

# **Mentoring: A Key to Success in Science and Medicine for Women... and Men**

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# What is Mentoring?

A form of voluntary aid favoring development and learning based on an **interpersonal relationship of support, exchange and learning**, in which an experienced person invests his/her acquired wisdom and expertise to promote the development of another person, who has skills to acquire and scholarly or professional goals to attain.

## **Less formally:**

An interpersonal relationship in which a senior or more experienced person helps a junior or inexperienced person to succeed.

**25 years ago Daniel Tosteson, Dean of the Harvard Medical School, said:**

*“We must acknowledge that most important, indeed the only thing we have to offer our students is ourselves. Everything else they can read in a book.”*

# Elements for Success in Academic Medicine

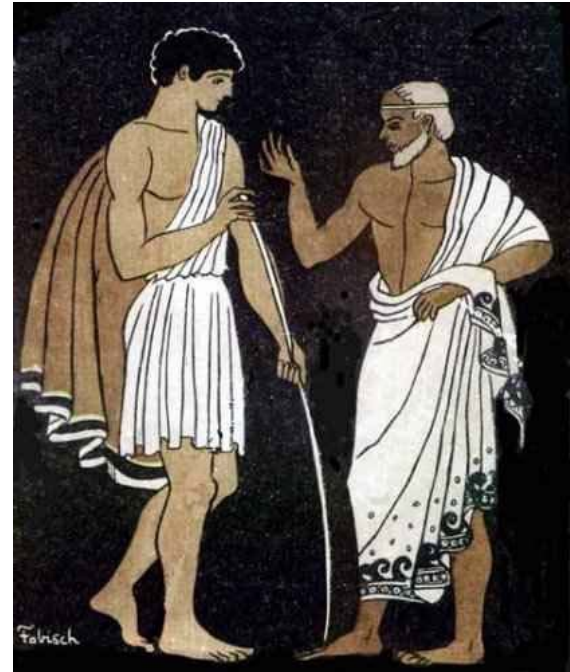
- Superior competency
- Determination to succeed
- Maintaining good working relationships with peers and superiors
- **Having an advisor/mentor**



# Who is a Mentor?

A typical definition of a mentor (*from Greek, Mentor*) is a “wise and trusted teacher.”

In Greek mythology, king Odysseus asked **his trusted friend, Mentor,** to educate and guide his son Telemachus.



# Why Should **YOU** be a Mentor?

**Mentorship is an important influence on**

- **personal development**
- **career guidance**
- **career choice**
- **productivity**

**Mentoring has an important effect on**

- **research productivity**
- **publications**
- **grant success**



# Why Do We Need Mentoring?

In a study of mentoring in Academic Medicine, **“lack of mentoring”** ranked as the first (42%) or the second (56%) most important factor hindering their career progress in academic medicine.



*“Without a mentor, ... I had no idea really what to expect from academic medicine. I have been feeling my way through the tunnels because I don’t know where the roadblocks are, I just kind of deal with them when I get there.”*

# Mentoring has two categories... (at least)

	Research Mentor	Career Mentor
<b>Goals</b>	To <b>develop the research career</b> of the mentee	To <b>focus on more global aspects</b> of an academic career
<b>Scope</b>	<ul style="list-style-type: none"> <li>• acquisition of <b>research skills</b></li> <li>• selecting and conducting <b>research projects</b></li> <li>• presenting <b>research findings</b></li> <li>• ensuring the <b>completion of research manuscripts</b></li> <li>• assisting in <b>networking</b></li> <li>• teaching the mentee how to obtain <b>extramural funding</b></li> <li>• securing <b>funding</b></li> </ul>	<ul style="list-style-type: none"> <li>• balancing <b>family demands and work</b></li> <li>• career <b>promotion</b></li> <li>• juggling the <b>different aspects of academic life</b> (teaching, administration, clinical care and research)</li> <li>• major <b>career decisions</b> such as changing institutions or research direction</li> </ul>
<b>Skills</b>	Well versed in their field and research methods, but may lack comparable years of experience in academic medicine	Accumulated years of experience and wisdom in academia



# Mentoring Approaches

## Informal Mentoring

Time-tested career decision support,  
Assistance with academic advancement  
Transition into faculty mentor

Requires substantial mentee initiation &  
persistence

Better meet mentees' needs through self-  
selection of mentor & learner-initiated  
agenda

