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## Physician- Scientist Initiative: AAIM Third Consensus Conference on the Physician-Investigator Workforce

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# Physician- Scientist Initiative:

## *AAIM Third Consensus Conference on the Physician-Investigator Workforce*

**Maria M. Garcia MD, MPH, FACP**

Associate Professor of Medicine

Association of Academic Internal Medicine (AAIM) Conference Planning Committee

UMCCTS 6<sup>th</sup> Annual Research Retreat

# No Conflict of Interest to Report

## Conference Committee Members:

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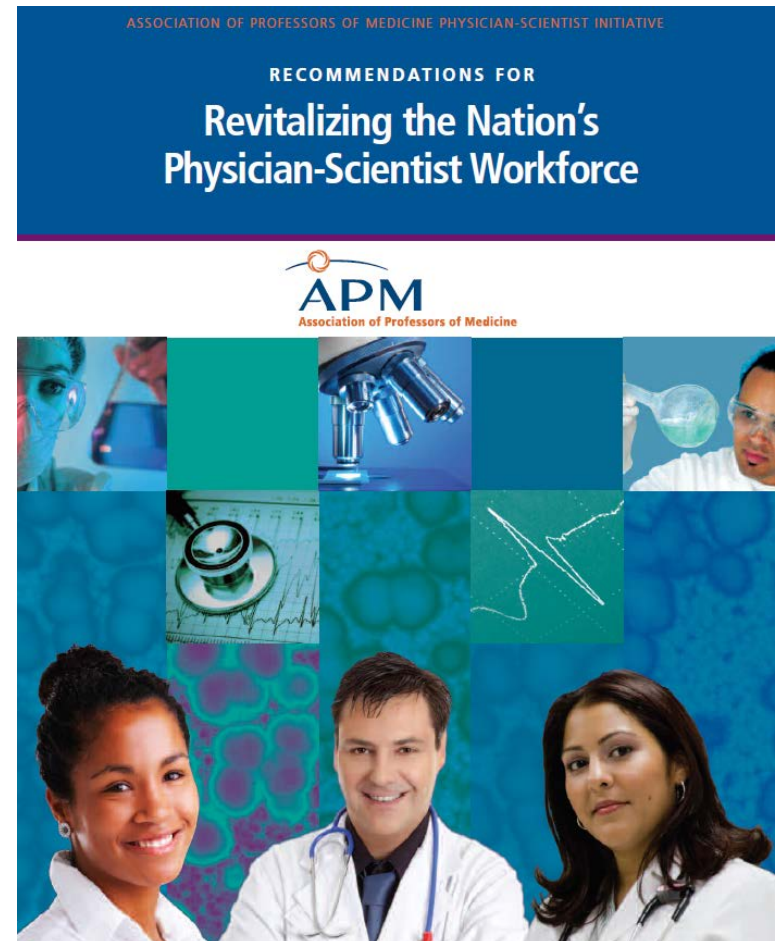
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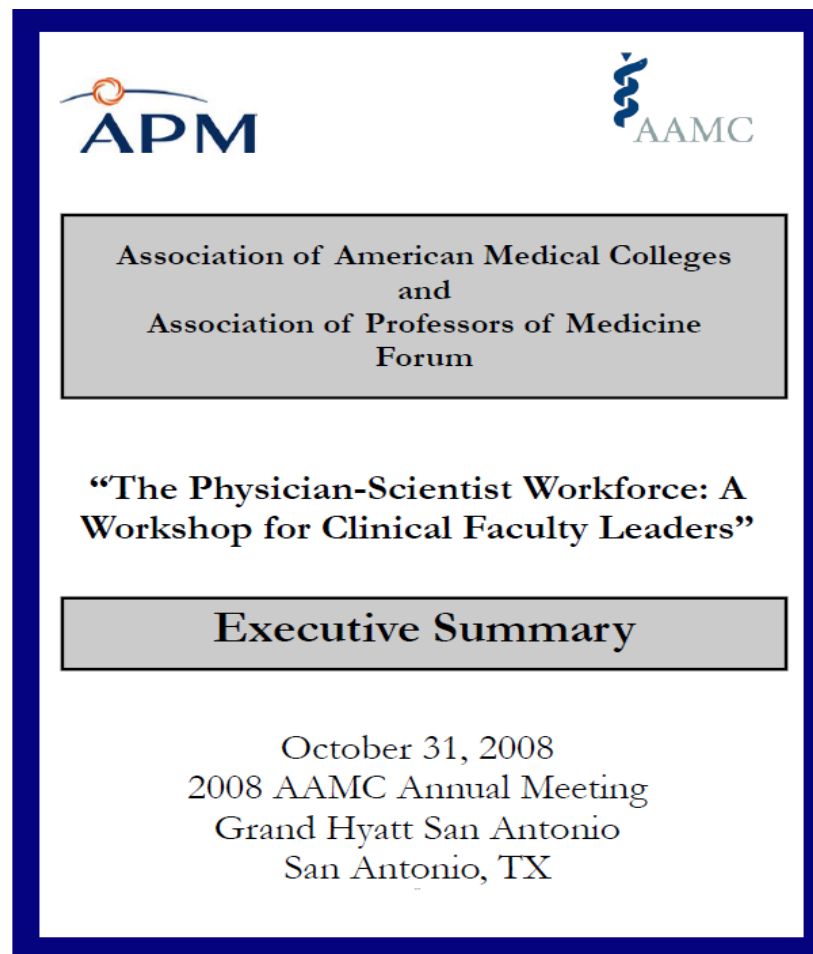
# 2007: **APM** hosted the First Consensus Conference on Physician-Scientist Workforce

