

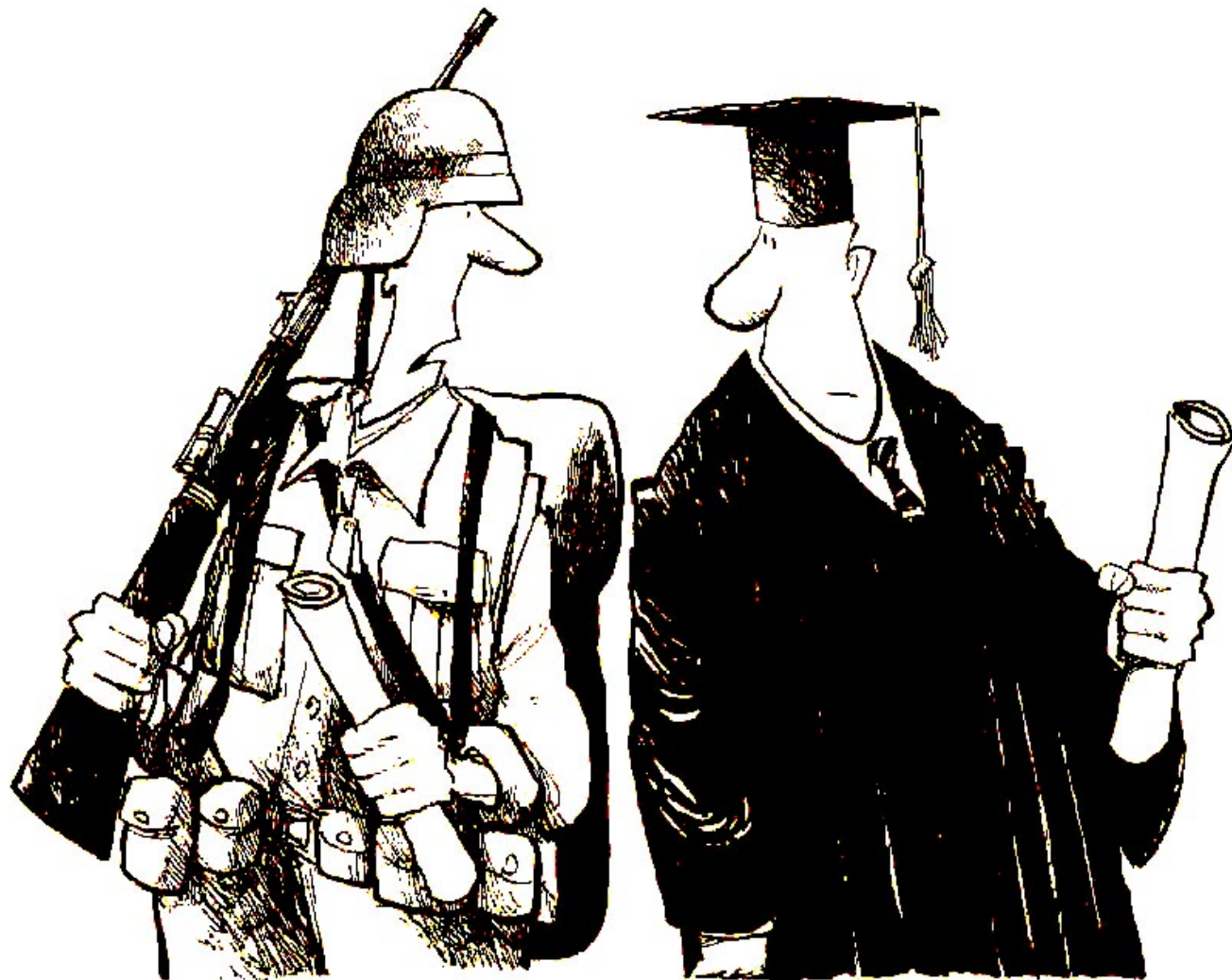
Presentation to the AAMC GREAT Group Annual Meeting

October 4, 2008

**“Forces Driving Changes in Science and Research
Education at Academic Medical Centers –Evolving Trends
from the Basic Science Chairs’ Perspective”**

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"I FIGURE IT'S EASIER TO FIND A WAR THAN A JOB THESE DAYS."



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Evolving Roles of Basic Science Depts. in AHCs

Then

- Responsible for content, organization, teaching of med school course (s)
- Responsible for department based graduate program, fellowships/teaching assistantships
- Developed and maintained core facilities/infrastructure
- Provided large fraction of faculty salaries/fringes from College funds
- Led faculty hiring in discipline with primary and/or secondary appointments
- Clear tracking of extramural revenues generated by primary faculty PIs for internal institutional budget alignment
- Mostly tenure track faculty
- Promotions/tenure are driven by department
- Faculty often operated research operations with a single research grant
- Most PhD faculty had primary appointments in basic science departments
- While in graduate school, the next generation of basic scientists takes courses together with medical students and participates in medical education

