research support for direct housestaff research projects. This is supported by the Osler Housestaff Fund principally by the alumni of the housestaff and from the profits from the Osler Housestaff Manual.
- ◇ How can we best meet our worldwide educational needs? Bob Bollinger in the Division of Infectious Disease I believe is creating a model program for “Hopkins Live” worldwide.
- ◇ What other possibilities are there for using the internet to impact on medical education?
- ◇ What changes are needed in the Osler Housestaff Program to meet the clinical, educational challenges?

I just want to comment on some of the other smaller bars on the revenue on Figure 6 to make the point that the Medical School and the two Hospitals have substantially supported the growth of this Department. In [Figure 16](#) the blue bars are growth and funding from Johns Hopkins Hospital, the very light bars from Bayview Medical Center, and the darker bar from Johns Hopkins Medical School. This includes increase in funding that we have seen for administration and teaching which is uncompensated from any other source.



In terms of funding our ambitions, there is nothing more important than our philanthropic programs. I am very

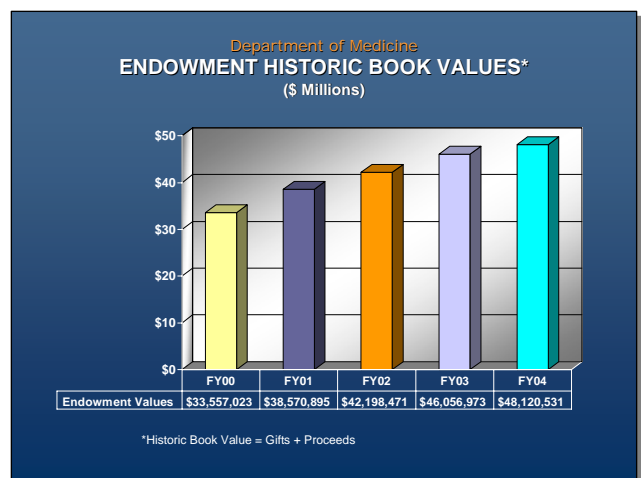


proud to show you a graph of our philanthropic programs over the last few years. We are now raising approximately \$12 million for programs in the Department of Medicine ([Figure 17](#)). About a quarter of that in the dark bars is going into endowment, and the remainder are gifts. These graphs do not include the approximately \$20 million raised by the cardiovascular programs in medicine and surgery for the building program of the new Cardiovascular and Critical Care Tower. This is also part of the philanthropic efforts of our

faculty for institutional goals.

Endowment of the Department of Medicine is now nearing \$50 million ([Figure 18](#)). Most of these funds support “chairs” and thus our academic programs.

Listed in [Figure 19](#) is the outstanding leadership team of the Department of Medicine. All the achievements of this Department in the past few years in research, care, training and education, diversity and gender, and philanthropy are accountable to the excellence and commitment of this leadership team and the truly



staggering commitment of the entire 467 faculty. We salute our institutional leaders as well for all their enthusiastic support.



Department of Medicine  
Leadership Team

- Susan MacDonald: Deputy Chair
- David Hellmann: Chair of Medicine Bayview
- Charlie Wiener: Director of the Osler Housestaff Program and Vice Chair Education
- Roy Ziegelstein: Associate Chair Bayview and Director of the Housestaff Program
- Pat Thomas: Associate Vice Chair Education
- Paul Scheel: Vice Chair Clinical Affairs
- Redonda Miller: Associate Vice Chair Clinical
- Gordon Tomaselli: Vice Chair Research
- Adrian Dobs: Vice Chair Faculty Development
- Karen Haller: Director of Nursing
- Charlie Reuland: Administrator
- Melissa Feld: Administrator Bayview
- Chuck Turner: Director of Development