

POSTGRADUATE TRAINING FOR MD-PHDS OPTIMIZING THE PATH TO INDEPENDENCE

PART I: RESEARCH RESIDENCIES

**2015 NATIONAL ASSOCIATION OF MD-PHD PROGRAMS
ANNUAL PROFESSIONAL DEVELOPMENT MEETING**

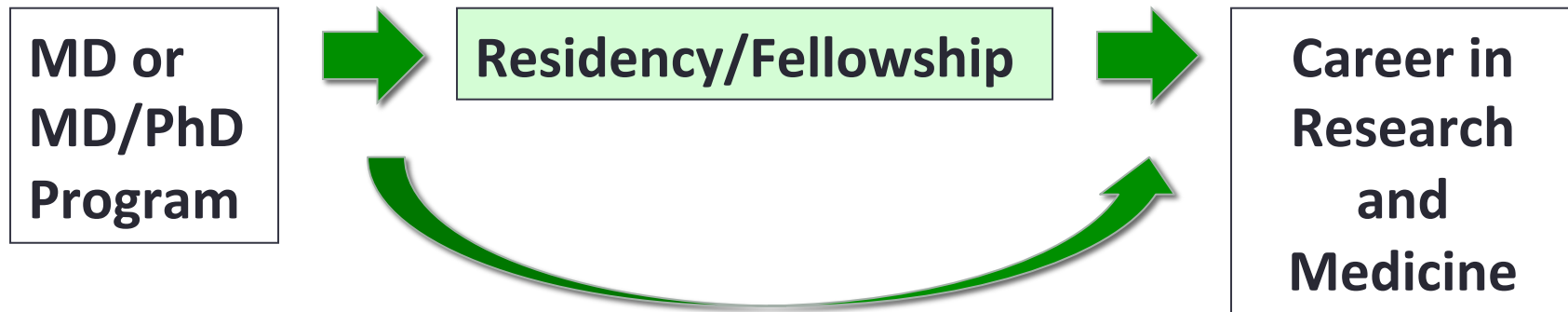
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Presenters

- **Larry S. Schlesinger, M.D.**
 - Samuel Saslaw Professor of Medicine
 - Chair, Department of Microbial Infection & Immunity
 - Director, Center for Microbial Interface Biology and the Medical Scientist Training Program
 - The Ohio State University
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- **Arthur Gutierrez-Hartmann, MD**
 - Professor, Medicine-Endocrinology, Metab & Diabetes, Biochemistry and Molecular Genetics
 - Director, MSTP and PSTP
 - University of Colorado School of Medicine
 -
- **Alexander Adami**
 - MD/PhD student
 - University of Connecticut School of Medicine
 - APSA Technology Committee

Objectives



What residency programs support physician scientist training?

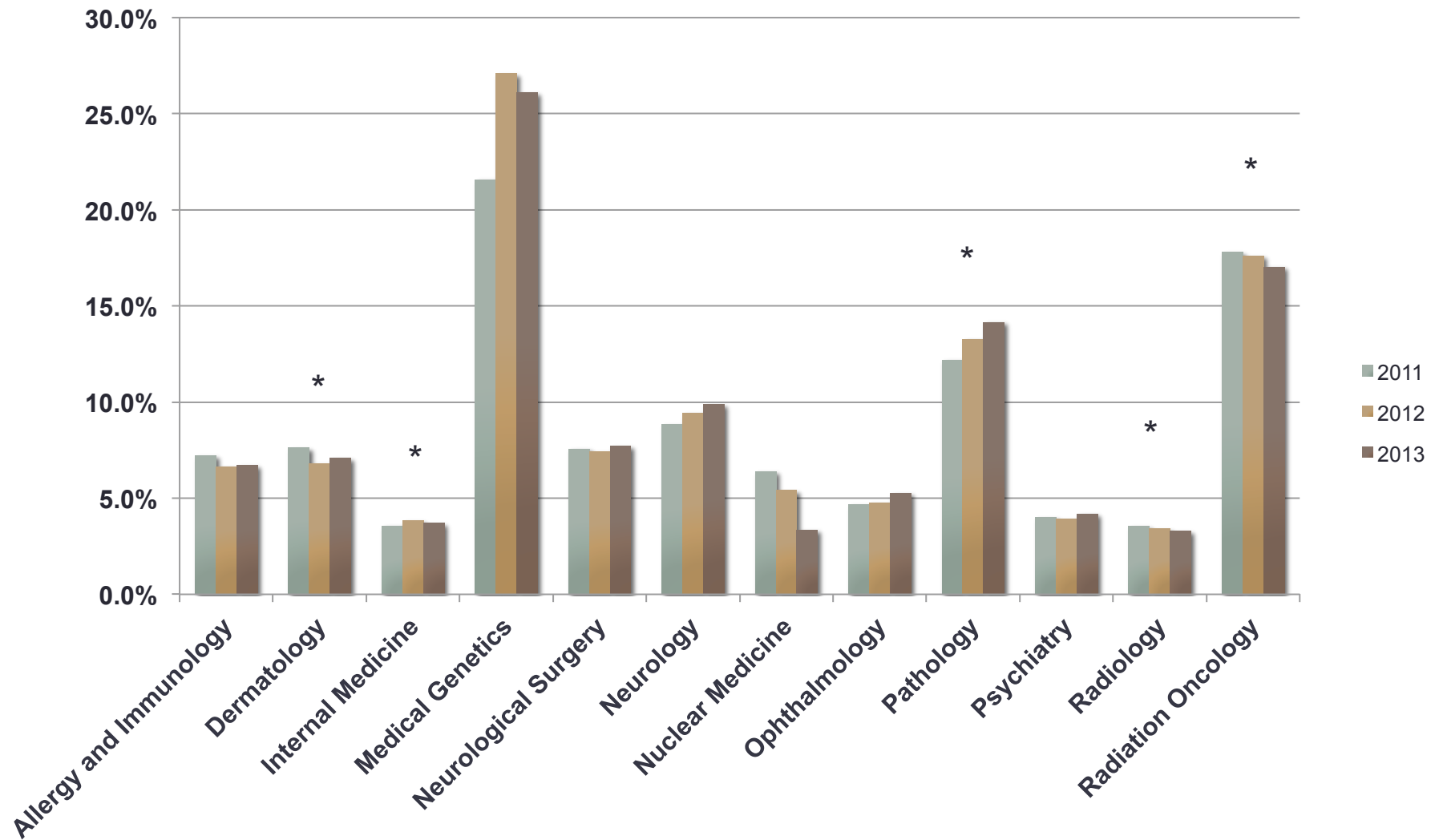
What residency programs do MD/PhD graduates enter?