Evolving Roles of Basic Science Departments in AHCs

Now

- Medical school course responsibility with “Medical Educators”
- Graduate programs generally committee/program based; fellowships and teaching assistantships assigned centrally
- Core facilities/infrastructure driven through interdisciplinary Centers
- Faculty salaries/fringes largely leveraged through extramural funding
- Faculty hiring coordinated across multiple Departments, Centers, Institutes
- Extramural revenues generated by multiple PI grants, credited internally to Programs, Centers, for internal budget/space alignment
- Promotions/tenure while largely still departmentally based engage other affiliations of faculty
- More non-tenure track faculty
- Faculty expected to maintain multiple grants – less time/inclination for teaching, departmental, institutional citizenship
- Clinical departments are primary home of most PhD faculty
- While in graduate school, the next generation of basic scientists take separate curriculum than medical students, have little opportunity to participate in medical education (labs, TAs)

Differentiating between basic
scientists and basic science
departments in AHCs

AAMC 2007 Faculty Roster Data Book

- Full time faculty (TE + NTE faculty = 124,777)

Clinical Depts. (n=105,474)

MDs = 72%

PhDs = 17%

MD/PhDs = 7%

Other/unknown = 5%

Basic Science Depts. (TE + NTE faculty = 18,053)

MDs = 13%

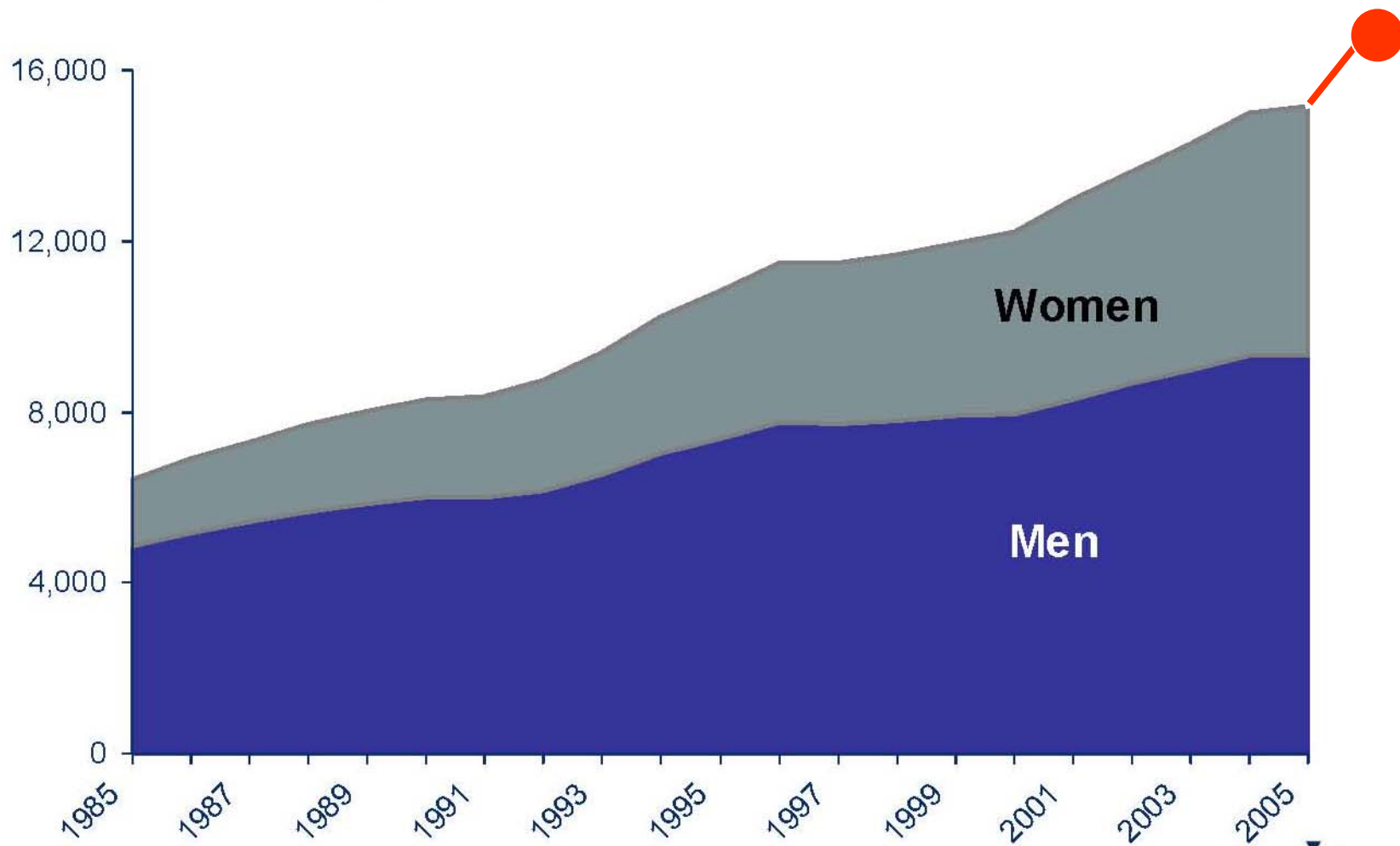
PhDs = 75%

MD/PhDs = 8%

Other/unknown = 4%

Clinical Department PhDs: Continued Rapid Growth ...