- Recognized the increasing challenges in attracting and retaining physician investigators (PIs)
- Renewed assessment needed to revitalize the PI workforce



# 2008: APM / AAMC hosted Second Consensus Conference on Physician- Investigator Workforce

- Served to broaden the scope of this “call to action” across disciplines
- Incorporated Clinical Faculty Leaders



# 2015: **AAIM** Third Consensus Conference on the Physician- Investigator Workforce

Association of Academic Internal Medicine ( AAIM)

## Physician-Scientist Initiative

The AAIM Physician-Scientist Initiative seeks to identify, develop, and implement substantive and practical solutions that will ensure the survival, growth, and diversity of the physician-scientist workforce.

### **Third Consensus Conference on the Physician-Investigator Workforce November 12-13, 2015**

In recognition of the persistent and increasing challenges in attracting and retaining physician investigators (PIs) in academic medical centers and other research venues (“physician-scientists—an endangered species” Wyngaarden, 1979), there is widespread agreement within the biomedical research community that there needs to be renewed assessment of the factors that threaten this critically important career pathway as well as the development of ways to revitalize the PI workforce.

# Re-examining the Physician Investigator Workforce: *New and Evolving Areas of Research and Pathways to Success in Academic Institutions*

November 12-13, 2015

## **Goal:**

- **To assess the current environment in which academic medical centers develop the careers of PIs**
- **seek innovative solutions (beyond federal funding)**
- **to overcome existing challenges so as to maintain and expand a vigorous workforce**

**Five plenary** presentations on key topics as a way to “level set” goals/background knowledge

**Ten breakout sessions** with recommendations targeted to the NIH, funding age

More than **100 individuals attended** (academic administrators, department chairs, program directors, representation from NIH, national foundations, National Academy of Medicine and pharmaceutical industry agencies and academic health leaders)

# Breakout Groups: Re-examining the Physician-Scientist Workforce

Group #1: The pipeline for physician-investigators: Maintenance or opportunities for incremental growth in 2015

Group #2: Highly effective mentoring of the young physician –investigator in the new era

Group #3: Traditional and alternative funding support for the physician-investigators

Group #4: Fostering physician-investigator careers outside of the laboratory: Clinical, implementation, use of electronic medical records and “Big Data”

Group #5: Institutional bridge support: How to maintain productive physician-investigators during funding lapses

Group #6: Effective modes of collaboration between physician-physician-investigators and the biotechnology/ pharmaceutical industry