Report on Residents

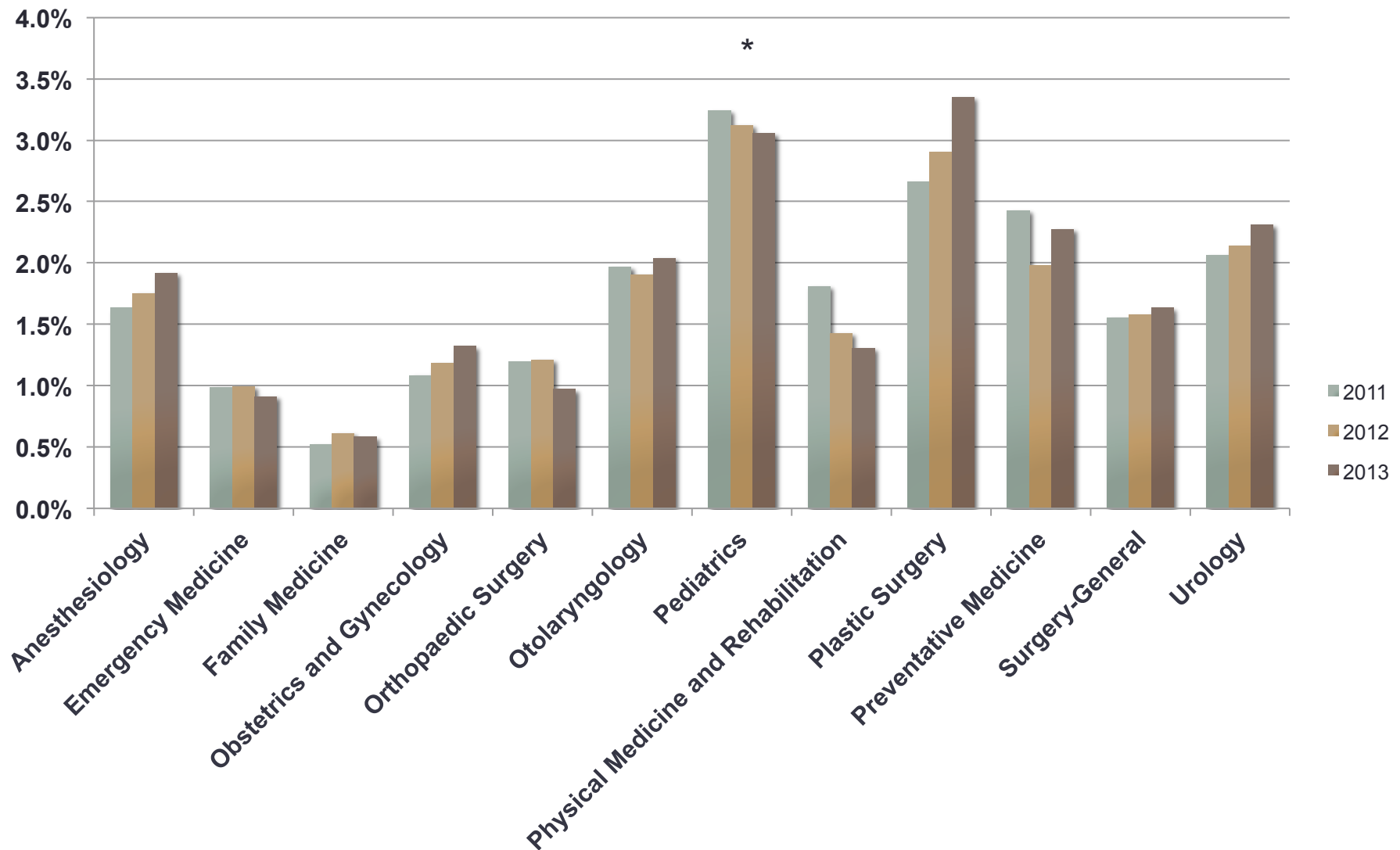
AAMC data 2011-2013

- In 2013 3.4% of all active residents who are graduates from US MD-granting medical schools were MD-PhD graduates
- Of those individuals (MD and MD-PhD) who completed residency training from 2004-2013, 15.9% currently hold a full-time faculty appointment at a US MD-granting medical school

Report on Residents (AAMC data 2011-2013)



Report on Residents (AAMC data 2011-2013)