Requires self-initiated & uncompensated  
commitment from the mentor

Not meet the needs of a diverse group of  
learners different from their mentors

## Formal Mentoring

Facilitates linkage of mentors & mentees

Provides instruction in gender,  
socioeconomic, cultural & ethnic sensitivity

Established objectives, process and  
evaluation

Trains mentees to seek mentors & develop  
self-awareness of professional needs

Requires administrative support & funding

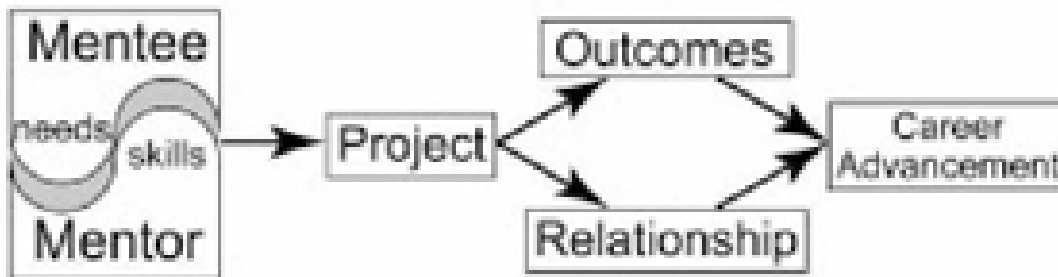
Provides a mandate for mentoring,  
although not usually a financial incentive

# Traditional vs. Functional Mentoring

“Traditional” Mentoring → chemistry between mentor & mentee



Functional Mentoring → based on specific skills to match mentor & mentee



**Evaluation of mentoring programs** must include multilevel assessment of outcomes to demonstrate impact and return on investment



*Source: Thorndyke LE et al. Functional Mentoring: A Practical Approach with Multilevel Outcomes. Journal of Continuing Education in the Health Professions, 28(3):157-164, 2008.*

# Do We Need Specific Mentoring Programs for Women?

The women do not need “fixing”



But there are issues **unique to women**

# Yes, because...

Women have **more difficulty finding mentors** than their male colleagues<sup>1</sup>

Women **with mentors** report<sup>2</sup>:

- greater job satisfaction
- more likely to be promoted
- more time engaged in scholarly activities

Women **without mentors**<sup>2</sup>:

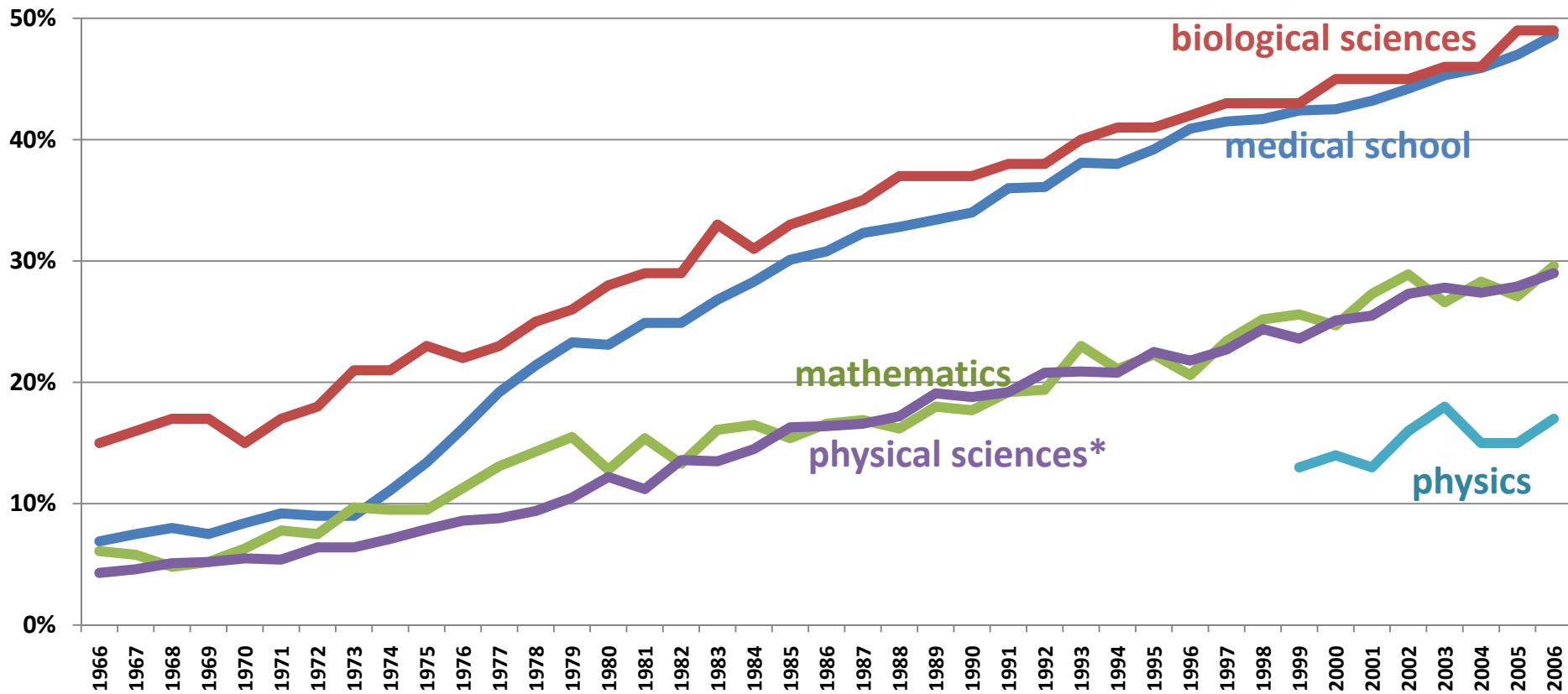
- have problems with stress and confidence
- are less likely to establish a solid career network when compared to males