Group #7: Minority, gender and generational issues which affect the physician-investigator pipeline

Group #8: Team science: How to evaluate individual contributions

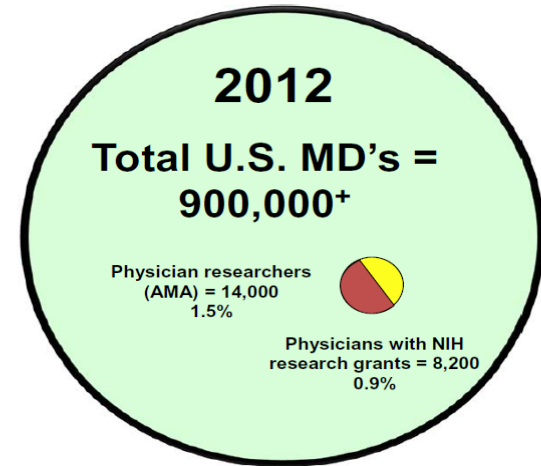
Group #9: The role of MSTP and ABIM Research pathways in fostering careers of physician-investigators



## **Strategies:** *Attract and Retain Physician-Scientists*

- ❑ ***Increase entry*** into the physician-scientist pipeline
- ❑ ***Reduce attrition*** of physician-scientists to other areas within the biomedical field

## The Physician-Scientist Workforce Who are they?



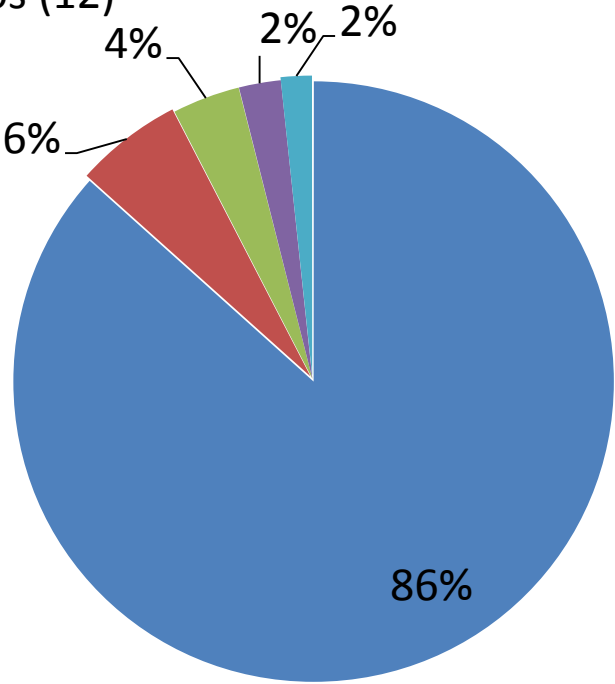
Data source: AMA and NIH

# Issues Affecting the Entry into the Physician-Scientist Pipeline

# Entry into Pipeline: *Lack of Diversity*

## MD/PHD Graduates (616) 2014- 2015

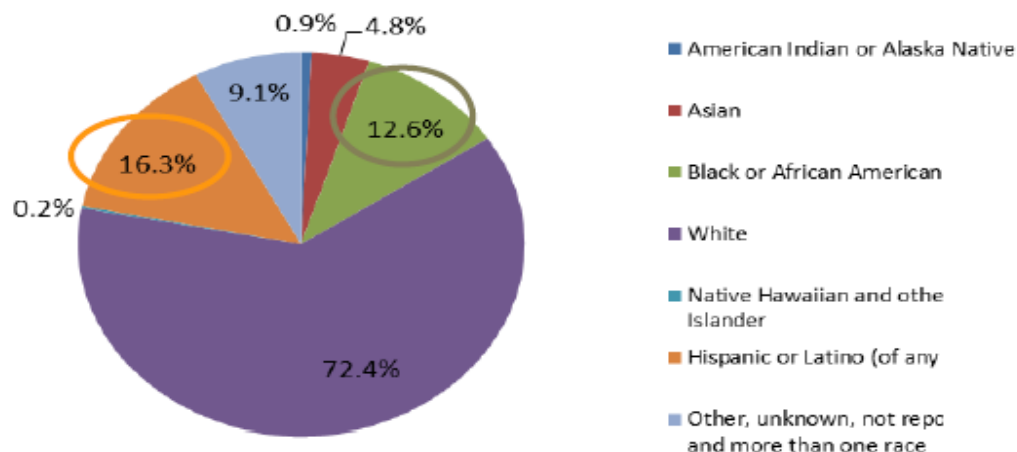
- MD/PHD Grads (616)
- Multiple race/ethnicity (41)
- Black/African American (26)
- Outside US Countries (16)
- Hispanic/Latinos (12)