National Data, Ranked by Specialty

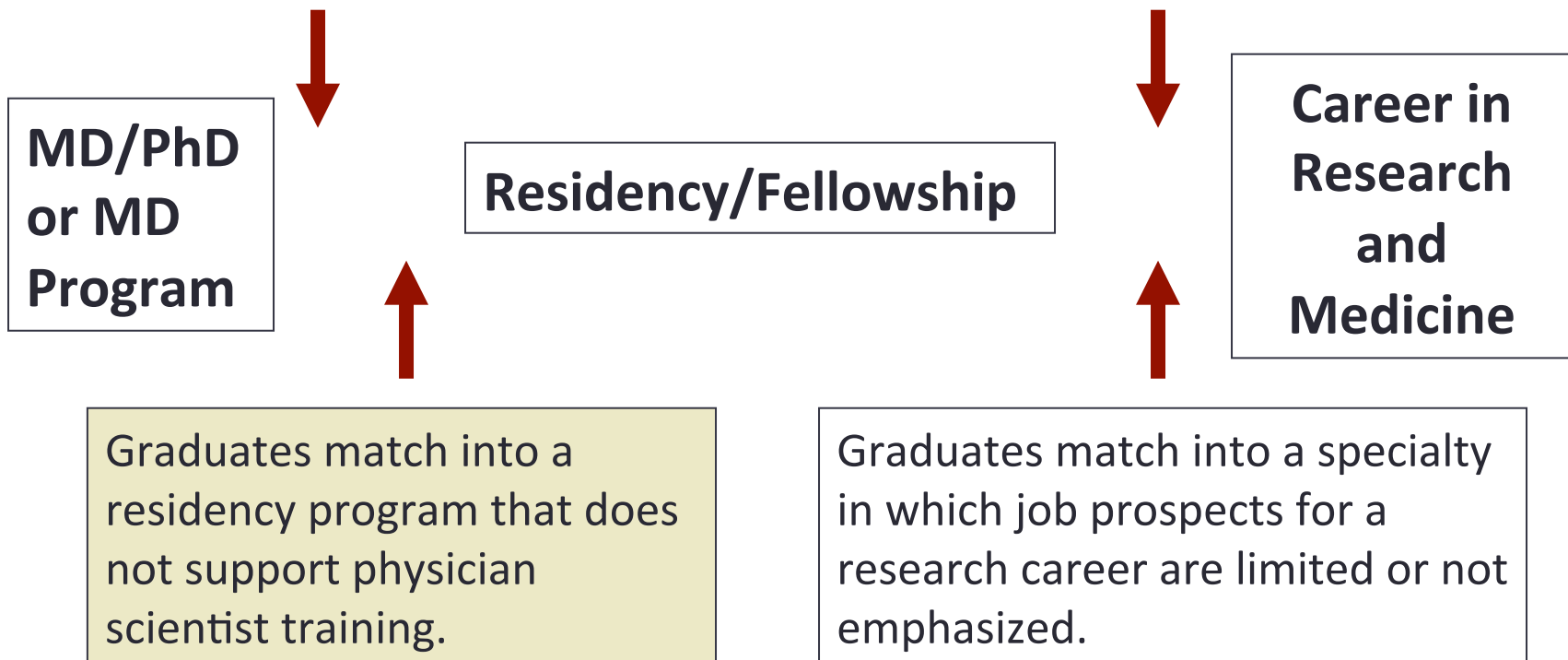
Residency	No. of Matching Graduates (N = 2133)	% of Matching Graduates
Internal Medicine	525	24.61%
Pathology	227	10.64%
Pediatrics	223	10.45%
Diagnostic Radiology	156	7.31%
Radiation Oncology	124	5.81%
Neurology	121	5.67%
Psychiatry	121	5.67%
Dermatology	116	5.44%
Ophthalmology	90	4.22%
Anesthesiology	71	3.33%
Surgery	56	2.63%
Neurosurgery	56	2.63%
Emergency Medicine	35	1.64%
Obstetrics/Gynecology	33	1.55%
Orthopaedic Surgery	28	1.31%
Otolaryngology	27	1.27%
Child Neurology	26	1.22%
Urology	20	0.94%
Medicine/Pediatrics	17	0.80%
Plastic Surgery	13	0.61%
Family Medicine	12	0.56%

Paik, JAMA 302: 1271,
2009

Why do MD/PhD or MDs not pursue a career in research?

Graduates did not have a good experience in research and do not want to continue.

Private practice becomes more attractive than academics (money, resources, time, etc.)



Board Sanctioned Research Residency Programs

- American Board of Internal Medicine (ABIM)
 - Research Pathway
 - 24 months of categorical internal medicine training (20 months direct patient care) and 12 months of fellowship training
 - 3 years research training
 - 80% commitment
 - Last year can be junior faculty
- American Board of Pediatrics
 - Accelerated Research Pathway
 - 2 years core pediatrics
 - 4 years fellowship (minimum 1 year clinical training)
 - Integrated Research Pathway
 - Open only to individuals with an MD/PhD degree (or equivalent)
 - 24 months core pediatrics training
 - Up to 12 months of research training

Board Sanctioned Research Residency Programs

- Radiation Oncology/Radiology – Holman Research Pathway (HRP)
 - Established in 2000 – 21-24 months of research over 5 yr residency
 - High percentage in academia and high success in obtaining funding
 - Wallner PE, *Int J Rad Oncol Biol Phys*, 2013;85:29-34; Weidhaas and Kirsch, *Int J Rad Oncol Biol Phys* 2011;80:321-23
- Dermatology - Investigative/Academic Training Track
 - Generally 2+2, clinical and research, similar to ABIM CIP
 - Available in specific programs: Penn, UCSF, Yale, UTSW, UC Denver
- Pathology – Physician Scientist Research Pathway
 - ABP endorsed in 2014
 - Includes one or more years of dedicated research
 - http://www.abpath.org/PHYSICIAN-SCIENTIST_RESEARCH_PATHWAY1.pdf