Women are **role models** for other women

*Source: (1) Sambunjak D et al. Mentoring in Academic Medicine: A Systematic Review. JAMA, September 6, 2006, Vol. 296, No.9, pp.1103-1115 and (2) McNamara MC et al. A Pilot Study Exploring Gender Differences in Residents' Strategies for Establishing Mentoring Relationships. Med. Educ. Online 2008; 13:7*

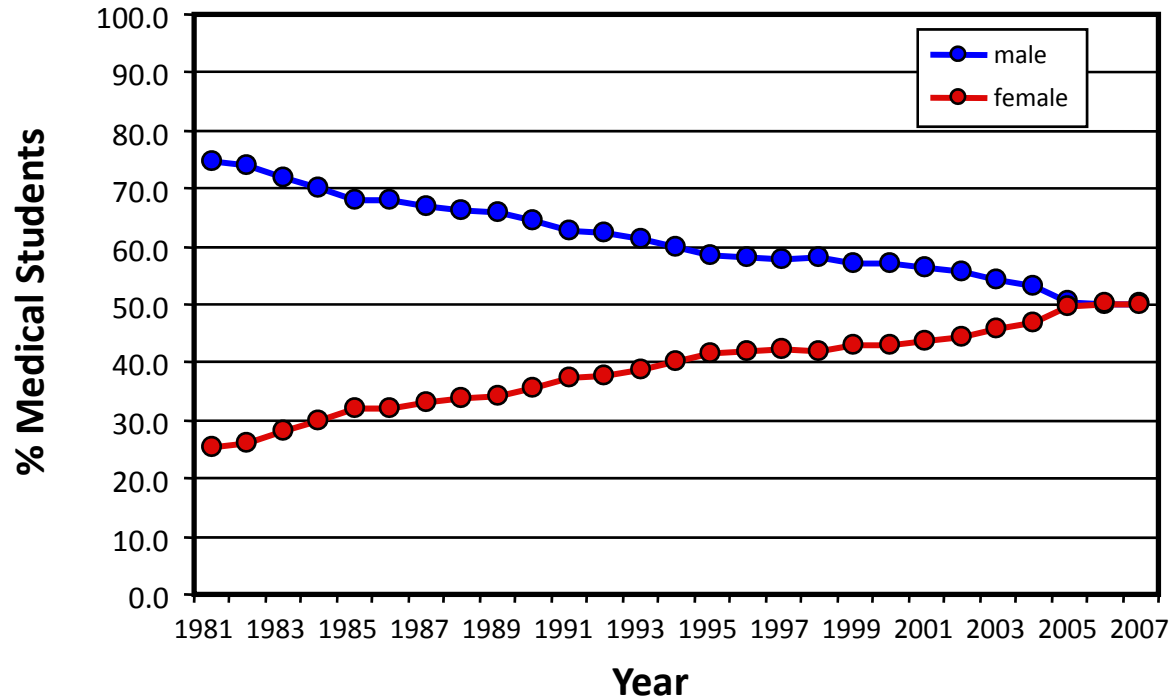
# Women M.D. and Ph.D. Graduates 1966-2006