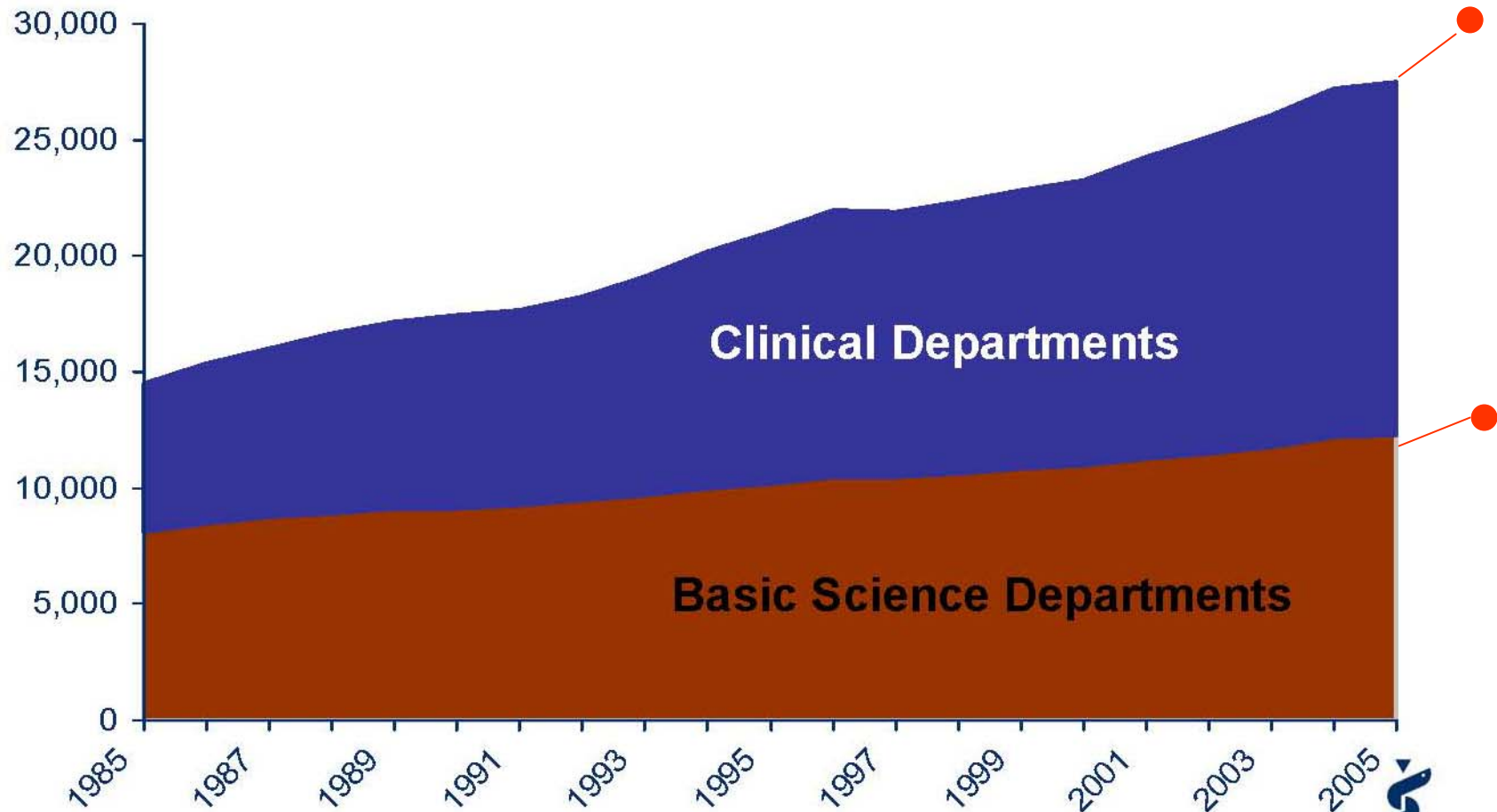
trend continues in 2007
17,434



... Now Outnumber their Basic Science Colleagues, 55% to 45%

2007 data indicate trend continues (56% to 44%)

Number of full-time Ph.D. faculty



What roles are the faculty in clinical departments playing in training of PhDs in graduate programs in AHCs?

In particular, what are the access and participation levels of basic scientists in clinical departments to graduate programs? How integrated are they into the missions traditionally assigned to basic science departments in AHCs?

How do perceptions of these roles compare from the basic science Chair, clinical Chair and graduate program Director's perspectives?