Other specialties with physician-scientist training programs

- Neurology, Neurosurgery, Neuropathology, and Neuroradiology
 - NINDS funded Programs
 - http://www.ninds.nih.gov/funding/r25_institutions.htm
 - Child Neurology Basic Neuroscience Research Pathway
 - <http://www.abpn.com/become-certified/taking-a-specialty-exam/neurology-and-neurology-with-special-qualification-in-child-neurology/>
- Psychiatry
 - No national program
 - Multiple innovative local programs
 - Arbuckle, M.R., Gordon, J.A., Pincus, H.A., and Oquendo, M.A. 2013. Bridging the gap: supporting translational research careers through an integrated research track within residency training. *Acad. Med.* **88**:759-765.
 - Dzirasa, K., Krishnan, R.R., and Williams, R.S. 2015. Incubating the research independence of a medical scientist training program graduate: a case study. *Acad. Med.* **90**:176-179.
 - Tsai, A.C., Ordonez, A.E., Reus, V.I., and Mathews, C.A. 2013. Eleven-year outcomes from an integrated residency program to train research psychiatrists. *Acad. Med.* **88**:983-988.

Clinical training paradigm			Sample psychiatry research-track paradigm		
Year 1	Lab research (12 months)		Year 1	Clinical rotations (12 months)	
Year 2	Clinical rotations (8 months)		Year 2	Clinical rotations (11 months)	
	Lab research (4 months)			Lab research (1 month)	
Year 3	Clinical rotations (8 months)		Year 3	Clinical rotations (8 months)	
	Lab research (4 months)			Lab research (4 months)	
Year 4	Clinical rotations (5 months)		Year 4	Clinical rotations (1 month)	
	Lab research (7 months)			Lab research (11 months)	
Year 5	Clinical rotations 50% effort	Research 50% effort	Year 5	Fellowship training (12 months)	
Year 6	Clinical rotations 50% effort	Research 50% effort	Year 6	Fellowship training (12 months)	

Incubating the Research Independence of a Medical Scientist Training Program Graduate: A Case Study.
 Dzirasa, Kafui; MD, PhD; Krishnan, Ranga; Williams, R

Academic Medicine. 90(2):176-179, February 2015.
 DOI: 10.1097/ACM.0000000000000568

Outcomes of formalized research residency programs

- Pediatric Scientist Development Program
 - 2 years of funding for research uninterrupted by clinical time (during fellowship)
 - 93% have faculty positions in academic pediatric depts
 - 50% success rate in obtaining R01 funding (3x-greater than national average)

Outcomes of formalized research residency programs

- ABIM Research Pathway (1995-2007)
 - 72% have positions in academics
 - 81% of those in academics have federal research support
- Internal Medicine Certification Exam (1993-2008)
 - 1% were research pathway trainees
 - 140/500 residency programs has at least one physician in a research pathway
 - 23 programs accounted for 73% of the total RP trainees
 - RP trainees passed the certification exam the first time at a slightly higher rates than other trainees
 - Average of 25.1 months of clinical training for RP (vs 36.3 months)
 - Only 77% of the RP physicians enrolled in MOC (vs 90%)
 - 63% of RP trainees ended up as academicians (vs 14-19%)

What are the critical components of a successful research residency program

- Protected Research Time
 - Single most important determinant
- Mentoring
 - Research mentor
 - Career mentor
- Career Development Core Curriculum
 - Grantsmanship
 - RCR
 - Research Design
 - Scientific writing
- Networking Opportunities
 - Physician scientist trainees present their work to peers and senior investigators

Tsai et. al., Acad. Med. 2013

Ogdie, et. al., Arthritis Care and Res. 2015

Tong, et. al., J. Am College of Cardio. 2014

How can our students find research residencies?

- National Resident Matching Program(NRMP)
 - Results and Data: 2015 Main Residency Match
 - <http://www.nrmp.org/match-data/main-residency-match-data/>
 - Search for Research
 - NOTE: only get a list of those residencies that have a separate NRMP slot for research residents
 - Get 64 programs with “research” in their name
 - Internal Medicine (17); Psychiatry (12), Orthopedic Surgery (11); Otolaryngology (8); Radiology and Anesthesiology (4 each); Surgery (3); Pediatrics and Dermatology (2 each); Emergency Medicine (1)
 - BUT – at least 27 Internal Medicine Programs actually have Research Pathways!
- American Physician Scientists Association (APSA) Wiki Database
 - <http://www.physicianscientists.org/>

Discussion Panelists

- **Robin G. Lorenz, M.D., Ph.D.**
 - University of Alabama at Birmingham
- **Larry S. Schlesinger, M.D.**
 - The Ohio State University
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- **Arthur Gutierrez-Hartmann, MD**
 - University of Colorado School of Medicine
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- **Alexander Adami**
 - University of Connecticut School of Medicine





Improving People's Lives Through Innovations in Personalized Health Care

July 17, 2015

Research in Residency Training Programs

Larry S. Schlesinger, M.D.
Samuel Saslaw Professor of Medicine
Chair, Department of Microbial Infection & Immunity
Director, Center for Microbial Interface Biology and the MSTP
The Ohio State University



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER

Research in Residency

- The AAMC Research on Care Community (ROCC) hosted a meeting May 28, 2015 which brought together teams: ***GME leadership, Residency & Research Directors, Residents and others*** from member ***institutions that were interested in enhancing their residency research experience***. The meeting ***aimed to match learners with experts as a means to gather information and develop strategies to enhance the resident research experience***.
- ***Interested teams applied for participation*** by providing information about the current state of their residency research experience and their intentions for the meeting. There were ***presentations and discussions concerning residency research programs which have published results concerning their impact***. Then teams met to ***develop goals and evaluation criteria for their own programs***.