\* Physical sciences include astronomy, chemistry and physics

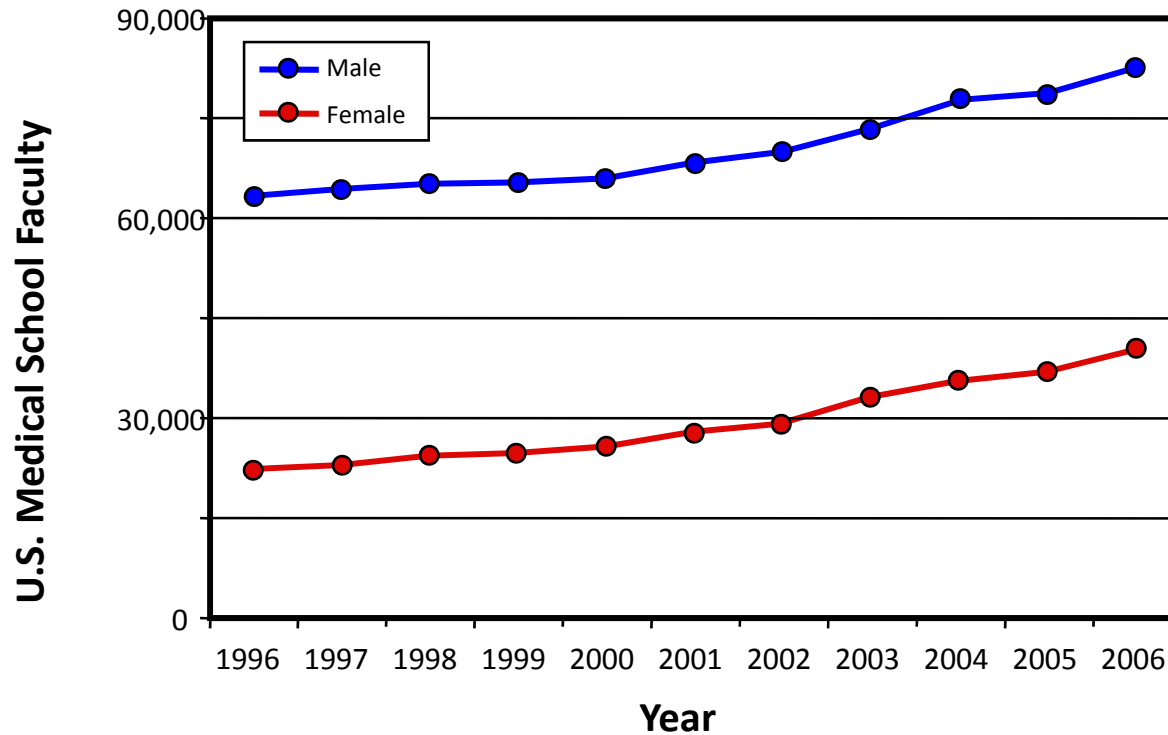
# Gender of Medical Students

And the gender of medical students has shifted to equality.



# Female Medical School Faculty

**BUT no change in the proportion of female medical school faculty.**





# Projected Year of Equality\*

**Instructor: 2005**

**Assistant Professor: 2023**

**Associate Professor: 2038**

**Full Professor: 2058**

**\*Assume no change in trends**

# Shortage of Oncologists by 2020

An aging population and an increasing number of cancer survivors will result in:

**48% to 56%** increase in demand for oncology services  
but only

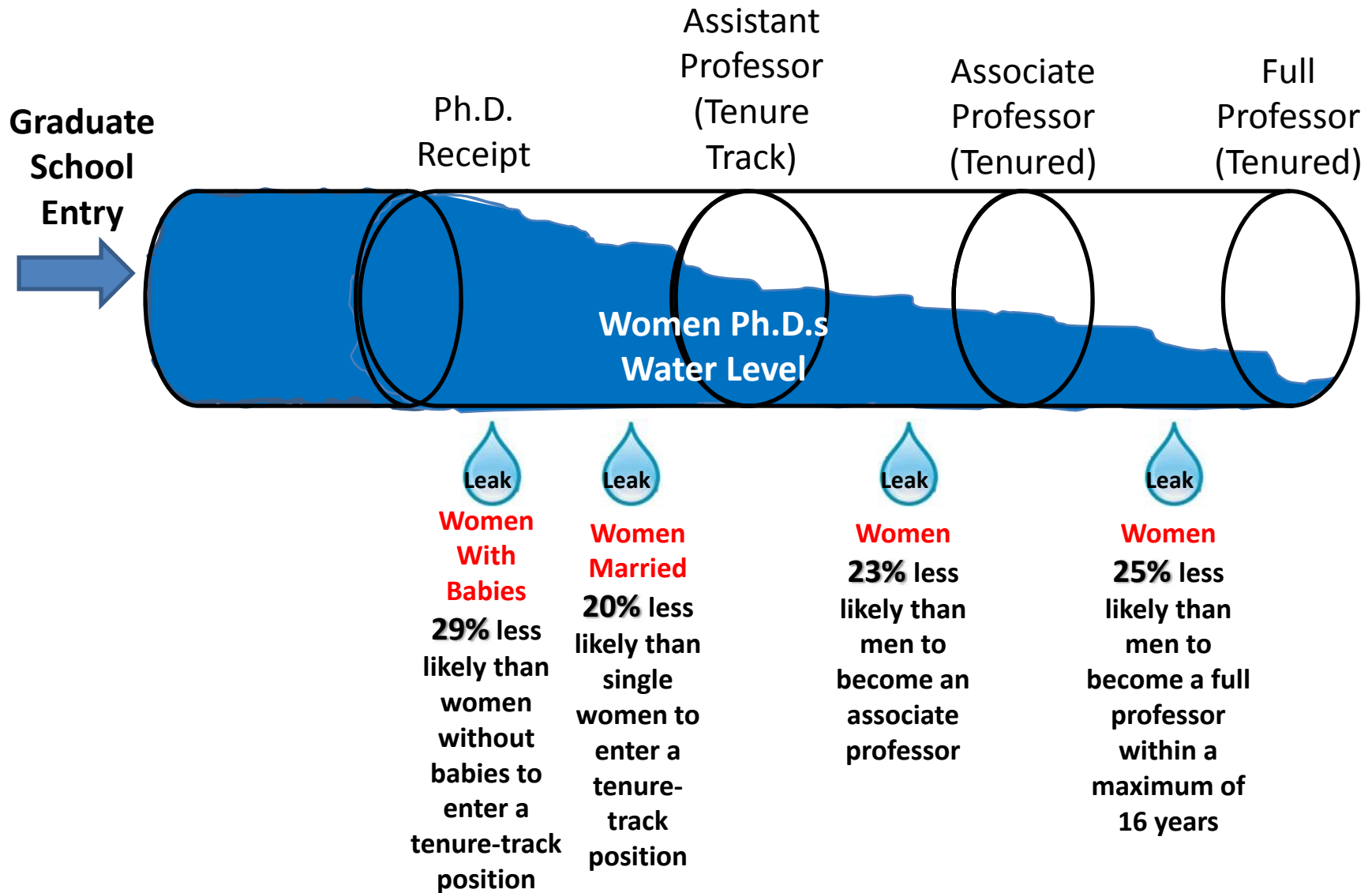
**14%** increase in supply of oncology services