Survey of Basic Science Chairs, Clinical Chairs and Graduate Program Directors on Roles of Faculty with Primary Appointments in Clinical Departments (including Ph.D.s) in Graduate Training

- Surveys administered 8/08 by email
- **8-17 questions sent by AAMC to chairs/directors:**
 - basic science chairs (n=300);
 - clinical chairs (n=741);
 - graduate program directors (n=315)
- **Responses received = 132/1356 (10%)**
 - 27 (9%) basic science chairs (from 20 schools)
 - 38 (5%) clinical chairs (from 35 schools)
 - 67 (21%) graduate program directors (from 35 schools) (12 programs gave incomplete responses)

Basic Science Departments Survey Response Data Base

20 Schools

15 public; 5 private

27 Departments

Anatomy/Cell Biology = 4

Biochemistry/Molecular Biology = 4

Genetics = 1

Microbiology/Immunology/Virology = 3

Neuroscience = 2

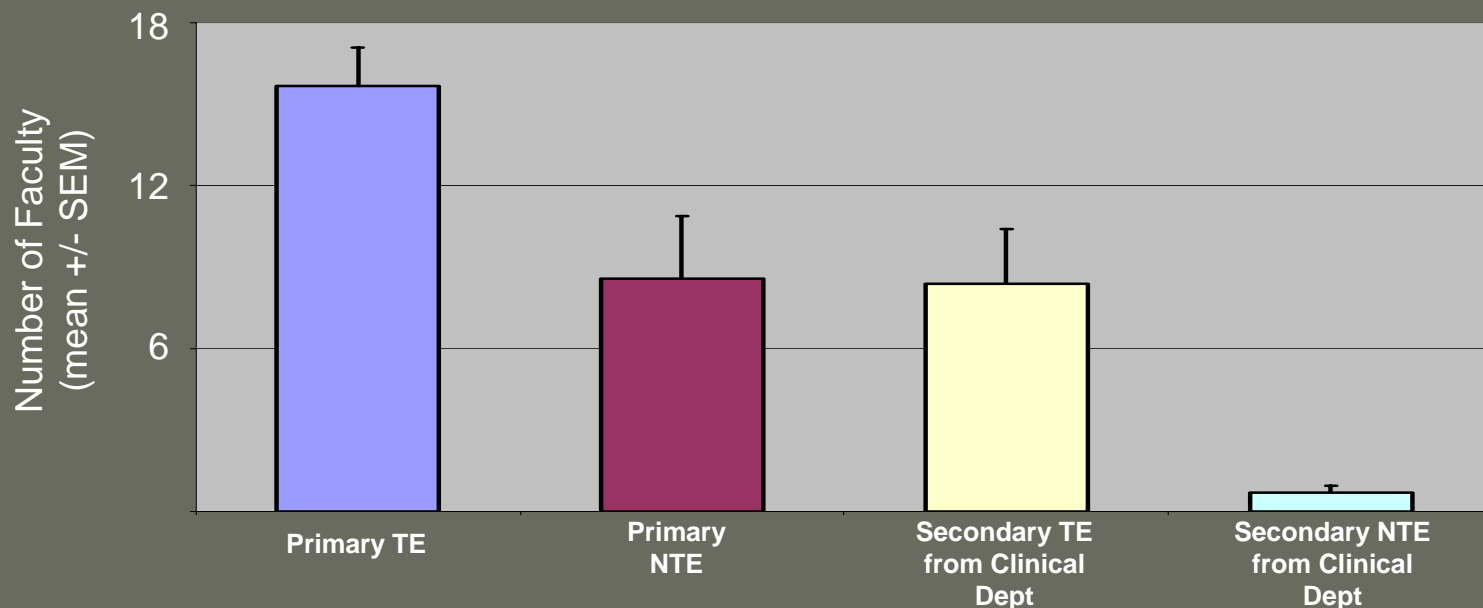
Pharmacology = 4

Physiology = 4

Pathology = 4

Toxicology = 1

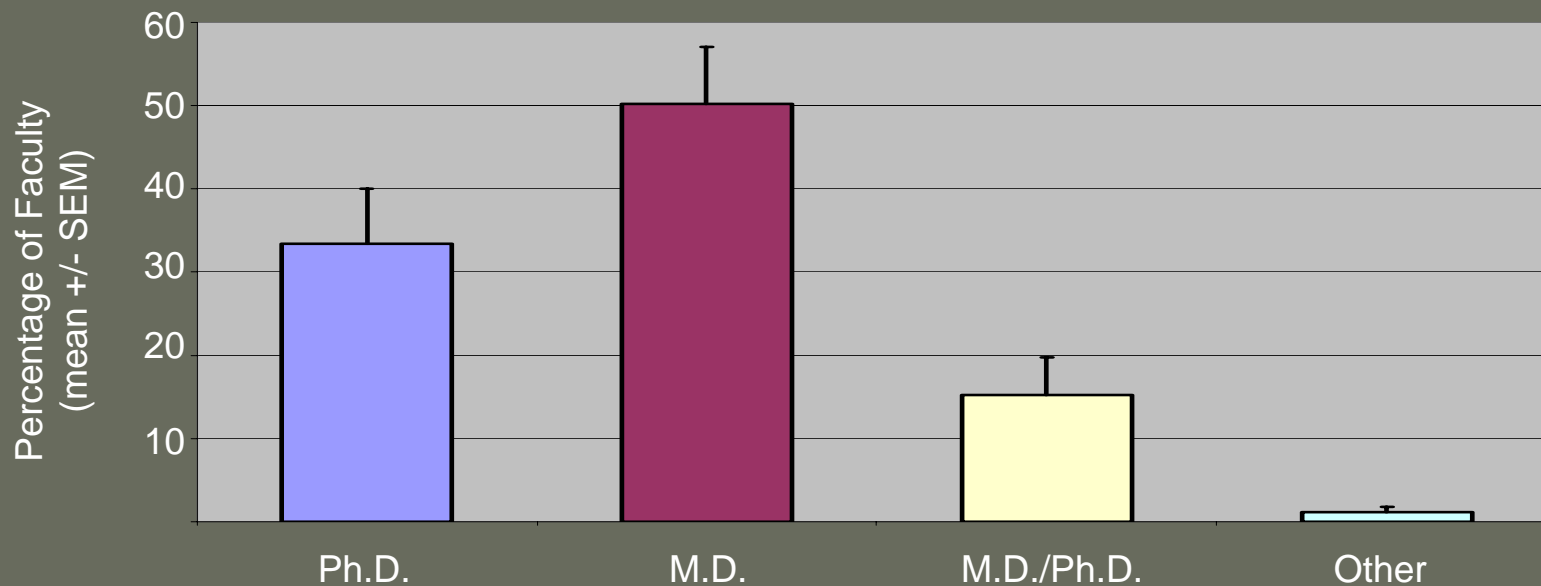
Responding Basic Science Departments



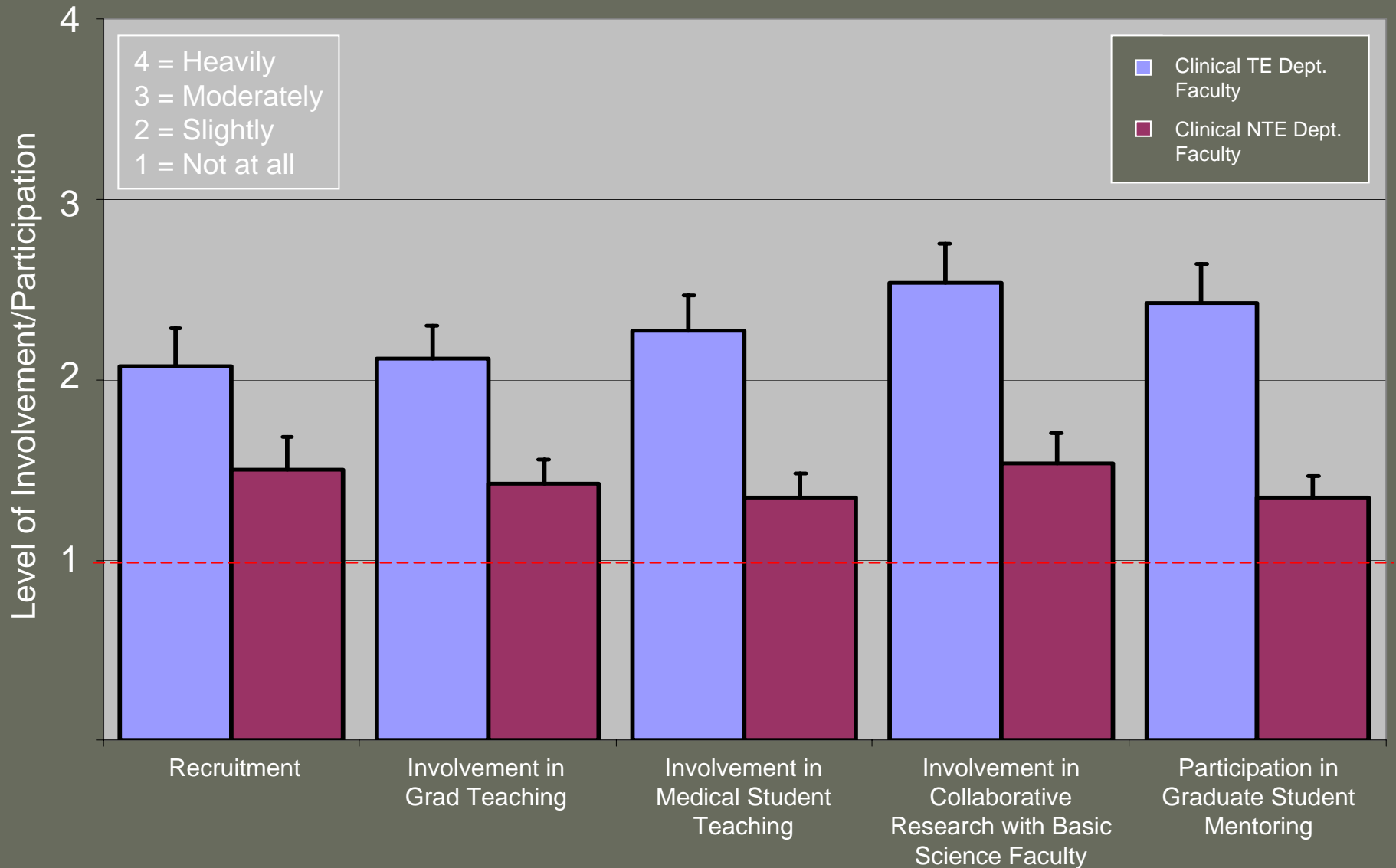
Clinical Depts with Faculty with 2° Appointments in Basic Science Dept

Anesthesiology	4
Community Health	1
Dermatology	1
Medicine	20
Ob/Gyn	3
Ophthalmology	2
Otolaryngology	1
Pediatrics	12
PM&R	1
Psychiatry	1
Radiology	2
Surgery	7
Urology	1
Unknown	27

Degrees of TE 2° Faculty from Clinical Depts.