Scholarship and Residency Research

David Sklar, MD
Assoc Dean of GME & Prof. Emerg Med
UNM
Editor in Chief, Academic Medicine

- **Premise: Engagement of residents in research is an important goal:** development of critical thinking, growth of knowledge in a field, individual development and proficiencies, contributes to the academic enterprise, i.e., improve health care
- **Contributes to the ACGME requirements** for scholarship and requirements for the clinical learning environment
- **Barriers:** lack of time, lack of mentors, lack of prior experience, lack of motivation, conflicting priorities (training, family, wellness), and lack of available technical (IRB, stats, platforms, writing) and financial support
- **Consider a broader definition of scholarship** for more options: lit reviews, case reports, team research projects, cost-effectiveness research, quality improvement projects, and health services or health policy research (using population health databases). Reconsider ACGME resident research requirements based on goals
- **Bottom line:** Does research enrich or burden residents (what would a resident view as scholarship)? There should be clear cut individual and program goals. There must be leadership support, mentors that help design projects which can be completed, protected time, technical training and support (CTSAs, fellowships), incentives (seed funding, travel, etc.).
- **Long term data on “success” (parameters of success) are lacking.** Are the programs producing physician scientists? Improving health Care? Improving academics?



Mentoring Program

Carrie L. Byrington, MDD

Professor of Pediatrics

Assoc VP for Faculty and Academic Affairs

PI, Utah CCTS

Vice Dean, Academic Affairs and Faculty Development, School of Medicine
U Utah

- A cohort of 40 researchers (Res/Fellows/Faculty) are selected every 2 years who apply to the **Matrix Mentoring Model (50% protected time)**: 1) **Self** (Res/Fellows/Fac mentor each other and read each other's grants); 2) **Scientific** : teams of individuals who help junior researchers, incl. methodology experts and statisticians; 3) **Senior, experienced, funded investigators** linked to accepted researchers with protected time (1/2 day/week, requirements provided to the chair). A Mentoring Academy trains mentors to become senior mentors; 4) **Staff**: grants & contracts, study design, bioinformatics
- Program uses HR resources and taps into the CTSA
- Started in Pediatrics with <100K, and within 3 years returned 500K in ID dollars to the department
- Expanded to the Health Sciences: CATS program (Clinical and Translational Scholars Program)
- High K rate for fellows
- Creation of an infrastructure that uses existing resources: focuses on mentorship with incentives; grants/papers; education
- Ability to create protected time in other departments like surgery?



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WEXNER MEDICAL CENTER

Implementing a Resident Research Program at Baystate Medical Center

Michael Rothberg, MD MPH (now Cleveland Clinic)
Tara Lagu MD, MPH (now Tufts)

- Implemented an Evidence-Based Medicine (EBM) curriculum and EBM conference: Cultivate an atmosphere of inquiry
- Residents with an interest in research; meets monthly
- Research Program Director position
- Focus on smaller projects, minimizing data collection, expediting IRB approval
- Created increased protected time and research electives
- Includes a dedicated Research Assistant (20 h/week); research nurse, time with a statistician; a designated IRB member for the program: includes financial support
- Development of a mentorship program
- Support for resident travel to conferences to present work
- The program helped the residency match and fellowship placements



Integrated Research Track within Residency Training

Melissa R Arbuckle, MD PhD
Assoc Prof, Clin Psychiatry & Assoc Dir, Res Training
Columbia U Med Center and NYS Psychiatric Institute

- Psychiatry resident research training program: 4 years
- Supported by an R25
- Mostly MSTP residents to enhance success in the program
- Protected time. A private foundation grant provides support: year 1 (20K) & year 2 (15K)
- Development of a personalized research development plan (research proposal by end of Y2)
- Research mentorship directed to build a research portfolio
- Integration with research colleagues; peer mentorship; research seminars
- Integration with post-residency fellowship training (fellowship application mentorship Y4)
- Must balance protected time for research and clinical demands (start/stop issue). 3rd year residents have 40% protected time. Residents pulled from low activity shifts to complete research (use physician extenders)
- Difficult to institute in other departments



Additional Programs

- U Pitt
 - U Minn
 - Howard U
 - U Nevada
 - U Mich
 - Ohio State
 - Brigham & Women's
 - Temple U
 - Wash U
-
- Huge variety of programs: mentoring, funding, incentives, courses, support personnel, celebrate successes (papers/grants/awards). Investment of institutional resources.



