

The State of the Department

David A. Schwartz, MD



University of Colorado
Anschutz Medical Campus

Departmental Vision

Improve human health by fostering the development of outstanding interdisciplinary programs in patient care, education, and research that serve the community, region, and nation



Departmental Vision

Improve human health by fostering the development of outstanding interdisciplinary programs in patient care, education, and research that serve the community, region, and nation

Driving Principles:

- Outstanding patient care
- Balance growth of competing priorities
- Foster interdisciplinary programs
- Build strong partnerships
- Enhance diversity

Transparency and Accountability



Departmental Vision

Improve human health by fostering the development of outstanding interdisciplinary programs in patient care, education, and research that serve the community, region, and nation

Strategy and Tactics

Driving Principles:

- Outstanding patient care
- Balance growth of competing priorities
- Foster interdisciplinary programs
- Build strong partnerships
- Enhance diversity

Transparency and Accountability

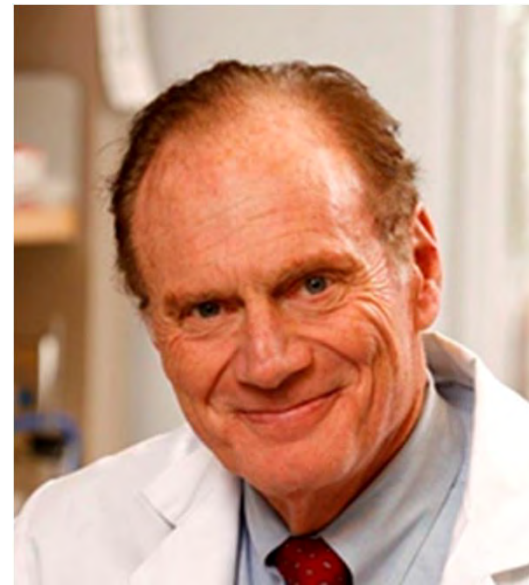


The State of the Department

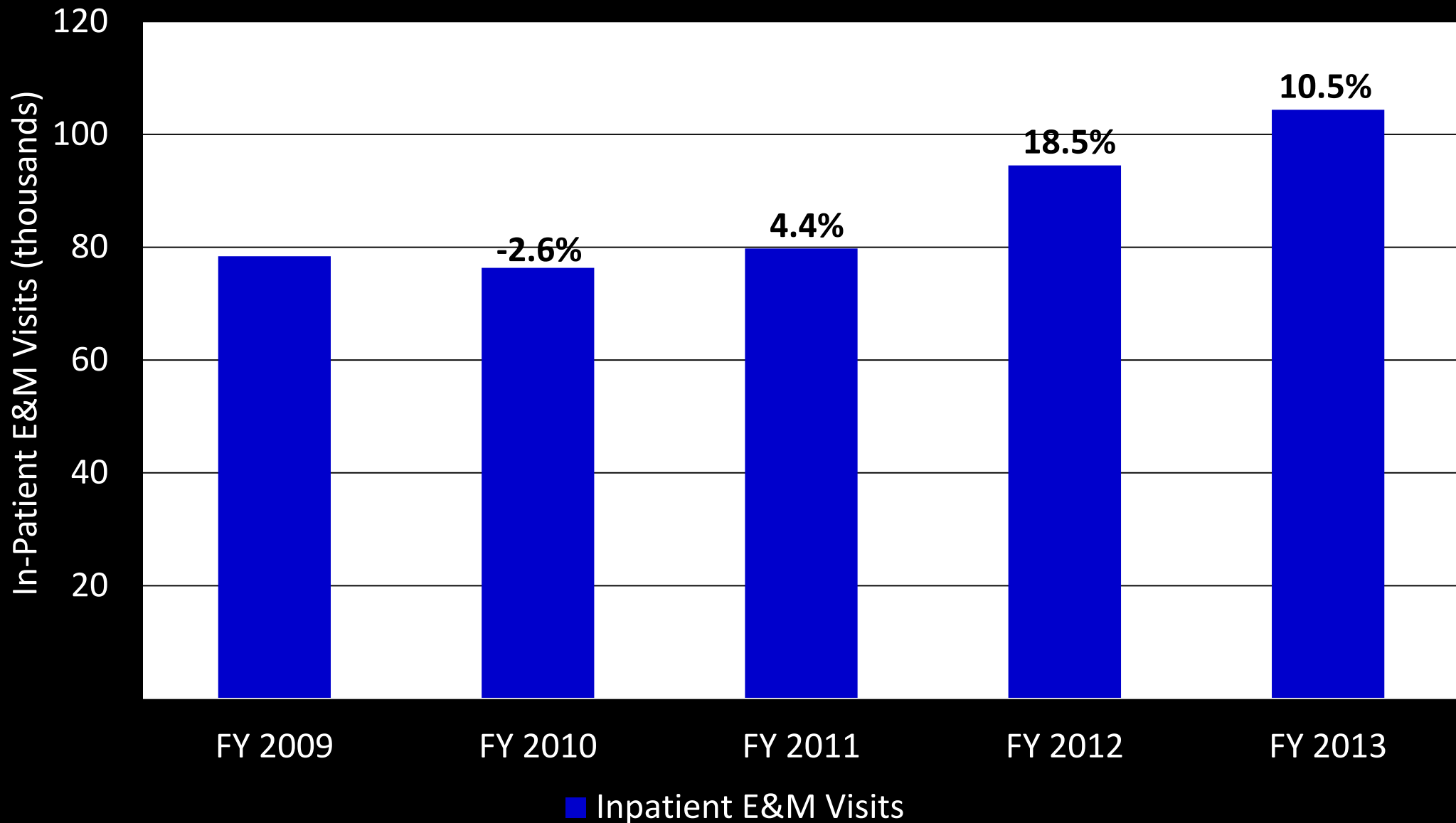
- **Accomplishments, Challenges, and Opportunities**
 - **Clinical**
 - **Education and Training**
 - **Research**
- **Your Role in Our Future**

Clinical Enterprise

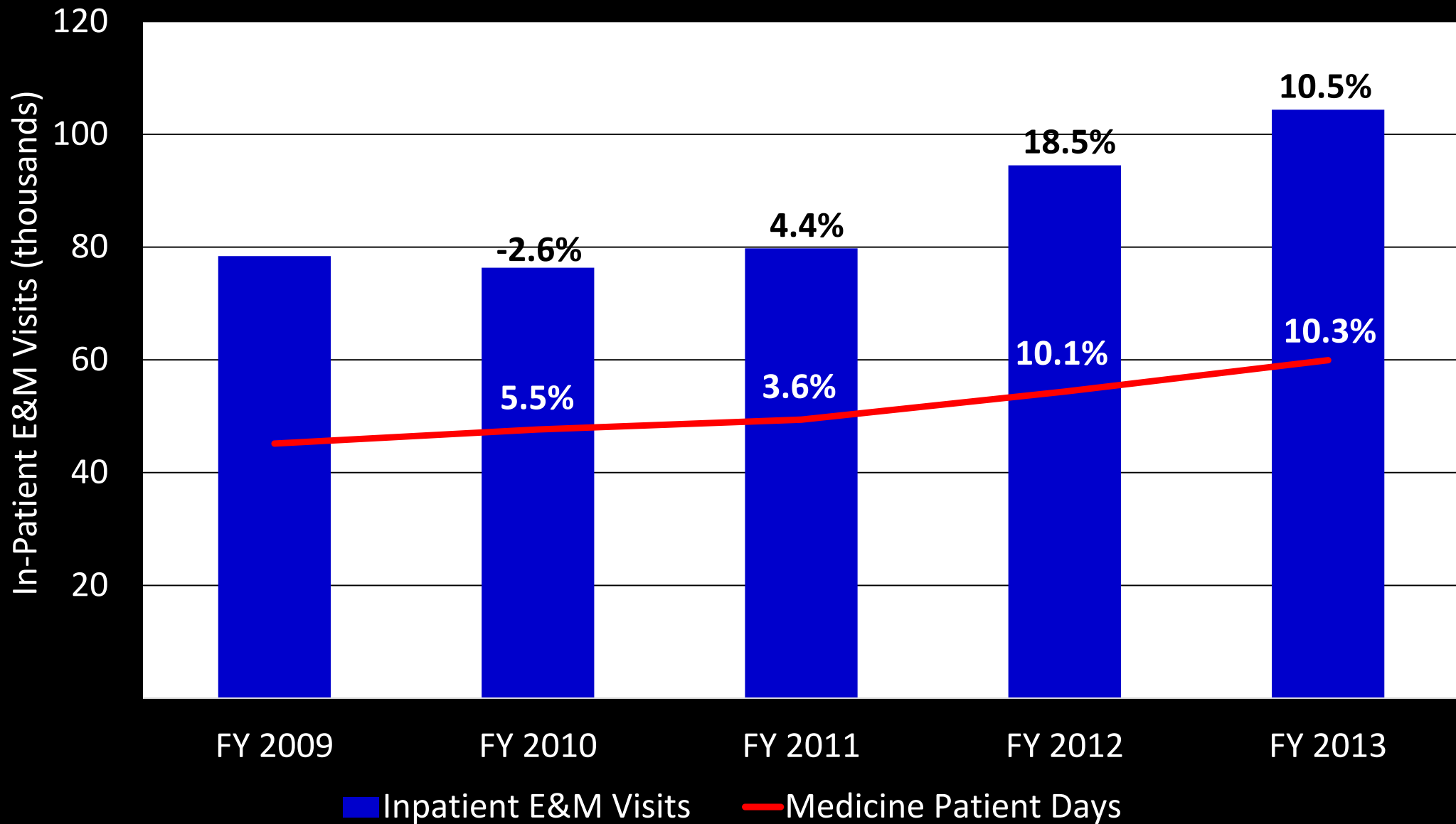
“Our heart, soul, and sustenance”