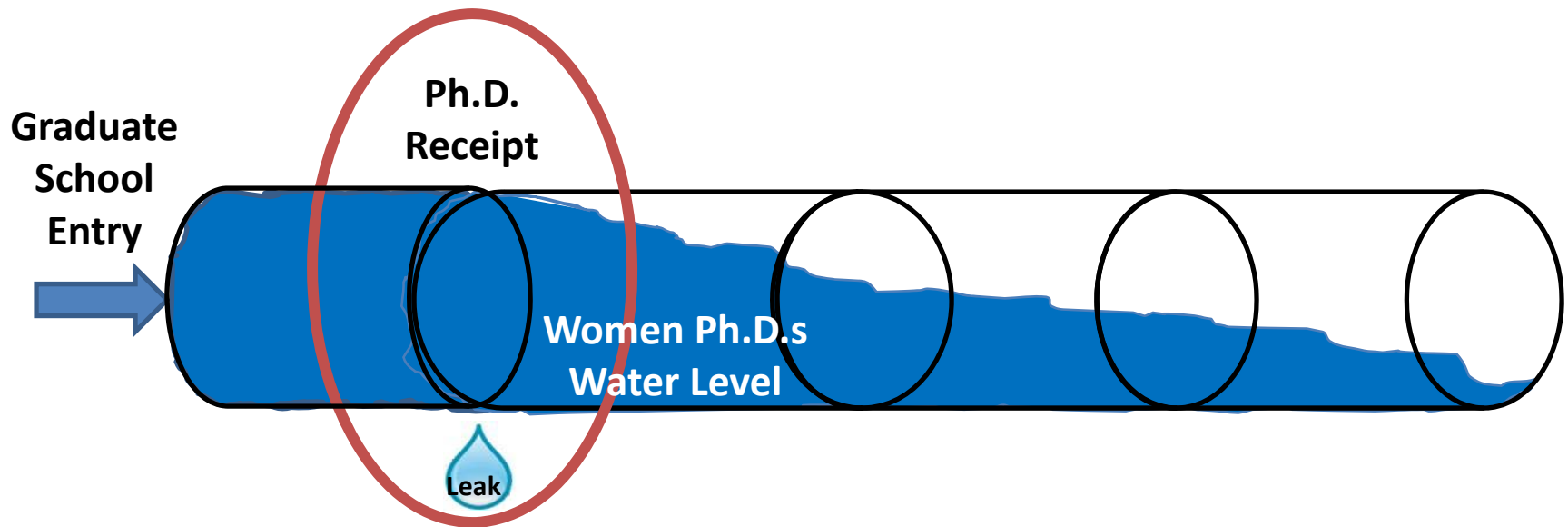
**Bottom Line?**

Shortage of 3,800 oncologists,  
1/3 of 2005 supply.



# Leaks in the Academic Pipeline for Women





### Reasons for the leak

Family issues

Travel

Employment status of spouse

Day care

Career concessions

Professional preparation  
(Imposter syndrome)

### Personal Interventions

Discuss family friendly policies

Ask if tenure track offered/discouraged

Role models to talk to

Share your thoughts, did you feel like this?

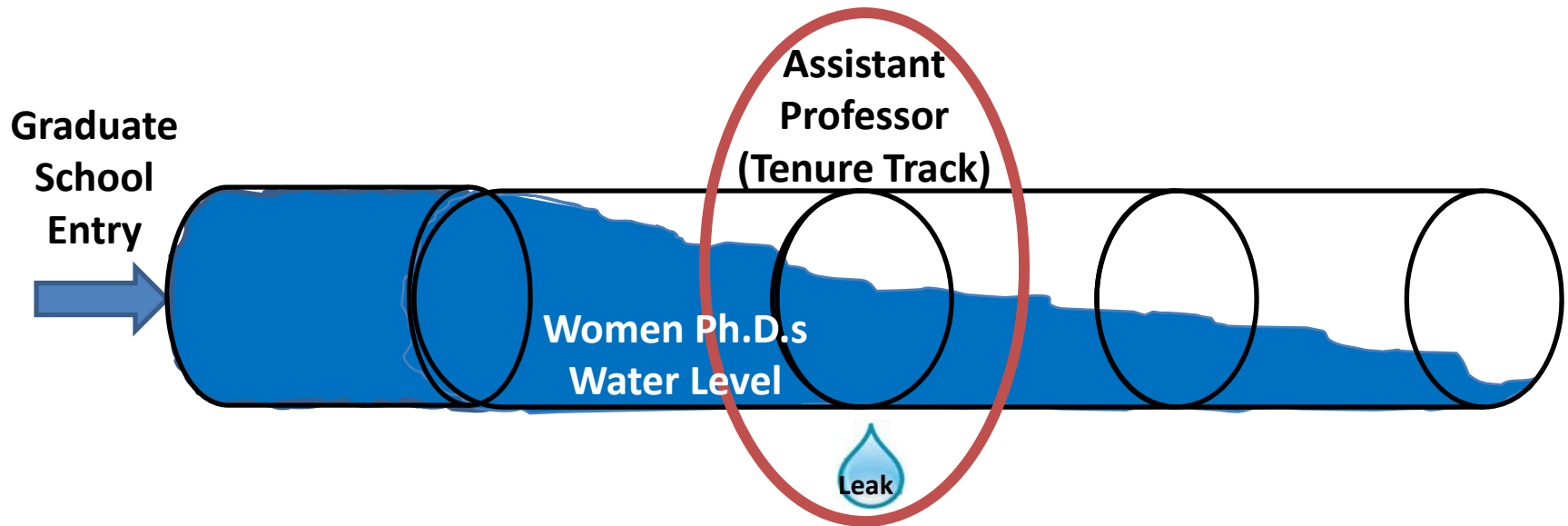
### Institutional Interventions

Do you have family friendly policies?