Issues Regarding Research in Residency

- Need a better assessment of current resident research engagement: Get a handle on the breadth of the programs out there
- Identify goals to enhance research engagement programs
- Need milestones and timelines for reaching goals
- Measurable outcomes to help track success (understand what success is)
- Determine the quality and level of research that is taking place
- Need assessments by programs. Is success being achieved?
- Need resident's perspective and involvement
- Programs are in silos in departments: must communicate across departments, identify a common understanding of scholarship. However huge differences in culture and flexibility of time/length. Need key contacts for the programs.
- All comers vs. targeted programs (e.g. MSTP/Advanced research): resident projects and level of involvement will vary.
- Expand the arena of scholarship: e.g. patient safety outcomes research; quality improvement
- IRB!
- Role of AAMC: Data collection, best practices, possible small grants and program support mechanisms in the future
- Need to make the case to leadership and public (shrinking medicare/GME dollars).
Government ROI: Link to improving health outcomes in one way or another





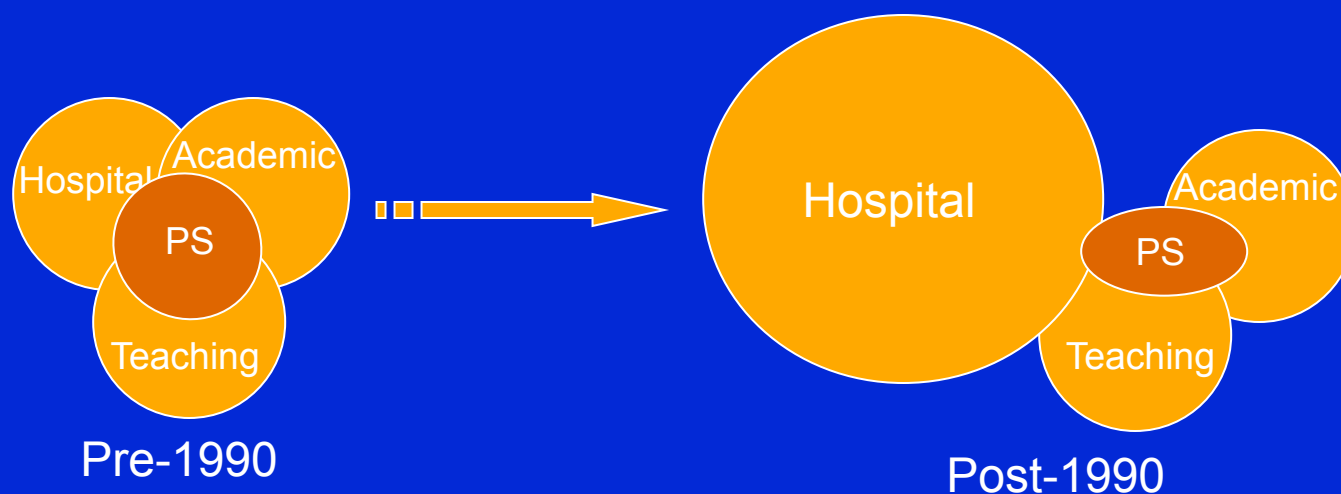
ABIM Academic Career Pathway: Organization and Perspectives from an MSTP and PSTP Director

2015 NATIONAL ASSOCIATION OF MD-PHD PROGRAMS
ANNUAL PROFESSIONAL DEVELOPMENT MEETING

Arthur Gutierrez-Hartmann, MD
Professor, Medicine and Biochemistry & Molecular Genetics
Director, MSTP and PSTP
Associate Dean for Research Education
University of Colorado Anschutz Medical Campus

Changing Aspects in the Academic Clinical Enterprise

- Clinical Departments have grown dramatically due to on-going, striking increase in full-time clinical service physicians and hospitalists, who have no scholarly requirements and many without SOM appointments
- MD/PhDs (and PhDs) have become the core cadre of biomedical scientists expected to maintain cutting-edge research in clinical departments
- Physician-scientists have become proportionally a small group and voice in the “new” academic medicine enterprise
- Reorganization and reduction of basic science departments and faculty: Most often driven by money issues, to limit financial liability of the SOM

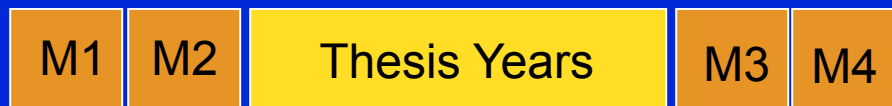




Physician Scientist Training

Critical Transition Points

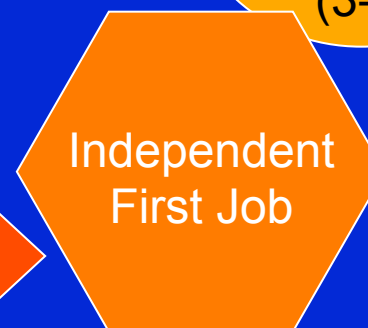
PhD/MD Training Years



Internship (1)
Residency (1)

Subspecialty
Postdoctoral
Fellowship
(3-n)

Critical Transition:
Valley of Career Death





Increasing Time to Independence

- Achieving research career independence is interrupted by residency & fellowship clinical training
- Re-entry into research for the MD/PhD trainee is typically ~ 7 years after completing the PhD
- Key life events occur during this latter training period, often with increasing financial pressures
- Trainees lose tight structure and frequent, formal mentoring of MSTP during residency and fellowship
- First R01 at age ~42

University of Colorado PSTP

Goal: To identify future UC/AMC faculty who will conduct high impact biomedical investigation

- Linked IM residency and fellowship training
- Mentoring to achieve independence ASAP
- Short track option
- Formal and informal career guidance
- Grant writing/grant funding opportunities
- PSTP and MSTP Network
- Additional stipend for meetings, textbooks, journals