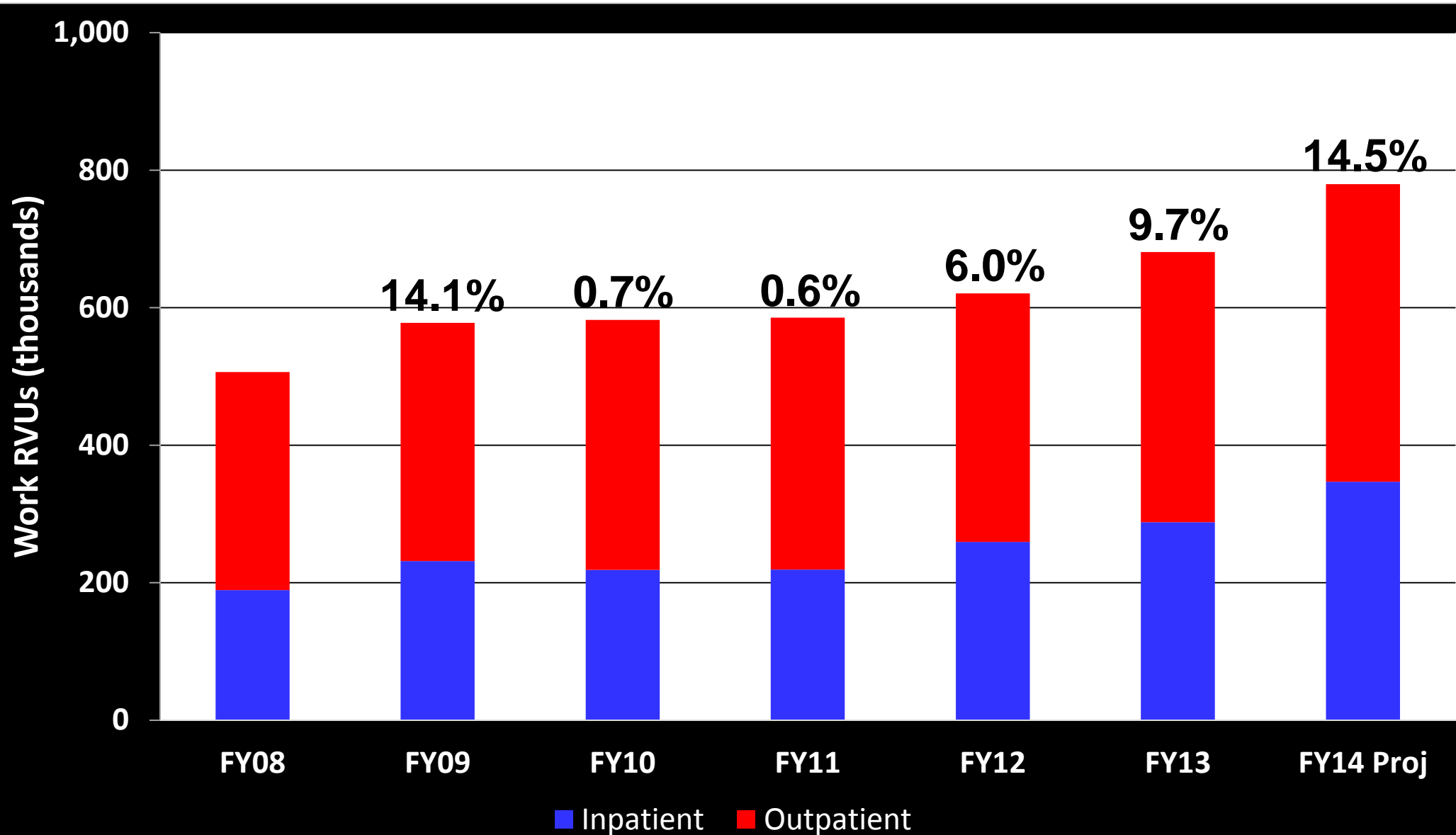
Medicine Inpatient Volumes



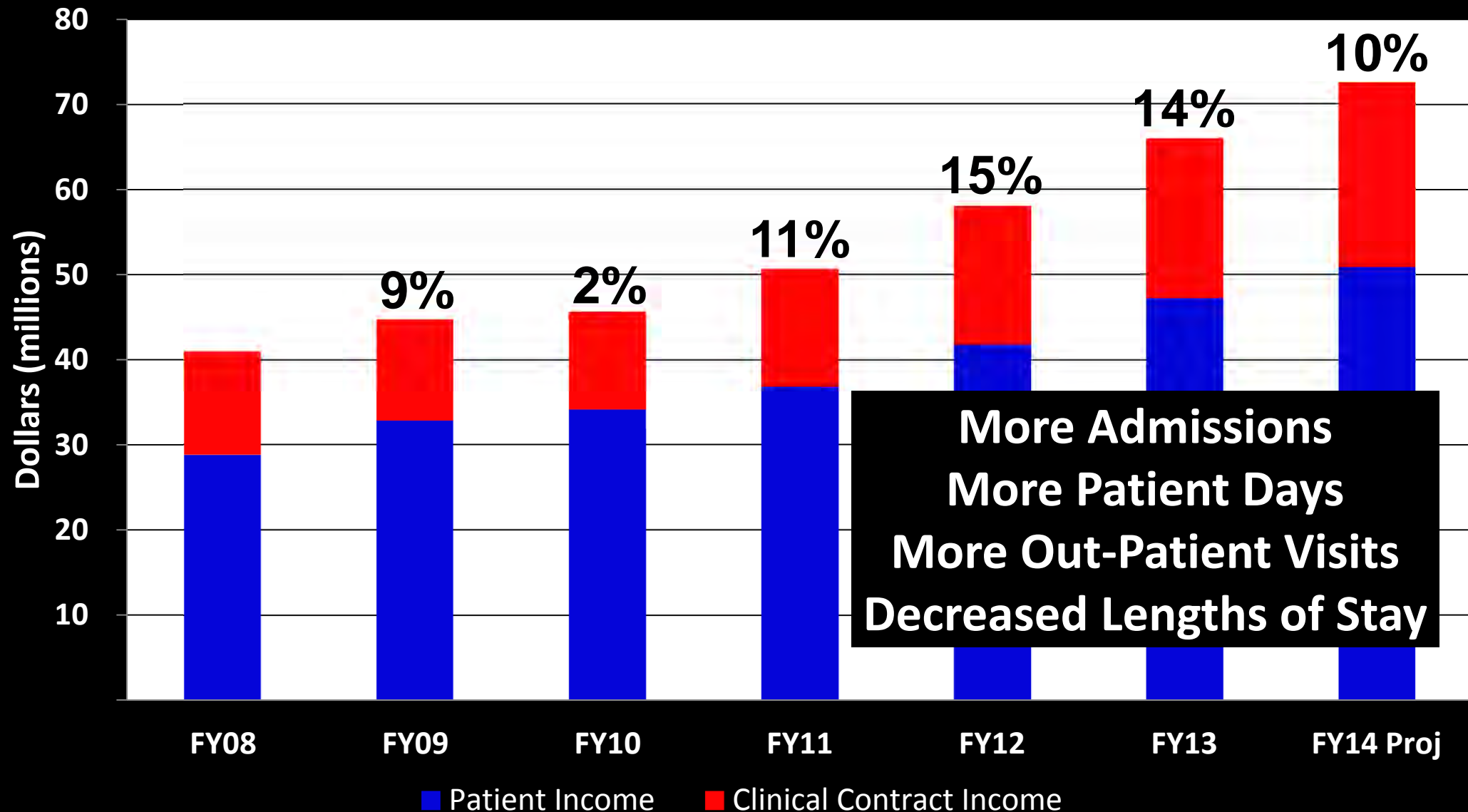
Medicine Inpatient Volumes



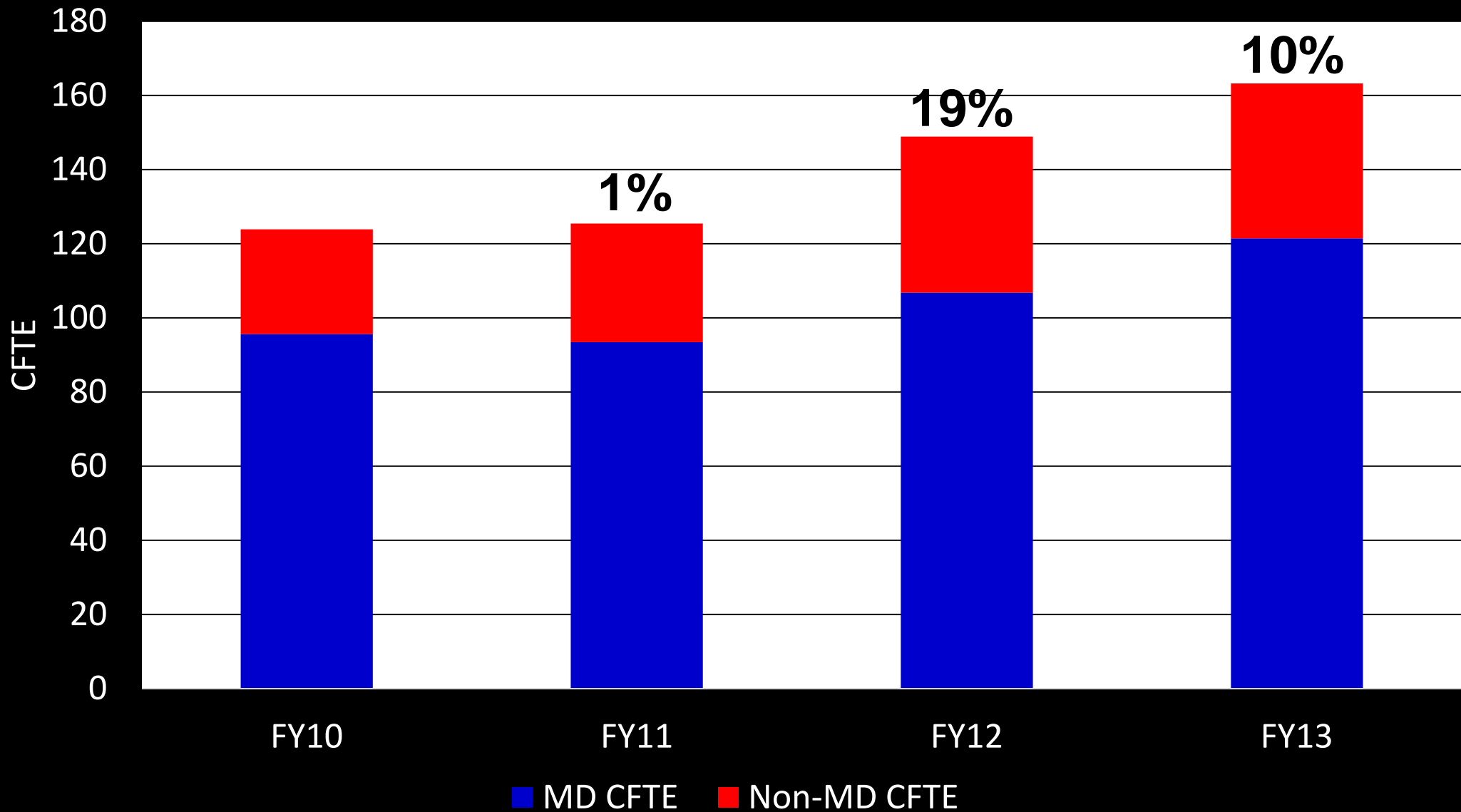
Work RVUs



Clinical Revenue



Clinical FTEs



Faculty Recruitment



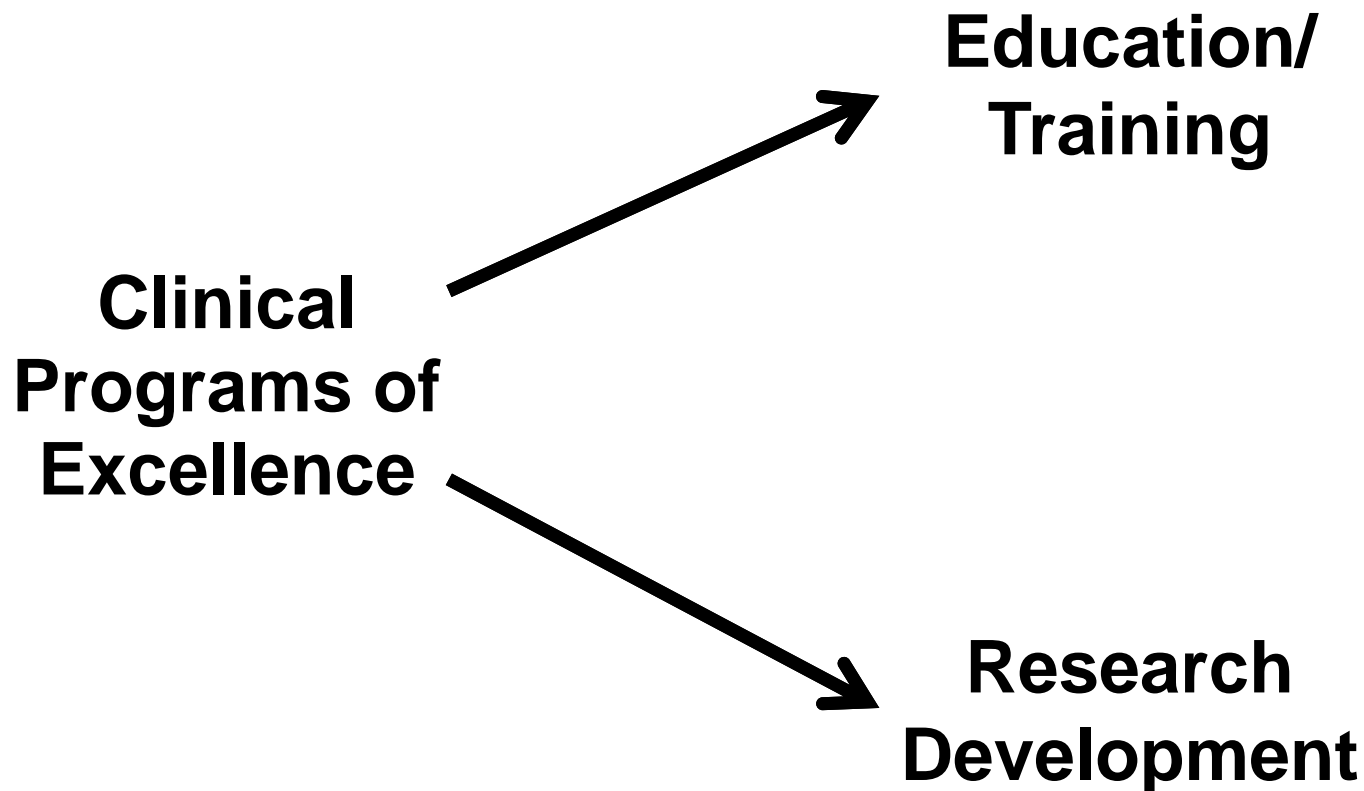
Faculty Recruitment

Division	Recruits
Cardiology	8
Geriatrics	2
Gastroenterology/Hepatology	6
General Internal Medicine	32
Hematology	2
Infectious Disease	1
Medical Oncology	4
Personalized Medicine	2