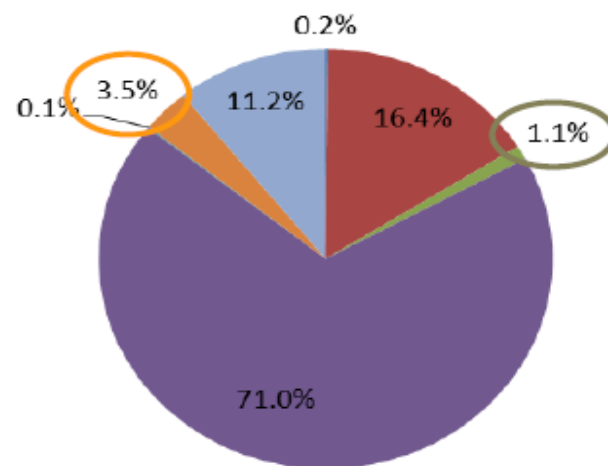
Association of American Medical Colleges. Table B-9: M.D.-Ph.D. Matriculants to U.S. Medical Schools by Race/Ethnicity and State of Legal Residence, 2015-2016. <https://www.aamc.org/download/321546/data/factstableb9.pdf> Accessed January 23, 2016.

# Race and Ethnicity of the 2010 U.S. Population and the 2010 NIH Principal Investigators

2010 U.S. Census\*



2010 NIH Principal Investigators on RPGs\*



2010 U.S. Census Bureau Report, <http://2010.census.gov/2010census/data/2010>(left)

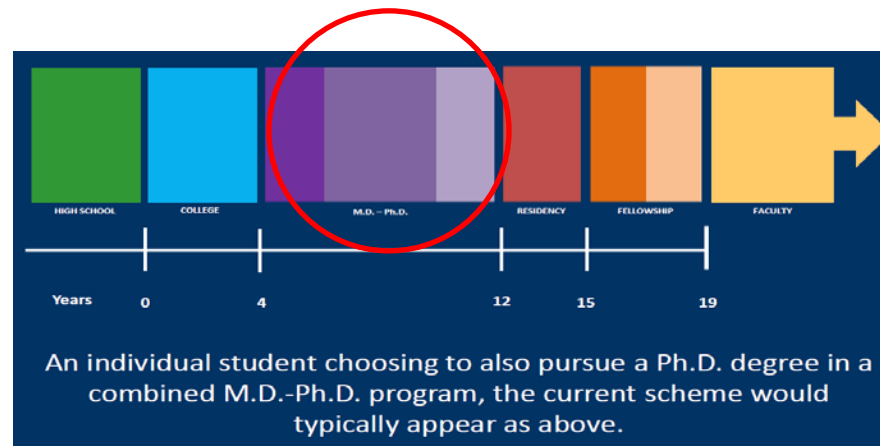
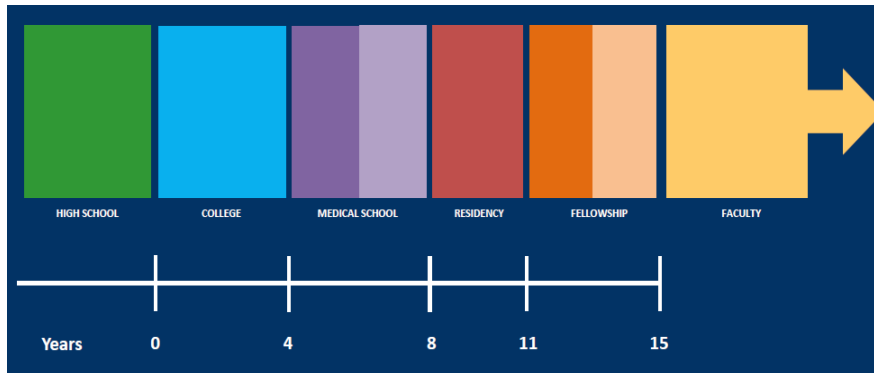
NIH Principal Investigators on Research Project Grants, NIH IMPAC II(right)