Interaction of Basic Science Depts and Clinical Dept Faculty in Basic Science Activities



Clinical Departments Survey Response Data Base

35 Schools

23 public; 12 private

38 Departments (10 research intensive; 20 primarily clinical; 8 moderate research)

Dermatology = 6

Family Medicine = 3

Medicine = 1

Obstetrics/Gynecology = 2

Ophthalmology = 2

Orthopedics = 5

Otolaryngology = 3

Pediatrics = 2

Physical Medicine/Rehabilitation = 4

Psychiatry = 2

Radiology = 3

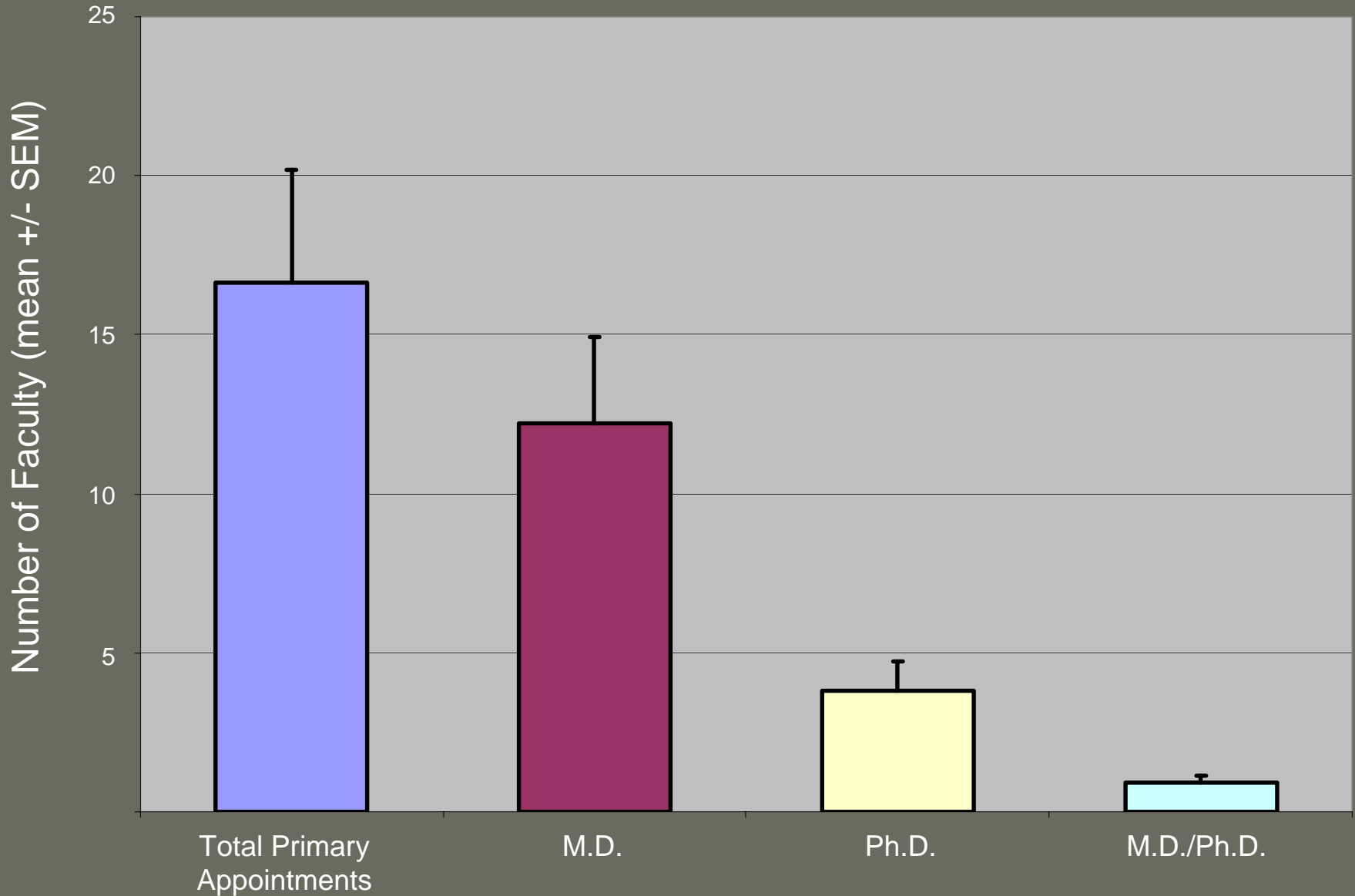
Surgery/Neurosurgery = 2

Urology = 1

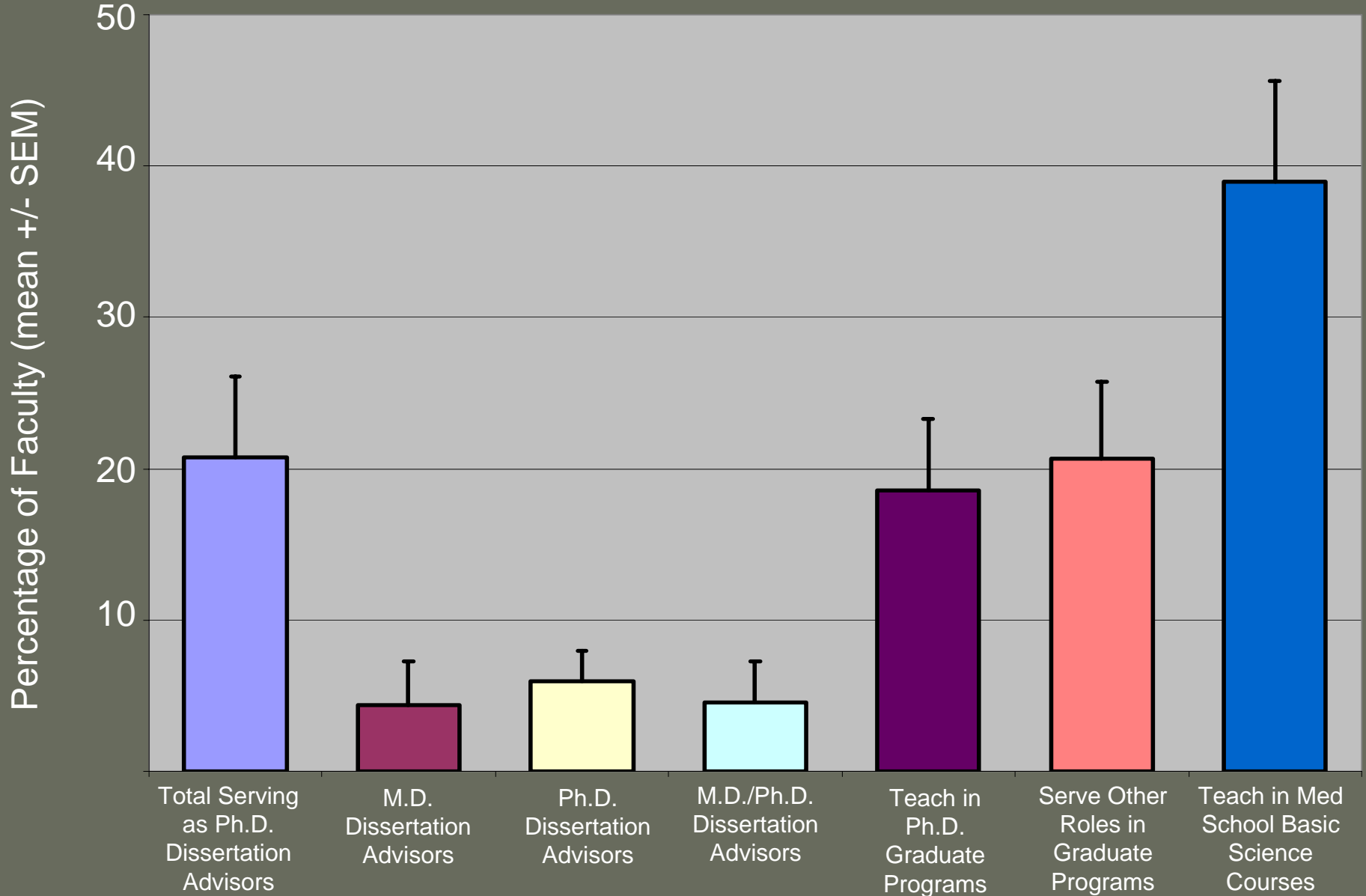
Unknown = 2

Responding Clinical Departments

Number and Terminal Degree of Full-Time Primary TE Faculty



Role of Full Time TE Faculty with Primary Appointments in Clinical Depts in Basic Science Activities



Graduate Programs Survey Response Data Base

35 Schools

18 public; 17 private

67 Programs

Biochemistry/Molecular Biology/Cell Biology = 5

Biomedical Science/Systems' Biology/Disease = 14

Cancer Biology = 2

Cardiovascular Sciences = 1

Clinical Sciences = 1

Developmental Biology = 1

Genetics = 3

Human Medicine = 1

Microbiology/Immunology/Virology = 5

MSTP = 3

Neuroscience = 18

Nursing Doctorate = 1

Pathology = 2

Pharmacology = 2

Physiology/Biophysics = 4

Preventative Medicine/Community Health = 1

Public Health = 1

Structural Biology = 2

Participation of Faculty with Primary Appointments in Clinical Departments in Ph.D. Training – Graduate Program Director Survey

- PhD faculty as PhD dissertation advisors?

Yes – 45 (83%)

No - 9

NA – 13

- PhD faculty teach in graduate program?

Yes – 44 (96%)

No – 2

NA – 21

- PhD faculty serve in other grad program roles (committees, etc)?