Pulmonary	1
Renal	1
Rheumatology	2
TOTAL	61

Jim Beck, MD
Clay Smith, MD
Craig Jordan, PhD

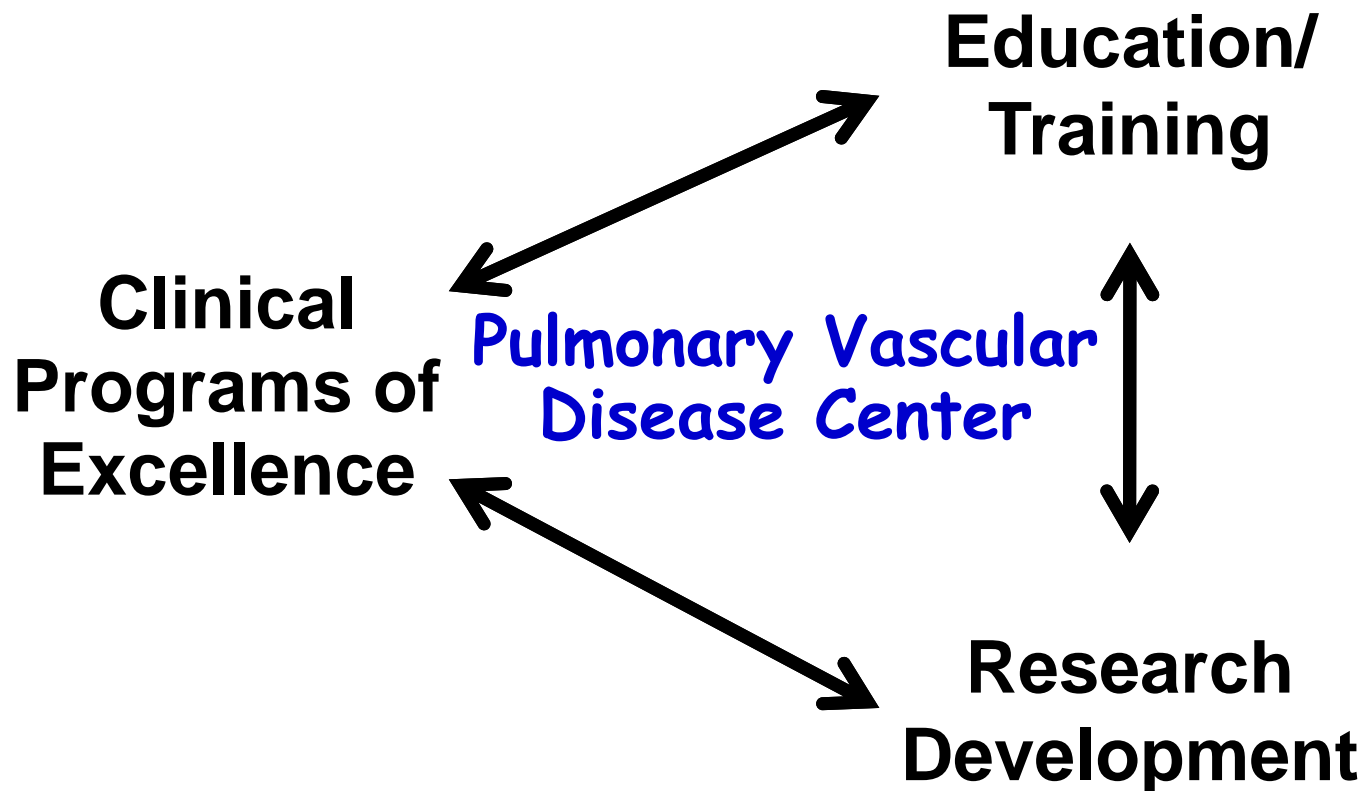
Clinical Programs and Patient Care

Strategy: *Expand and enhance clinical areas of excellence that consequently drive the educational and research enterprise*



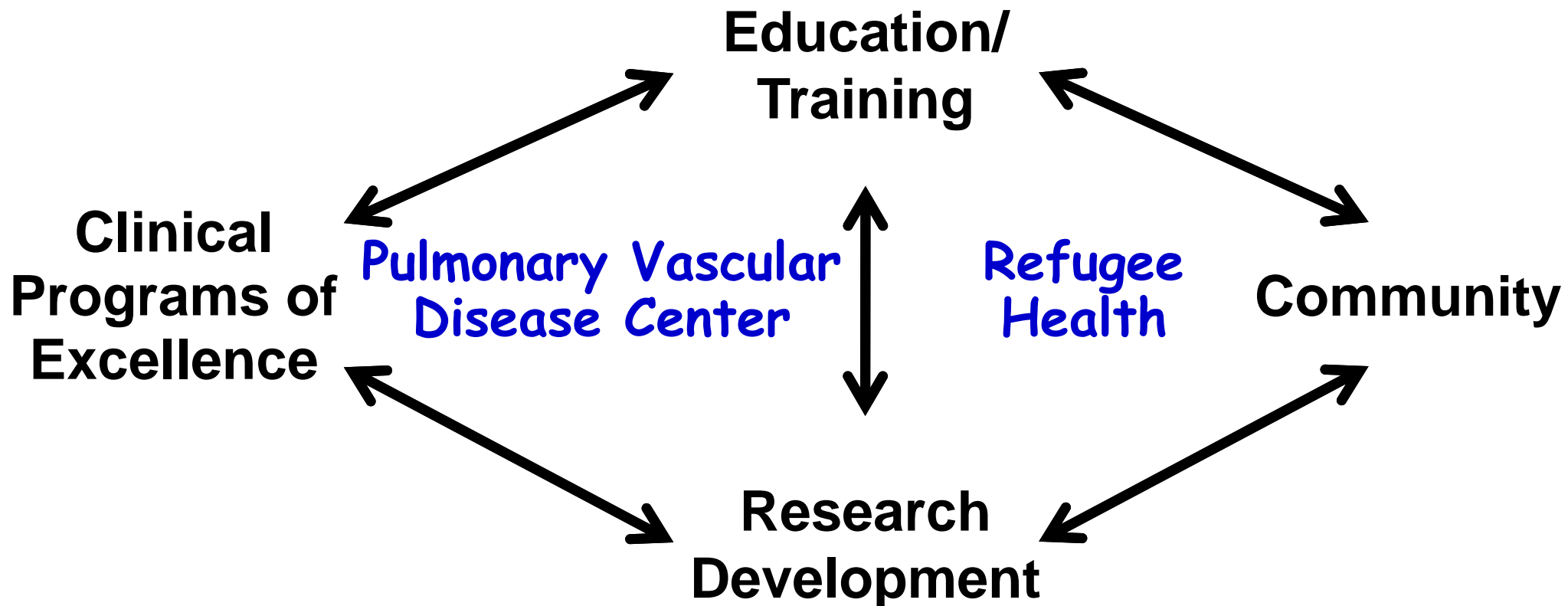
Clinical Programs and Patient Care

Strategy: *Expand and enhance clinical areas of excellence that consequently drive the educational and research enterprise*