Issues in Establishing and Running the PSTP in Internal Medicine

- Negotiating for Administrative support
- Dealing with IM Residency Director regarding budget, short-tracking, electives/schedule flexibility
- Negotiating with Subspecialty Division Chiefs and Fellowship Directors for linked acceptance
- Negotiating with IM Admissions Committee
- Deciding whether to have separate NIRMP #
- Finding time to meet with PSTPs, due to their busy schedule

PSTP Key Training Program Attributes

- Focus on mentorship, not didactic curriculum
 - Emphasize the importance of outstanding clinical performance from the outset, since short track decisions are made early
 - Meet monthly with PSTP trainees to review interesting clinical cases, discuss disease mechanism literature, and career goals
- Keep them engaged with research career
 - Discuss research opportunities and mentors in their chosen subspecialty, asking them to meet with potential mentors
 - Link them to CCTSA, K mentees, MSTPs, and MD/PhD faculty
 - Require a fellowship and future, “independent lab” Aims page, as they choose a mentor
- Encourage and advocate for short-tracking
 - Conflict of interest for Residency Director

Unanticipated Effects of the PSTP

- You advocate for Departmental funds for new faculty
- You have a voice in research issues and direction in the department
- You bring a research physician-scientist viewpoint to the residency program
- You recruit outstanding trainees that might not otherwise have come to the IM Residency
- Subspecialty T32 and K-Award PI's will want details to include in their competitive renewals

University of Colorado PSTP

- Physician Scientist Training Program

Department of Medicine

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The APSA Research Residency and Fellowship Program Database

Alexander Adami

APSA President-Elect

MD/PhD Student

University of Connecticut

The APSA logo features the letters 'APSA' in a large, blue, serif font. The background of the slide is a blue gradient with a bright sunburst effect on the right side. The bottom of the slide has a yellow wavy band containing the APSA logo and text.

APSA

AMERICAN PHYSICIAN SCIENTISTS ASSOCIATION

Connecting Physician-Scientists In Training

Finding Research Residencies



- Many research-oriented residency/fellowships available
- How will your trainees find them?
- Perhaps the NRMP has a list?

Searching NRMP Datasheets



Stanford Univ Progs-CA

STANFORD	Program Code	2013		2012		2011		2010		2009	
		Quota	Matched	Quota	Matched	Quota	Matched	Quota	Matched	Quota	Matched
Anesthesiology	1820040A0	16	16	14	14	24	24	24	24	23	23
Anesthesiology/Critical Care	1820040A1	--	--	2	2	--	--	--	--	--	--
Anesthesiology	1820040C0	8	8	8	8	--	--	--	--	--	--
Dermatology	1820080A0	4	4	6	6	6	6	6	6	5	5
Emergency Medicine	1820110C0	13	13	12	12	13	13	12	12	12	12
Internal Medicine	1820140C0	34	34	39	39	36	36	34	34	35	35
Internal Med/Global Health	1820140C1	2	2	--	--	2	2	--	--	--	--
Med-Prelim/Neurology	1820140P1	2	2	1	1	2	2	2	2	--	--
Neurological Surgery	1820160C0	3	3	3	3	3	3	3	3	3	3
Neurology	1820180A0	6	6	5	5	5	5	5	5	5	5
Child Neurology	1820185C0	2	2	2	2	--	--	--	--	--	--
Obstetrics-Gynecology	1820220C0	5	5	5	5	5	5	5	5	4	4
Orthopaedic Surgery	1820260C0	5	5	5	5	5	5	5	5	4	4
Otolaryngology	1820280C0	4	4	4	4	4	4	4	4	4	4
Pathology	1820300C0	8	8	7	7	8	8	7	7	7	7
Clinical Pathology Track	1820300C1	2	2	2	2	--	--	--	--	--	--
Anatomic Neuro Track	1820300C2	1	1	1	1	--	--	--	--	--	--
Pediatrics	1820320C0	24	24	24	24	26	26	26	26	26	26
Phys Medicine & Rehab	1820340A0	7	7	7	7	7	7	7	7	7	7
Plastic Surgery (Integrated)	1820362C0	3	3	3	3	3	3	3	3	--	--
Psychiatry	1820400C0	11	11	9	9	9	9	10	10	12	12
Psychiatry/Research Trk	1820400C1	1	1	1	1	1	1	--	--	--	--

AMERICAN PHYSICIAN
SCIENTISTS ASSOCIATION

Connecting Physician-Scientists In Training

What About the Stanford TIP?

APSA



About Faculty Residency Education Research Patient Care News Events

Residency // Translational Investigator Program

Translational Investigator Program



Lokey Stem Cell Research Building



Clark Center

The goal of Stanford's Translational Investigator Program (TIP) is to provide unparalleled training and mentorship for individuals planning research-intensive careers. This program has a long and proud history of training premier physician-scientists who have become leaders in fields throughout Internal Medicine. While most members of TIP have joint MD/PhD degrees, a PhD is not a strict requirement – though applicants should have a record of substantial research experience.

TIP is designed to integrate clinical and research training beginning in internship (PGY-1) and extending to the completion of a subspecialty fellowship program. In addition to the intensive mentorship opportunities for all Internal Medicine residents, members of TIP are welcomed into the robust community of physician-scientists at Stanford and will be paired with faculty mentors who best suit their career interests. Monthly events are held for TIP members at all training levels, with activities ranging from discussions with leading physician-scientists to skills-based sessions (e.g. learning keys to writing successful grant applications).