Total percentage is over 100 because those identified as Hispanic/Latino may also have identified as other races. PI information collected by NIH includes an option for an applicant to signify both race and ethnicity.

ACD Working Group on Diversity in the Biomedical Research Workforce:

<http://acd.od.nih.gov/Diversity%20in%20the%20Biomedical%20Research%20Workforce%20Report.pdf>

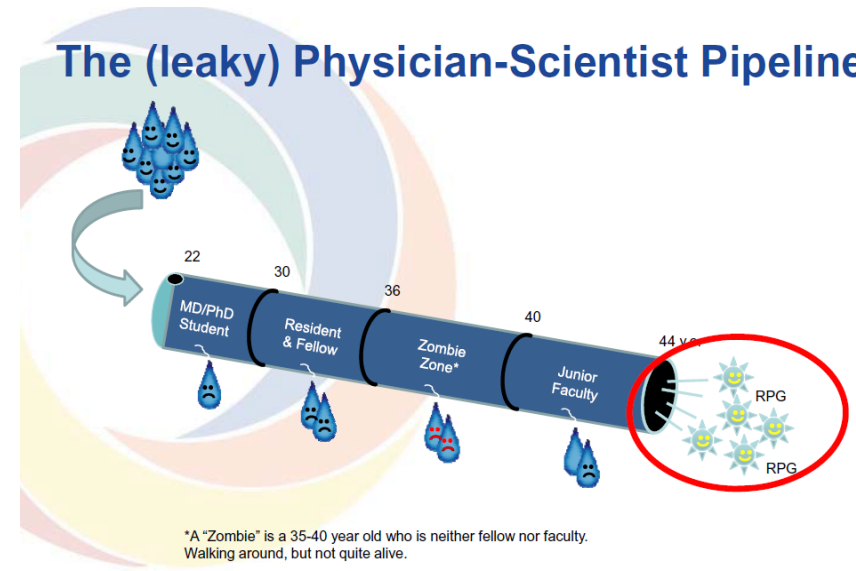
# Entry into Pipeline: *Unnecessary Prolongation of the Educational Experience*



# RECOMMENDATIONS: Increase entry into the physician-scientist pipeline

- Promote biomedical research to students at *young ages*
- Accommodate physicians interested in biomedical *research later in their careers* (one year mentored research program/ Master's/ Doctoral)
- Enhance opportunities for *international physician-scientists* to enter our nation's physician-scientist workforce
- Decrease *duration* of MD/PHD programs
- Increase *diversity* of the physician-scientist workforce