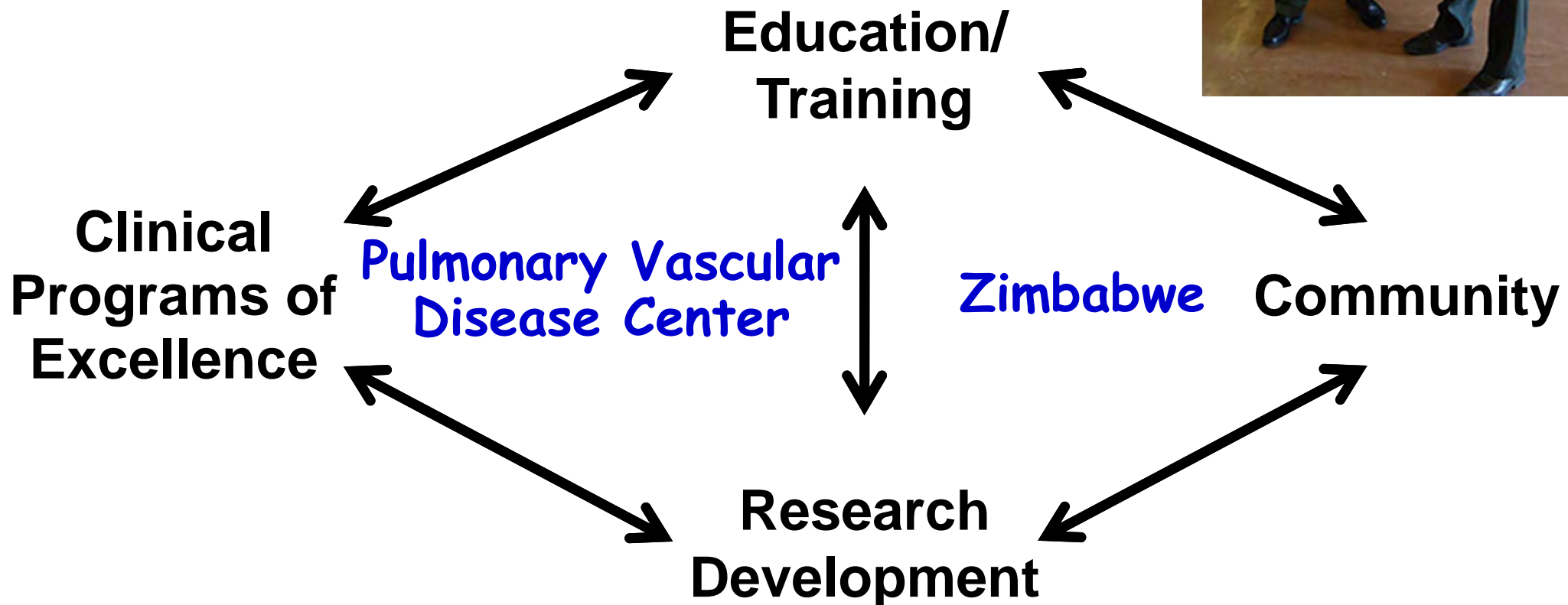
Clinical Programs and Patient

Strategy: *Expand and enhance clinical programs of excellence that consequently drive educational and research enterprises*

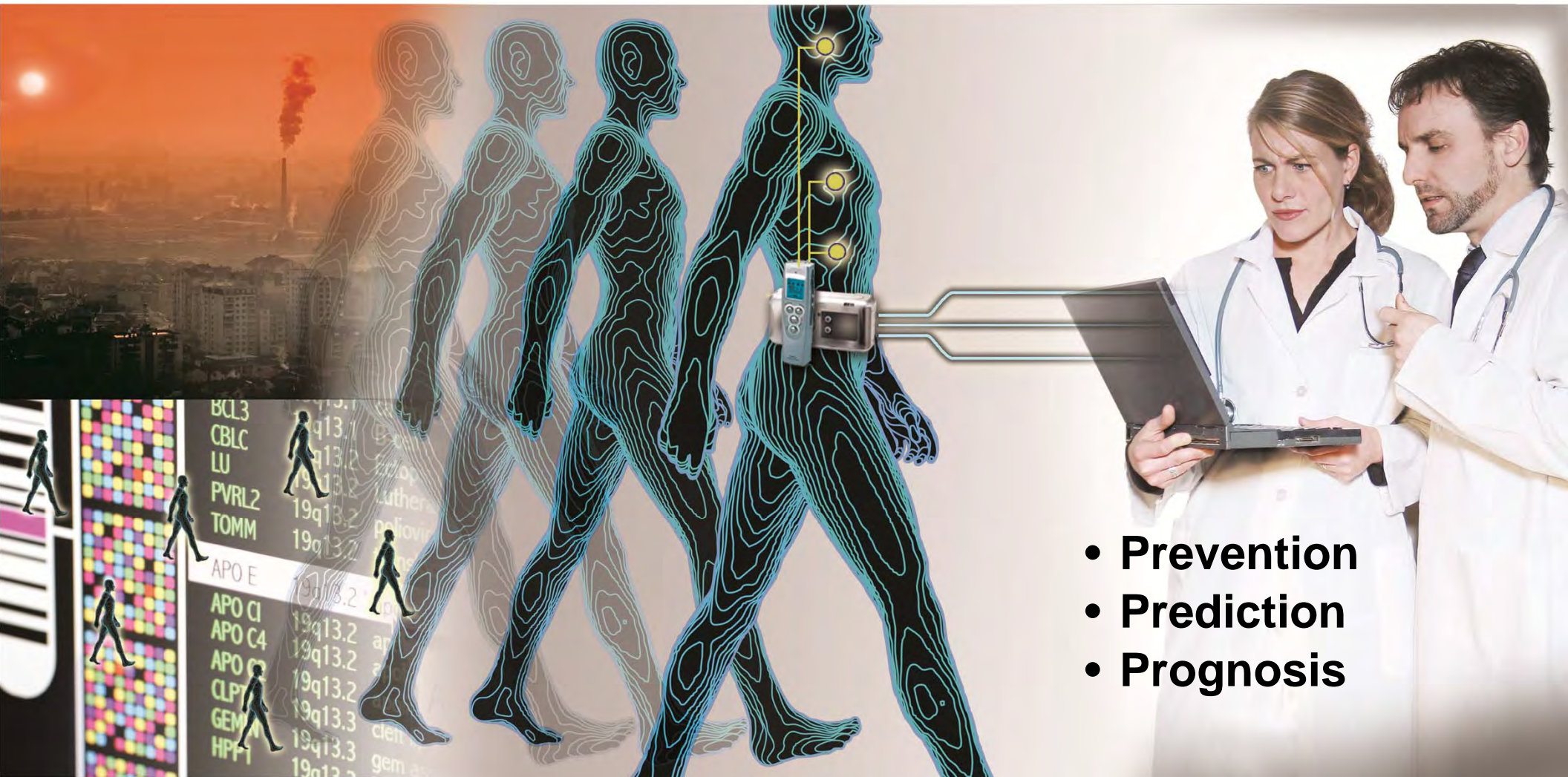


Clinical Programs and Patient Care

Strategy: *Expand and enhance clinical areas of excellence that consequently drive the educational and research enterprise*



Personalized or Precision Medicine



- Prevention
- Prediction
- Prognosis

Center for Biomedical Informatics and Personalized Medicine

```
graph TD; CBIMP[Center for Biomedical Informatics and Personalized Medicine] --> DOM[DOM Division]; CBIMP --> INF[Infrastructure]; DOM -.-> CA[Clinical Arm]; DOM -.-> INF;
```

DOM Division

- Academic home
- SOM/DOM supported
- 1° faculty (N = 5-7)
- 2° faculty (N = 10-20)

Clinical Arm

- Clinical service
- DNA bank
- CLIA certified lab
- Disease-specific assays

Infrastructure

- Data warehouse (CREW)
- Informatics core
- Genomics facility
- Existing biorepositories
- Graduate training prgm

Challenges: Rapid Expansion of the Clinical Enterprise

Strategy: *Deliver outstanding care while balancing our priorities*

Tactics:

- Increase the clinical FTE to meet the need
- Balance clinical program development with innovative academic growth
- Minimize medical errors – quality assurance program

Challenges: Quality and Safety

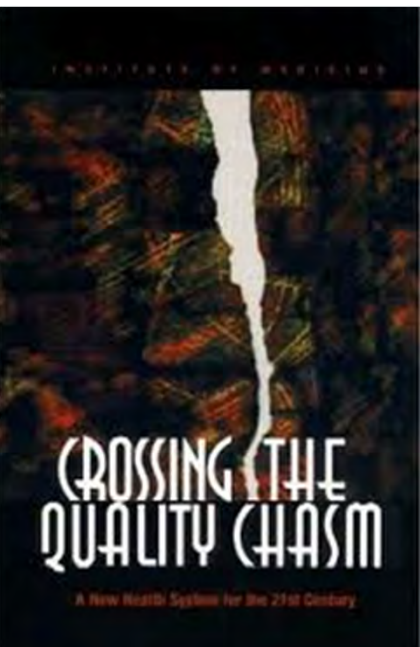
Strategy

- Achieve superior clinical outcomes
- Engage and support providers
- Integrate these activities with educational and research opportunities



Approach

- Promote Safety Culture: Peer Review and Morbidity and Mortality
- Partner with other departments and the hospital
- Develop QI Infrastructure: Access to meaningful data through QI support



Division-Specific Dashboards

Effectiveness



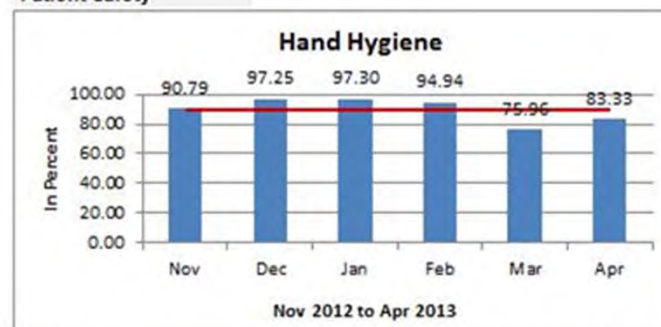
BMT	Nov	Dec	Jan	Feb	Mar	Apr
Mortality Index	1.56	0.00	0.00	2.92	0.00	0.00
Benchmark	1.00	1.00	1.00	1.00	1.00	1.00
# of Cases	31	24	35	45	44	25
% Death (Obs)	3.23	0.00	0.00	4.44	0.00	0.00
% Death (Exp)	2.07	2.20	2.65	1.52	2.71	4.49

Effectiveness and Efficiency



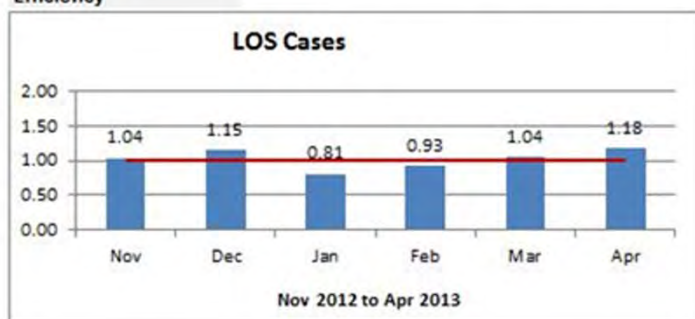
BMT	Nov	Dec	Jan	Feb	Mar	Apr
Nov 2012 to May 2013	24.14	8.70	22.58	21.95	19.05	16.00
6 month average	18.73	18.73	18.73	18.73	18.73	18.73
Admission	29	23	31	41	42	25
Readmission	7	2	7	9	8	4

Patient Safety



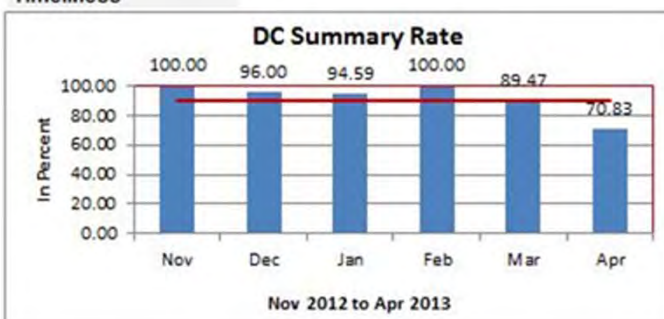
BMT	Nov	Dec	Jan	Feb	Mar	Apr
% of Yes	90.79	97.25	97.30	94.94	75.96	83.33
Benchmark	90.00	90.00	90.00	90.00	90.00	90.00
Total # of Cases	76	109	74	79	104	96
# of Yes	69	106	72	75	79	80