Application Process

1. Apply through ERAS to the Stanford Internal Medicine Residency Program (Categorical Program).
2. If you are invited to interview, you will be asked if you are interested in also interviewing for TIP.
3. If you wish to interview with TIP, you will have a two-day interview rather than a single-day interview. The first day will be the standard interview day for the residency program, and the second day will be an interview day specifically for TIP. You will be asked which subspecialty area (e.g. Cardiology, Oncology, etc.) you wish to interview with; if you would like to interview with more than one subspecialty area, we will be happy to accommodate.
4. Your TIP interview day will be designed to expose you to the extremely rich and vibrant scientific community at

AMERICAN PHYSICIAN
SCIENTISTS ASSOCIATION
Connecting Physician-Scientists In Training

Create a Database



- APSA created a database
 - Out of date
 - Not inclusive
 - Difficult to browse

A screenshot of the APSA website's search interface for Research Residency Training Programs. The page has a blue header with the APSA logo and navigation links: American Physician Scientists Association, About APSA, News, Meetings, and Career Paths. Below the header, the title "Research Residency Training Programs" is centered. The search form contains several input fields: "City/Town", "Company/Employer", "Country" (a dropdown menu currently showing "Any Country"), "Location", "Postal Code", and "Specialty". A "Continue »" button is positioned at the bottom right of the form fields.

APSA
American Physician Scientists Association About APSA News Meetings Career Paths

Research Residency Training Programs

City/Town

Company/Employer

Country

Location

Postal Code

Specialty

Wikifying the Database

- Collaboration with a team at UAB
- Created a wiki to organize database
 - Intuitive searches
 - Easy to update
 - Collaborative updates
- <http://resdb.physicianscientists.org>

[Main page](#)
[Recent changes](#)
[Random page](#)
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Tools

[What links here](#)
[Related changes](#)
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Main Page

Welcome to the Research Residency and Fellowship Program Database!

The [American Physician Scientists Association](#) (APSA) launched the Research Residency and Fellowship Program Database to address the lack of a centralized resource for physician-scientist trainees preparing to pursue residency and fellowship training. Many residency and fellowship programs offer significant research experiences or are designed specifically to train physician-scientists, but locating these programs was previously challenging, as no list of such programs existed.

We encourage program directors and administrators to provide updates or additions to your program's entry. If your program is not represented, we would be happy to have it in our database and are available to assist in the initial creation of your program page. If you have any questions about editing or accessing content in the database or you would like to be included in the database, please [contact us](#). We have also created [tutorials](#) that describe how to edit your program page in the database including adding photos and other media to it.

Trainees can search for programs using the search box in the upper right. Programs are categorized by specialty, state, and city, so searches may be done geographically or by specialty. Furthermore, a specialty browser is available below:

Browse Programs by Specialty

▼ Specialties

▼ Medicine

[Massachusetts General Hospital Internal Medicine](#)

[University of Alabama at Birmingham ABIM](#)

[Vanderbilt Physician-Scientist Training Program](#)

▼ Pathology

[University of Alabama at Birmingham Pathology](#)

▼ Pediatrics


[Children's Hospital Los Angeles Donnell Society](#)

Children's Hospital Los Angeles Donnell Society

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- 2 Program Information
- 3 Contact Information
- 4 References

Program Description

The George Donnell Society for Pediatric Scientists is "dedicated to improving the health of children by training pediatric scientists to perform innovative and high-quality research."^[1] The Donnell Society is a program of the Children's Hospital Los Angeles (CHLA). Applicants to the CHLA Pediatric Residency Program with a strong interest in research should complete the Donnell Fellowship [secondary application](#) . Accepted fellows will receive guaranteed admission to the fellowship of their choice following completion of the Pediatric Residency Program.

Donnell Fellows participate in numerous activities throughout their residency and fellowship years, including offsite educational opportunities and special talks from invited physician-scientists. Fellows also receive administrative support for grant preparation, manuscript submission, and other scholarly activities.

Program Information




Program Highlights

- Length of Program: 6-7 years (3 for Pediatric Residency, 3-4 of fellowship)
- Size: 11 (Donnell Society), ~90 (Pediatric Residency program)
- Average Number Recruited Per Year: 1 Donnell Fellow

George Donnell Society for Pediatric Scientists

University of Southern California



Specialty	Pediatrics
Hospital affiliation(s)	Children's Hospital Los Angeles
Academic affiliation	University of Southern California
Director	Steven Mittelman, MD, PhD
Director email	smittelman@chla.usc.edu 
Administrator	Harleen Gill
Administrator email	HGill@chla.usc.edu 
Current trainees	11 (Donnell Society), ~90 (Overall Pediatric Residency Program)
Trainees per year	1 (Society Fellows), ~29 (Pediatric Residency)
Location	Los Angeles, California, United States of America
Language	English
Website	http://www.chla.org/donnellsociety 
Telephone	323-361-8626
NRMP Number	1031320C0 (CHLA Pediatric Residency)

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Conclusion

- Finding postgraduate training options can be difficult
- Program database created to address challenge
- Expanding is the current task
- **alexander.adami@physicianscientists.org**

Upcoming: NEJM Career Conversations

- Six-part online series about physician-scientist careers
- 10-day discussions, led by students
- <https://medstro.com/groups/nejm-group-open-forum/discussions>
- July 21: Physician-Scientists Shaping American Healthcare
- July 28: Physician-Scientist Training: Current Options and Future Changes
- Aug 4: How Funding May Impact the Future of the Physician-Scientist
- Aug 11: Successful Physician-Scientist Mentor-Mentee Relationships
- Aug 18: Physician-Scientists Transitions: How To Take Those Next Steps
- Aug 25: Role of Scientific Organizations in Training and Career