Yes – 43 (93%)

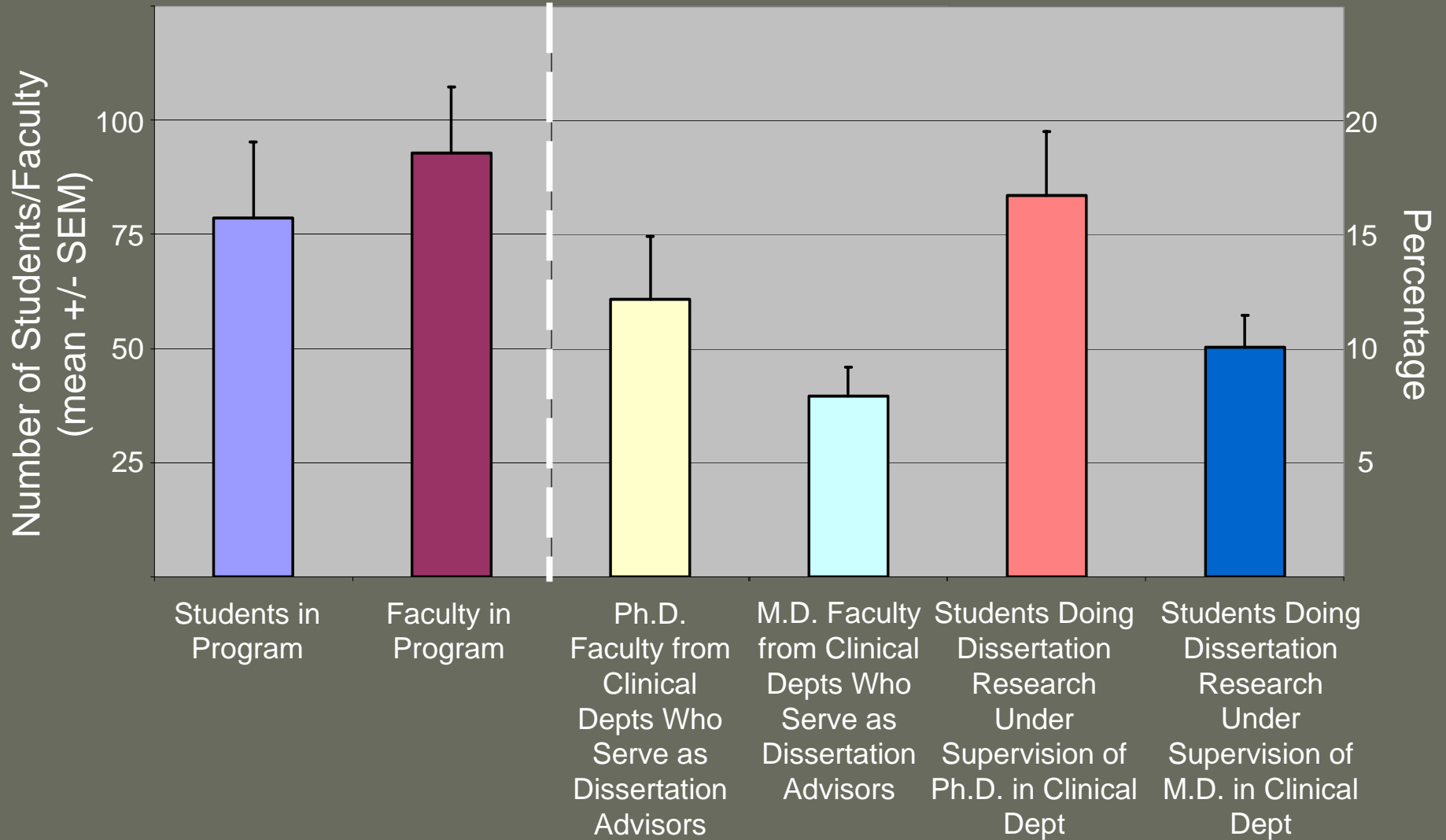
No – 3

NA - 21

Participation of Faculty with Primary Appointments in Clinical Departments in Ph.D. Training – Graduate Program Director Survey

- MD (includes MD/PhD) faculty as PhD dissertation advisors?
Yes – 56 (88%)
No – 8
NA - 3
- MD (includes MD/PhD) faculty teach in graduate program?
Yes – 41 (93%)
No – 3
NA - 23
- MD (includes MD/PhD) faculty serve in other grad program roles
Yes – 37 (84%)
No – 7
NA - 23

Graduate Program Survey



Summary

- Number of PhD faculty in clinical departments continues to grow
- 2:1 TE:NTE primary faculty in basic science departments
- In basic science departments, equivalent # of NTE 1° faculty and TE 2° faculty from clinical depts.
- 33% of secondary faculty in basic science departments from clinical depts. are PhDs
- Clinical dept. faculty most likely to have 2° appointments in basic science departments are Medicine, Pediatrics, Surgery
- Participation of 2° faculty from clinical depts. in graduate training (according to basic science chairs) is slight to moderate (for TE) to not at all to slight (for NTE)
- Substantial fraction (18% - 38%) of clinical 1° TE faculty (according to clinical Chairs) participate in various aspects graduate training/education and preclinical basic science education
- Most (83-96%) graduate program directors report that some clinical department faculty actively participate in their programs with a substantial fraction (12-17%) of their students carrying out their dissertation research with those faculty (equivalent percentage of PhD and MD faculty)

It's all about reaching across the aisle for getting the people's work done!

PhDs, MDs, basic science departments, clinical departments