Efficiency



BMT	Nov	Dec	Jan	Feb	Mar	Apr
LOS Index	1.04	1.15	0.81	0.93	1.04	1.18
Benchmark	1.00	1.00	1.00	1.00	1.00	1.00
# of Cases	31	24	35	45	44	25
Mean LOS (Obs)	13.90	10.88	6.80	8.44	13.30	15.08
Mean LOS (Exp)	13.39	9.42	8.42	9.08	12.79	12.76

Timeliness



BMT	Nov	Dec	Jan	Feb	Mar	Apr
% Summary Signed	100.00	96.00	94.59	100.00	89.47	70.83
Benchmark	90.00	90.00	90.00	90.00	90.00	90.00
6 month average	91.82	91.82	91.82	91.82	91.82	91.82
# of Discharge	30	25	37	41	38	24
Signed Discharge	30	24	35	41	34	17

Patient Centeredness



BMT	Nov	Dec	Jan	Feb	Mar	Apr
% rating of Always	93.75	61.54	40.00	70.00	50.00	33.33
Benchmark	90.00	90.00	90.00	90.00	90.00	90.00
6 month average	58.10	58.10	58.10	58.10	58.10	58.10
# of respondents	8	7	5	5	2	3
With rating of Always	7.50	4.00	2.00	3.50	1.00	1.00

Challenges: Incentivize Patient Care

Strategy: *Support physicians who are providing clinical care*

Data:

- Delivery of patient care is not financially profitable for Allergy, Endocrinology, Hematology, Infectious Diseases, Renal, and Rheumatology
 - Annual cost to the divisions is \approx \$500K

Tactics:

- Partnership between UCH, UPI, and the DOM
- \$800K will be distributed to the 'non-procedural' divisions based on wRVUs and modest productivity goals



Challenges: Health Care Reform

Strategy:

- Consolidation
- Capitation
- Commodization



- Quality and Safety
- Health Outcomes
- Academic Priorities

Tactics:

- System – 7 hospitals and 15,000 employees spanning the front range
- UCH – new tower and outpatient facilities beginning to focus on bundled payment and capitated care
- Partnership between System and SOM: transfer a % of the bottom line profit to the SOM for academic development

Educational and Training Programs

“Our Jewel – Our Future”

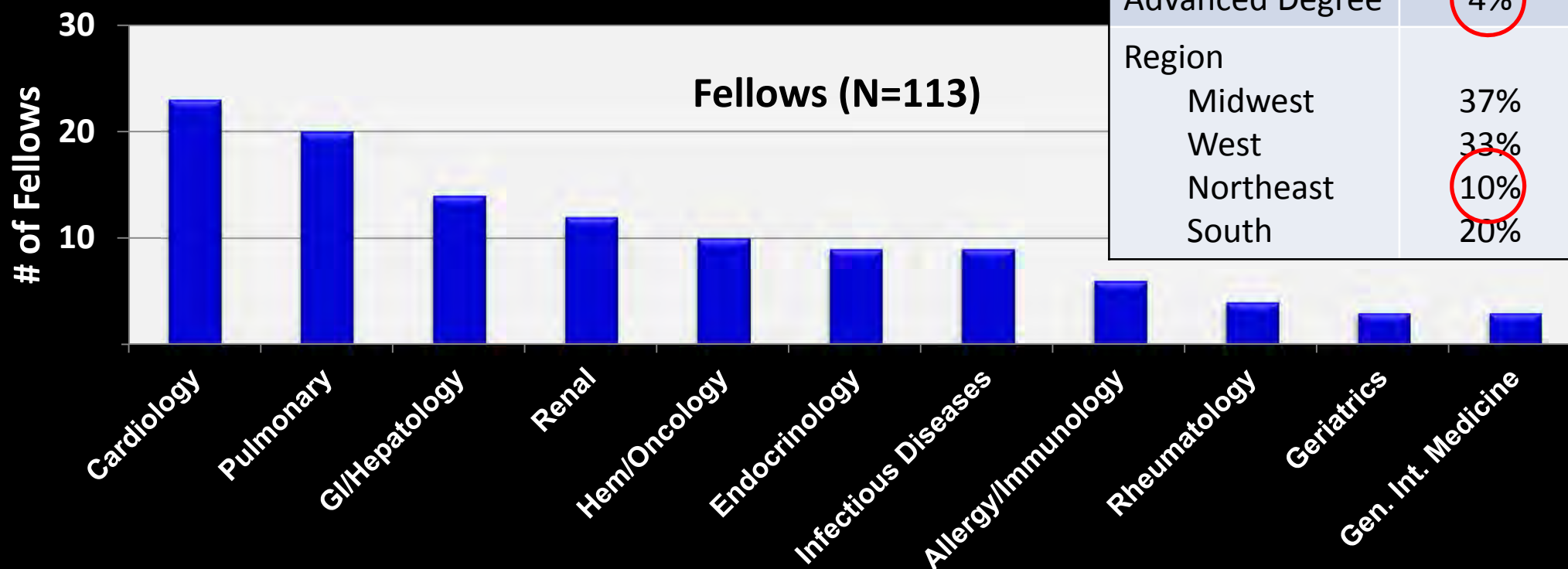
Vision: *Support highly competitive and diversified training programs that produce leaders in the practice of medicine and the discovery of new knowledge*



Department of Medicine Trainees

	R1	R2	R3	Chief Residents	Total
Housestaff	67	50	50	5	172

Characteristic	Percent
Female	40%
URM	10%
AOA	32%
Step 2 Score	95-99 th tile
Advanced Degree	4%
Region	
Midwest	37%
West	33%
Northeast	10%
South	20%



Challenge: Expanded Clinical and Educational Opportunities

Strategy: *Program innovation to maintain and strengthen teaching services*

Tactics:

- Develop a Medicine-Pediatrics Training Program that will begin July, 2014
- Joe Kay (director) and Dan Reardon (associate director)
- 4 housestaff per year
- Partnership between UCH, TCH, Department of Pediatrics, and DOM

Challenges: Career Development

Strategy: *Support trainees to become leaders*

Tactics:

- Physician Scientist Training Program
- Training approach based on career goals

Clinical Training Tracks	Investigator	Clinician Educator	Health Care Delivery
Primary Care			
Hospitalist			
Categorical			

Academic Subspecialty Career (ASC)



Challenges: Diversity of our Trainees



Groundbreaking Research

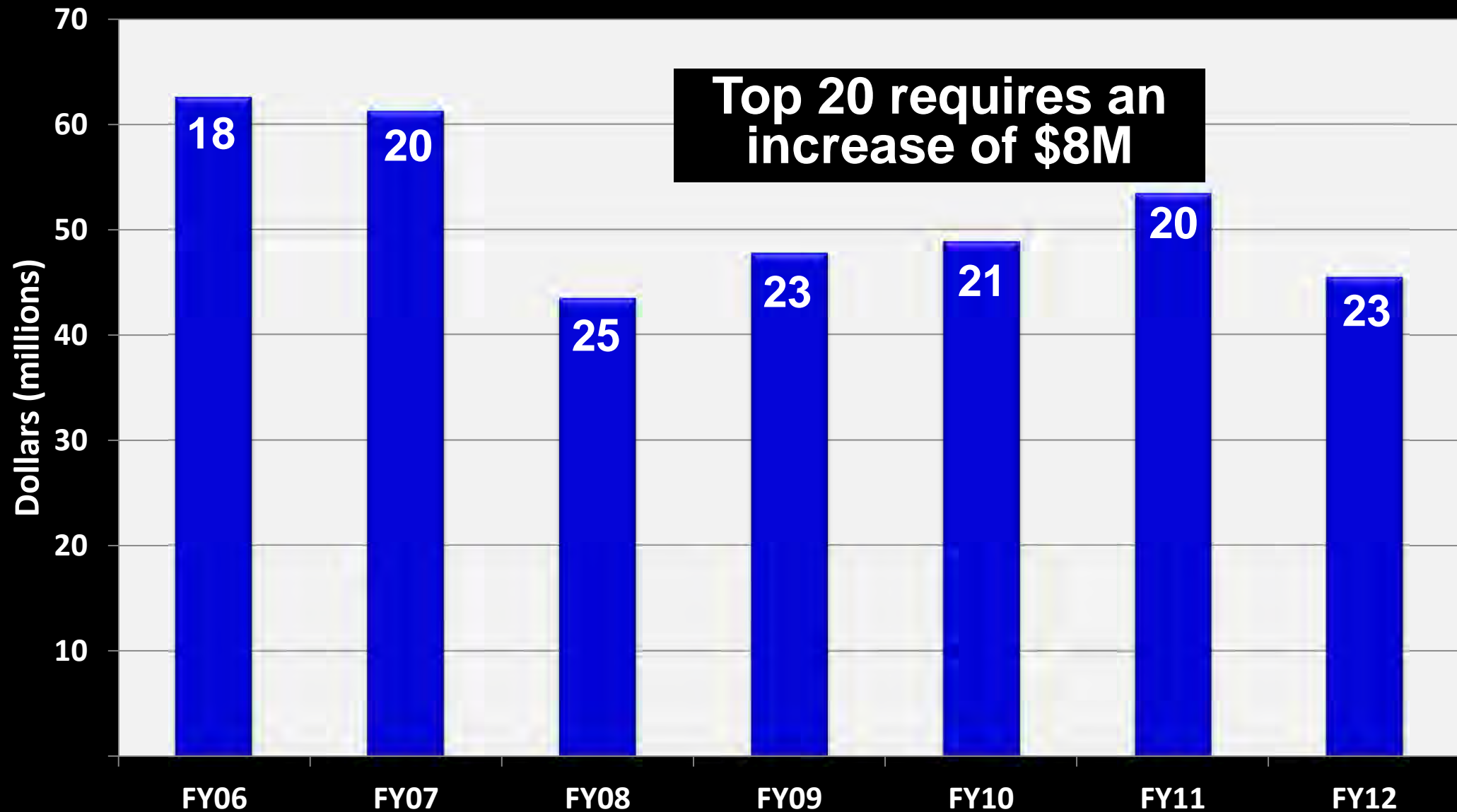
“The Bridge Between Science and Medicine”



Vision: *Support physician-scientists and PhDs to develop new knowledge that may ultimately improve human health*