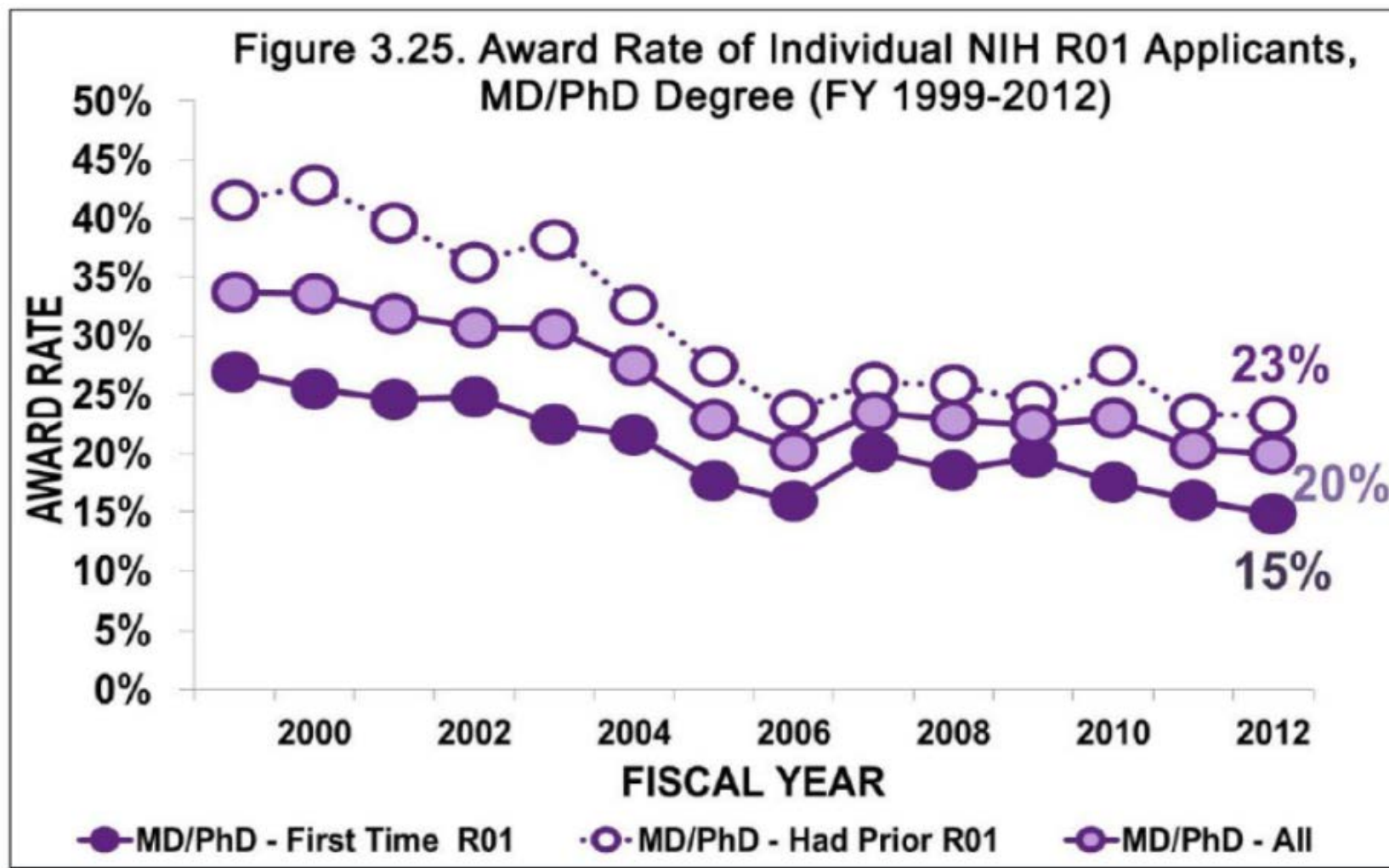
## The (leaky) Physician-Scientist Pipeline