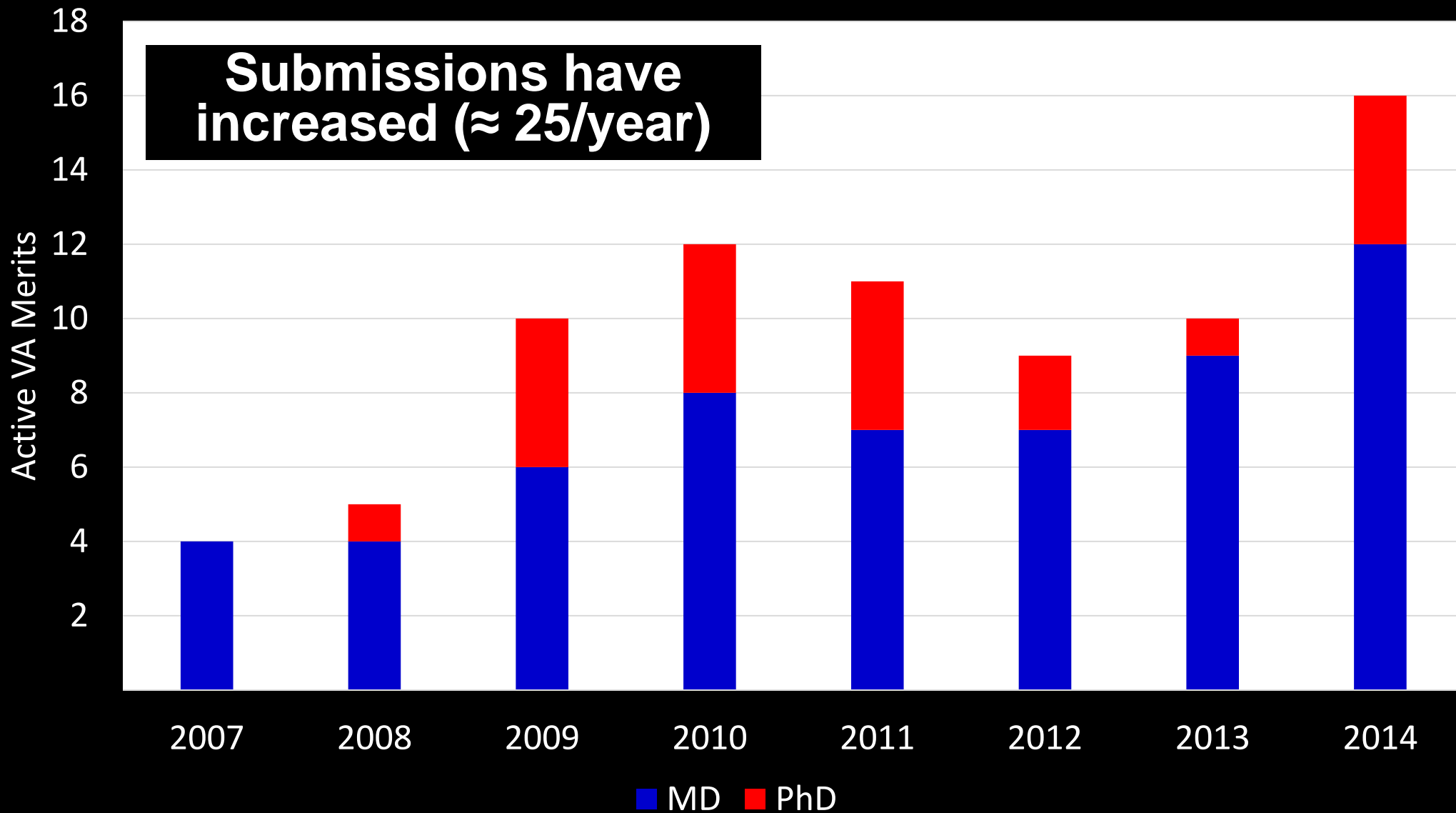


NIH Support and Ranking



VA Research Support

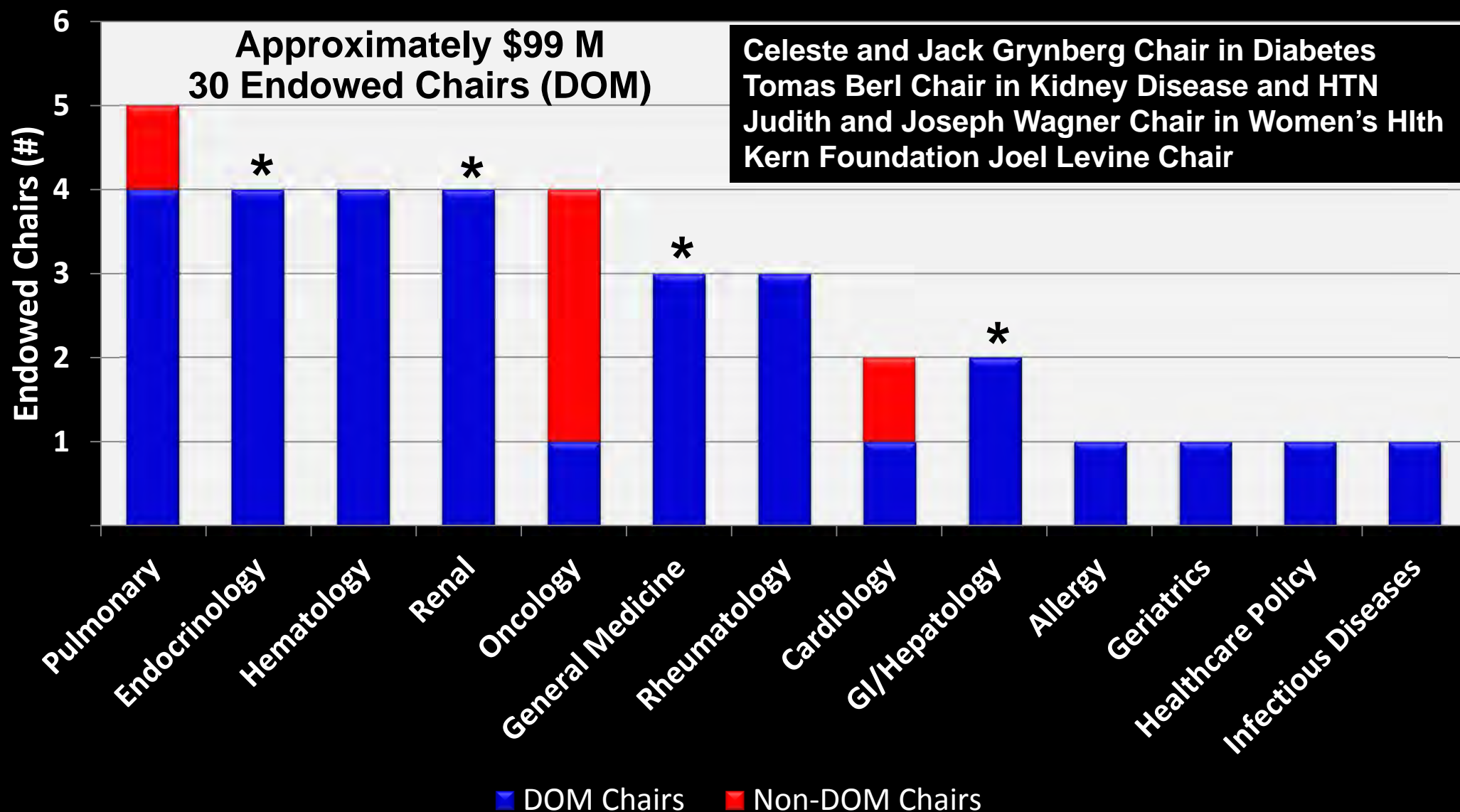
**Submissions have
increased ($\approx 25/\text{year}$)**



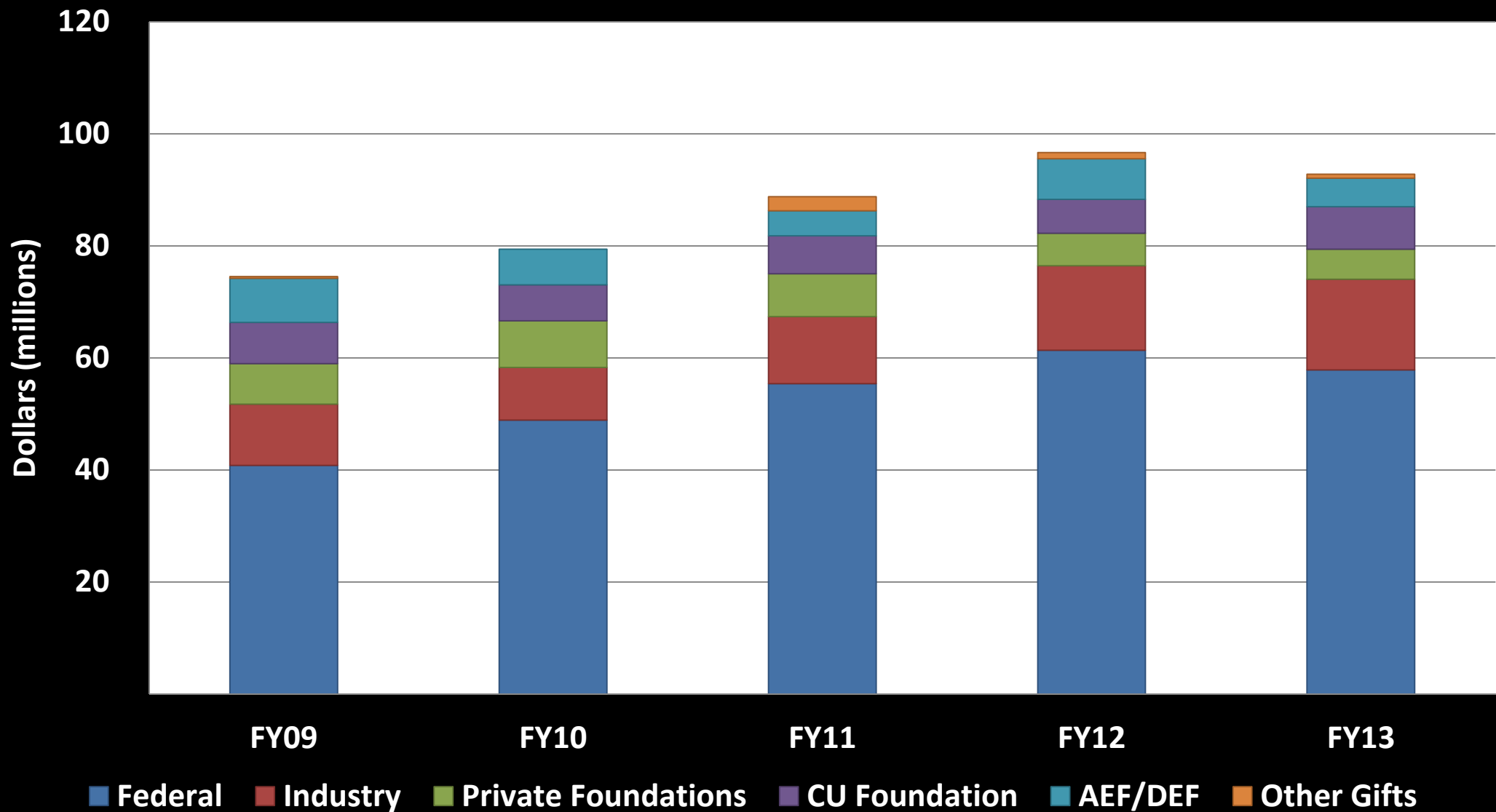
Endowed Funds in the Department

Approximately \$99 M
30 Endowed Chairs (DOM)

Celeste and Jack Grynberg Chair in Diabetes
Tomas Berl Chair in Kidney Disease and HTN
Judith and Joseph Wagner Chair in Women's Hlth
Kern Foundation Joel Levine Chair



Departmental Research Support



Recognition of our Accomplishments

- **32 American Society of Clinical Investigation**
- **31 Association of American Physicians: Bryan Haugen and Marvin Schwarz**
- **6 University Distinguished Professors**
 - **Paul Bunn**
- **Institute of Medicine**
 - **Bob Schrier**
- **National Academy of Sciences**
 - **Charles Dinarello**

Challenges: Support of the Research Enterprise

Strategy: *Investment now will pay off in the future*

Tactics :

- Mentorship program for junior faculty
- Retain and recruit outstanding physician-scientists and PhDs
- Establish pipeline of career development
 - DREAM (DOM Research and Equity in Academic Medicine) Program
 - Physician Scientist Training Program (PSTP)
 - Outstanding Early Scholars Program
 - Bridging Research Program
- Support interdisciplinary program development
- Celebrate our accomplishments
 - DOM Research in Progress
 - DOM Research Day

Challenges: Support of the Research Enterprise

Strategy: *Investment now will pay off in the future*

Tactics:

- Reorient ourselves to the 'New NIH'
 - Targeted research - listserv@list.nih.gov
 - Limited investigator initiated science
 - Constrained funding
- Diversify portfolio: VAMC, industry, foundations, philanthropy, and institutional
- Partnership between System and SOM: transfer a % of the bottom line profit to the SOM for academic development
 - Initiated discussions with the SOM to use some of these funds to support a portion of the salary for research intensive faculty in clinical departments



Communication



Department of Medicine

University of Colorado Anschutz Medical Campus

NEWSLETTER | JUNE 2013

DOM launches Med-Peds Residency Program

BY LISA MARSHALL

The CU Departments of Medicine and Pediatrics have launched a new, combined program aimed at filling an unmet need for physicians schooled in both specialties.

"There are a growing number of conditions that span pediatrics to internal medicine and there is a need for primary care physicians and subspecialists who can care for these complex patients regardless of their age," said Dr. Suzanne Brandenburg, director of the Department of Medicine (DOM) Internal medicine residency program. "There is also room in this part of the country for a highly regarded medicine-pediatrics training program."

The new four-year postdoctoral program will accept four residents per year, who will become board eligible in both specialties upon completion. It will become the 78th combined Med-Peds program in the country, but one of the few in the West.

"People are begging for it," said Ben Hale, a fourth-year medical student who recently established a Med-Peds interest group for CU School of Medicine. "When I travel and people hear I am from Colorado they always say they wish we had a program like this here."

Realizing that there was some overlap in the curriculum covered by three-year Internal Medicine and three-year Pediatrics training programs, the University of North Carolina and the University of Rochester launched the first combined Med-Peds training programs in 1967.

Today, it is the largest combined specialty offering available, with roughly 1,300 residents in training at 77 schools around the country, and 6,000 practitioners who have completed it, according to the National Med-Peds Residents Association (NMPRA).

But the supply of training programs is not meeting demand. In 2012, 560 applicants nationwide vied for 362 Med-Peds slots.

Dr. Joe Kay, associate professor of medicine and pediatrics at CU, says he went into Med-Peds after graduating from medical school at State University of New York because he loved working with children and he loved the complexity of internal medicine. He also saw a lack of physicians able to take care of children with conditions like congenital heart disease, cystic fibrosis, childhood cancer, and early-life organ transplants once they reached adulthood.

"More children are surviving with complex disorders and I did not want

to be a doctor who, when my patient turned 18, had to give up their care because I wasn't qualified to take care of them as adults," said Kay, who did his training at University of Michigan and now specializes in congenital heart disease.

As interim director for CU's new program, Kay says Med-Peds-trained doctors can be a particular asset to rural communities, which might not have the population base to support a pediatric practice but need someone trained to deal with more complex pediatric cases when they arise.

"Family physicians are very good at taking care of common problems, from geriatrics to gynecology, but it is impossible to be trained in everything," he says. "The advantage a Med-Peds doctor has is that they are trained in all the complex pediatric conditions as well as the complex internal medicine conditions. They can work alongside family physicians and add a dimension of care that they would not have otherwise."

Programs vary, and CU has not nailed down specifics yet. But Med-Peds typically involve 24 months of pediatrics training and 24 months of internal medicine training, with residents switching between medicine and pediatric rotations every 3-6 months. The programs do not provide formal obstetrical or surgical training. Kay stresses they are not intended to be a replacement for family medicine, but rather, a supplement.

With 24 subspecialties and fellowships, from cardiology and infectious disease to critical care and endocrinology, Med-Peds trainees have an array of post-residency options and potential career paths.

Historically, 50 percent go into primary care, with between 77 and 93 percent working with both adults and children. Twenty-five percent pursue fellowship and subspecialty training, and 15 percent become hospitalists, according to NMPRA. Nearly 40 percent remain involved in education.

"Having this here will bring a new depth to both the internal medicine and pediatric departments," says Kay. "And with the primary care doctor shortage that we envision in this country, having extra trainees like this will really help to meet patient needs. It's an exciting step to advance medicine in Colorado."

CU is currently conducting a national search for a director of the new Med-Peds residency program and hopes to welcome its first four trainees in the summer of 2014.

For more information, contact interim director Joe Kay, MD, at 720-848-6564.



Department of Medicine

University of Colorado Anschutz Medical Campus

NEWSLETTER | OCTOBER 2013

The DREAM Program



Quan Bui

Seven students who completed their first year at the University of Colorado School of Medicine spent this past summer participating in a hands-on research experience in a lab with a faculty mentor. They are part of the **Department of Medicine Research and Equity in Academic Medicine** experience also known as the **DREAM Program**.

This program, started two years ago by the Department of Medicine, led by Rob Winn, MD, is now under the direction of John Repine, MD, the Waring Professor of Medicine, Associate Dean for Student Advocacy and Director of the Webb-Waring Institute for Cancer, Aging, and Antioxidant Research. The program's objectives are twofold—to increase the number of research opportunities for medical students and to expand the opportunities for those in underrepresented categories. The program was developed because of data showing a large decrease in the number of physician-scientists as well as the lack of underrepresented physicians in proportion to the numbers of minority patients. In 2002 a *New England Journal of Medicine* article reported that in 1983, physician-scientists represented only 4% of the 479,439 total physicians in our country. Fifteen years later, physician-scientists had dropped to only 2% of the nation's 707,032 doctors. (AAMC 2008). And a recent paper in *Science* (Science 2011; 333: 1015) indicates that this problem is pervasive and extends to the awarding of NIH Grants. This dramatic decrease may be attributed to the longer training period required for the physician-scientist designation, the tremendous cost of the dual training as well as the racial biases that unfortunately exist in our culture.

Additional data shows that while only 20% of the physicians in our country are from the underrepresented category, the population of minority patients continues to grow rapidly each year. The DREAM program concept of introducing medical students from the underrepresented category to the role of

research and medicine early in their career is intended to assist in filling both of these gaps. Director Repine states that even if young physicians do not chose the physician-scientist role, this exposure to medical research should make them better physicians.

The DREAM program, a two-month summer opportunity, supports each student with a \$3,000 stipend from the Department of Medicine. Students submit applications and proposals which are reviewed by a selection committee and after they are chosen they choose a mentor or a specific research area. At the conclusion of the summer, each student presents an overview of their work to David Schwartz, MD, chair of the Department of Medicine and Program Director John Repine, MD.

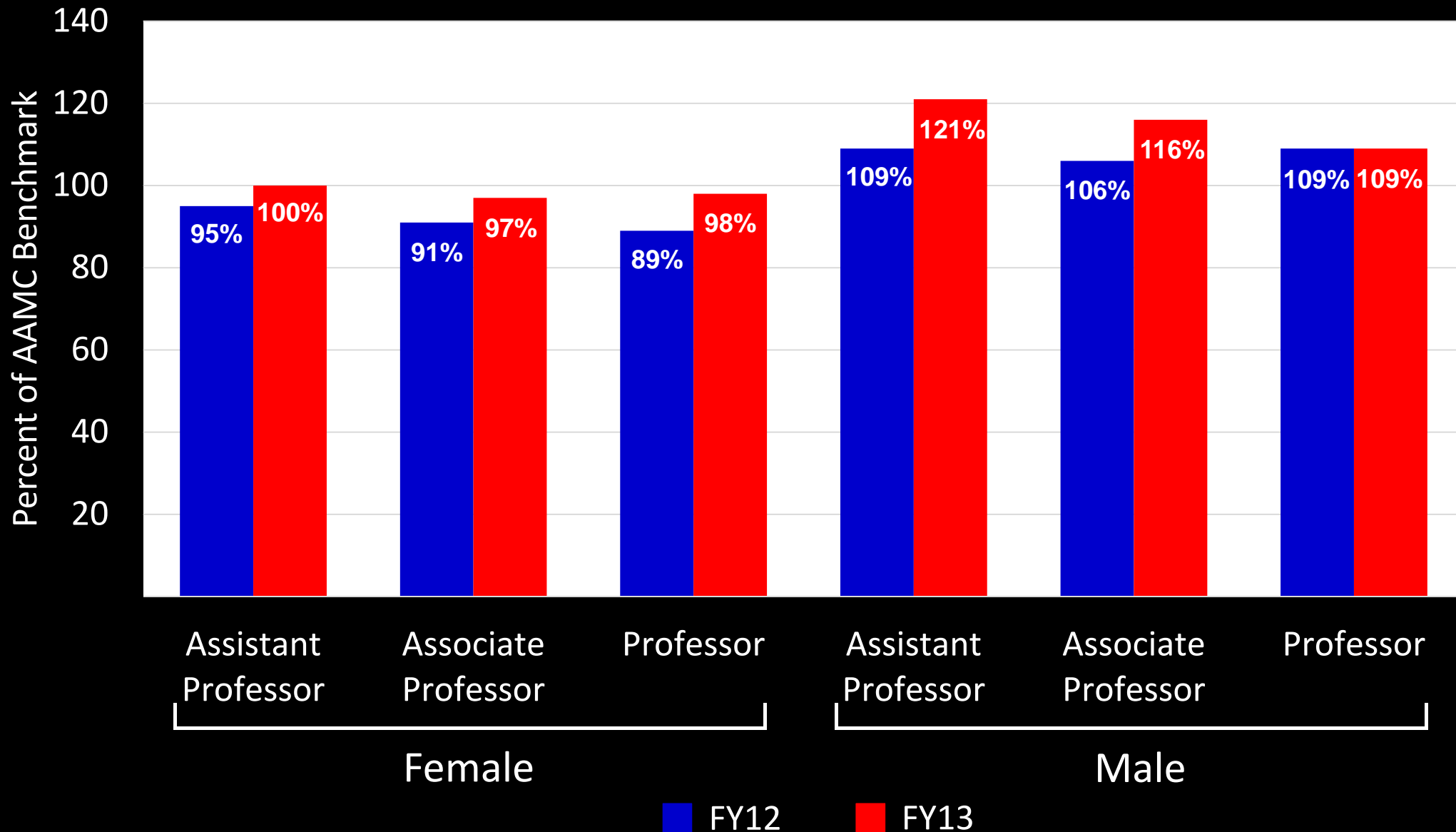
Quan Bui one of the DREAM students described his experience in this way. "The members of the (Mark) Geraci lab were so willing to teach me; overall it was a great experience. There is so much camaraderie in academic medicine; I discovered that research is my calling. It affirmed my goal of being in academic medicine, this is my passion."