Skip Brass

# Issues Affecting Attrition of Physician-Scientists

# Attrition of Physician-Scientists: *Competition for External Support*





# Attrition of Physician-Scientists: *Financial Pressures and Career Mentoring Support*

Work-life-balance

## Other Crucial Issues for Physician Investigators

Housing

Day Care

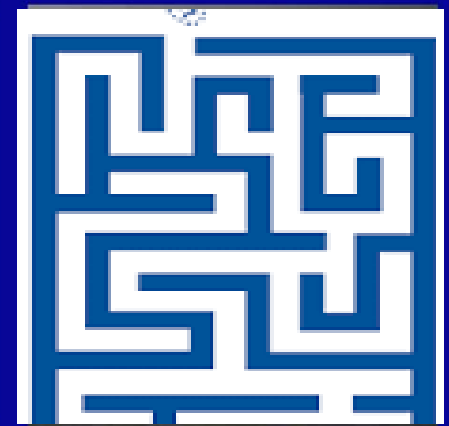
Debt and Loan Forgiveness

Navigating the mentoring labyrinth

## Career Metaphor Images



Then

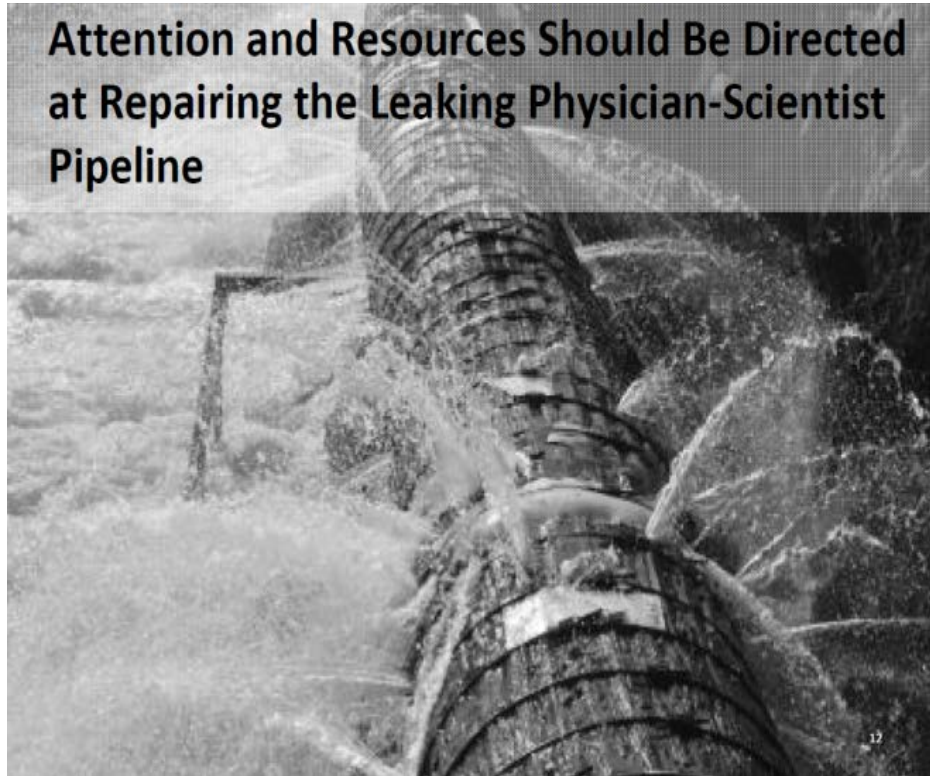


Now

# Attrition of Physician-Scientists: *'Pipeline'* --> *'Railway'* with exit and re-entry potential

*Stations along the travel route with potential for exit and re-entry without unnecessary barriers to re-entry advancement*

Attention and Resources Should Be Directed at Repairing the Leaking Physician-Scientist Pipeline



# RECOMMENDATIONS: Attrition of Physician-Scientist

Formalize mentoring programs including **“mentoring the mentor”** training and periodic review of mentoring results

Establish **grant programs** targeted to support physician-scientist transition from training to independent research career

**Expand student loan repayment** opportunities for those awarded NIH or VA career development grants

Provide **salary support for mentors** named on career development awards

Provide **stable environment** through provisions of protected time and bridge funding

Re-consider criteria for promotion & tenure (P&T) and be **transparent in P&T** decision-making process

Pursue new avenues for research and **research funding** including industry

Establish a **repository** for physician-scientist career development data

Assure department –wide **salary equity**

# Summary



*The Physician Scientist is in a unique position to make important discoveries that impact on diagnosis, treatment, and prevention of human disease.*

- The proper valuing of our physician-scientist workforce is a ***key component in maintaining the status of the US as a world leader of biomedical research***
- Academic, government and private sectors must work together to ***promote biomedical research in K-12 education*** and promotion of this career choice in ***diverse groups that are underrepresented in the workforce***
- Academic medicine must embrace ***new ways in which biomedical advances*** are achieved fostering team science
- Academia must ***create direct efficient career tracks to*** pursue research with robust levels of support