According to Director Repine, "For some of the students, like Quan, it truly is like a dream come true!"

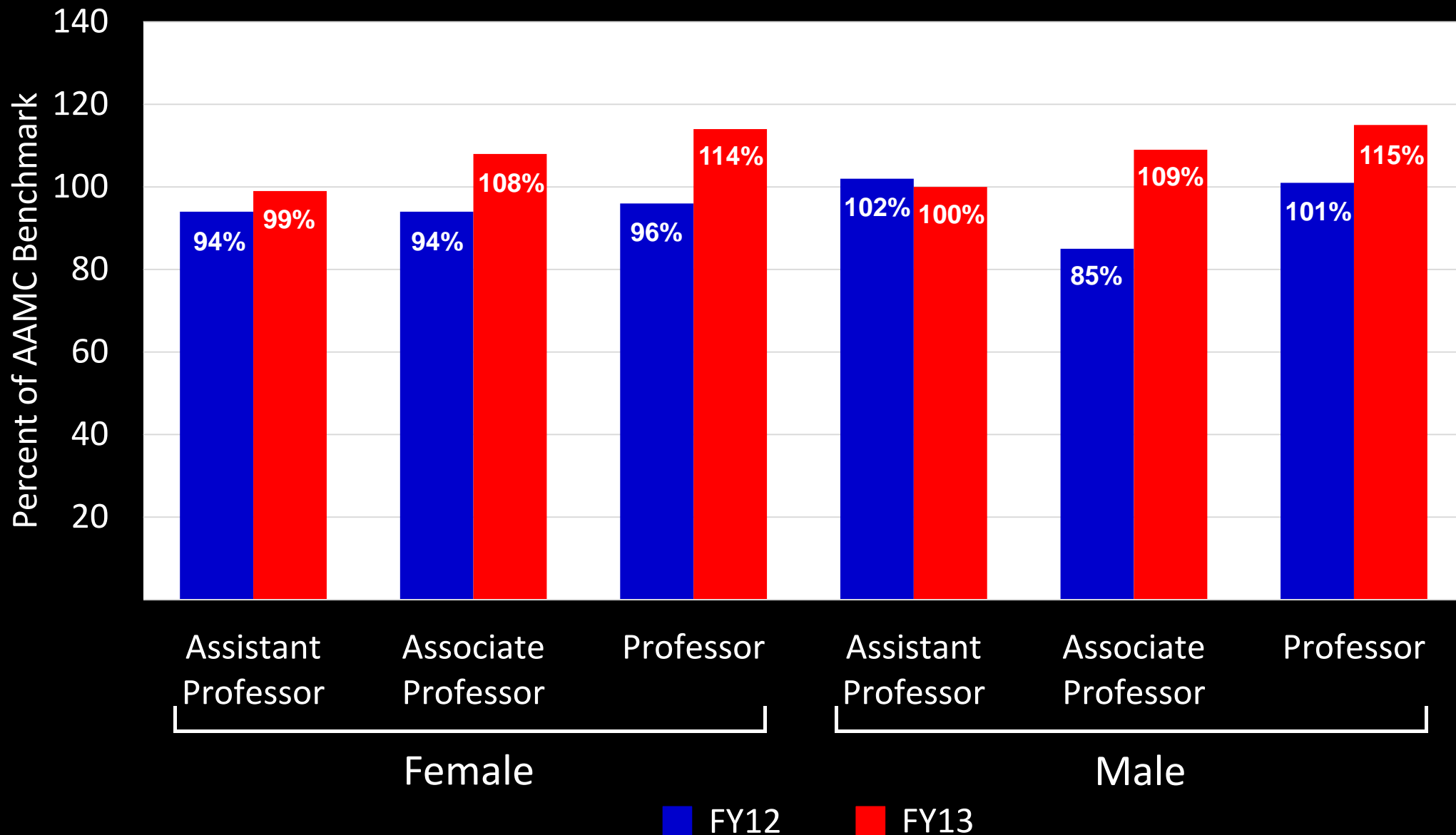
2013 DREAM Students & Mentors:

Bianca Pullen—Mark Earnest, MD, PhD and Angela Sauaia, MD, PhD
Brooke Bredbeck—Neda Rasouli, MD
Saned Raouf—Paritosh Kaul, MD
Quan Bui—Mark Geraci, MD
Tuong Vi Tran—Diep N. Doan, MD, PhD
Timothy Ung—Michael Graner, PhD
Quocan Nguyen—Carl Bartecchi, MD

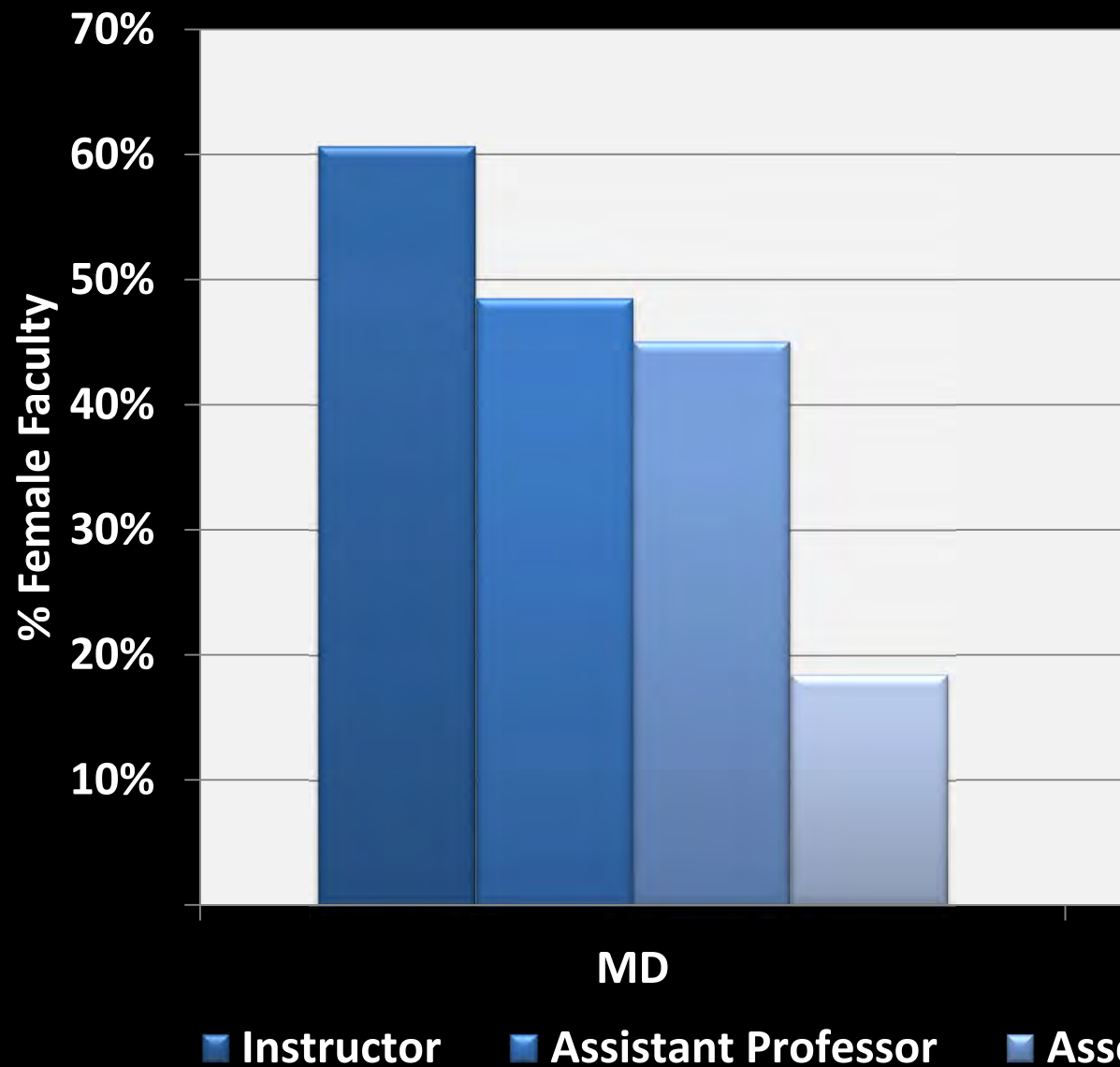
Salary by Gender – MD Faculty



Salary by Gender – PhD Faculty

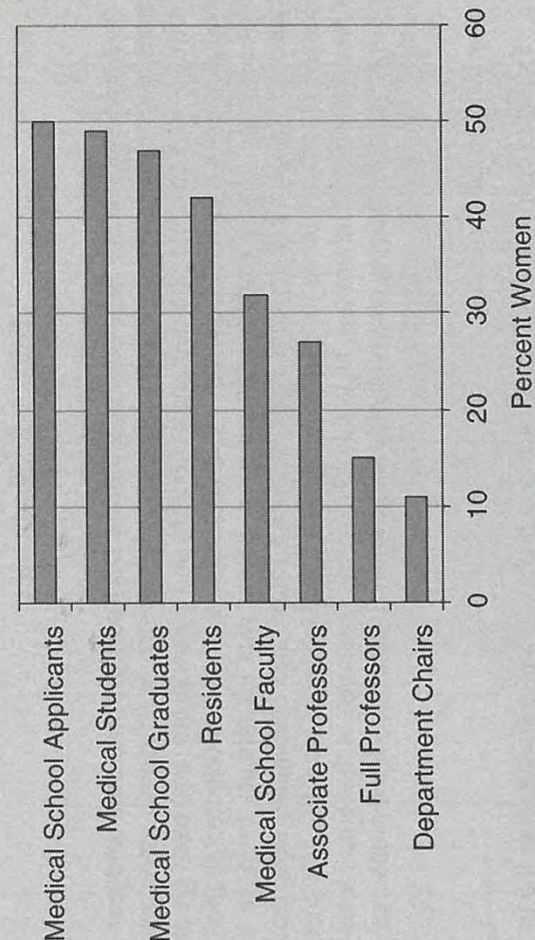


Academic Rank by Gender



BEYOND BIAS AND BARRIERS

FULFILLING THE POTENTIAL OF WOMEN IN ACADEMIC SCIENCE AND ENGINEERING



SCIENCES,
NG, AND
MEDICINE
ACADEMIES

Enduring Partnerships with our Affiliates



We will succeed through Your Accomplishments

Career and Program
Development