Stop tenure clock policy

Flex/part time policy to interview them

Affordable day care



### Reasons for the leak

Fixed time to obtain tenure

Childbearing years

Gender schemas

### Personal Interventions

Help identify sources of grant funds

Read grants/papers from start to submission

Do not assign to too many committees

Suggest as speakers at national conferences

Help with Personal Advisory Board

Networking events w/senior women faculty

Send to development programs (AAMC, etc)

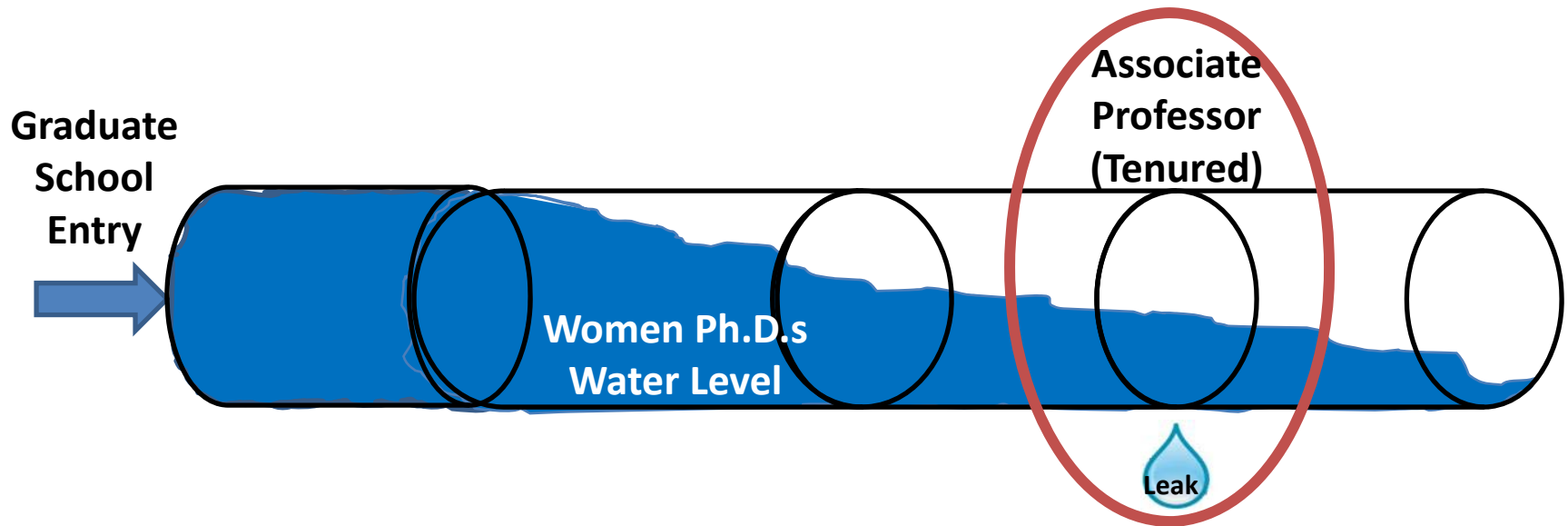
### Institutional Interventions

Grant writing course

Junior Faculty Development Program

Mid tenure track review

Stop the clock policies



Reasons for the leak	Personal Interventions	Institutional Interventions
Family	Nominate for awards, honors	Stop the clock policies
Gender schemas	Suggest as speakers for national meetings	Annual salary equity review
Time to promotion	Advise on navigating politics	Time to promotion analysis
	Monitor promotions	
	Find women faculty, leadership candidates	
	Examine institutional policies for those that inadvertently disadvantage women	
	Focused workshops on relevant topics (negotiation, speaking up)	
	Informal networking with senior women	

Source: Mason, M. et. al. <http://ucfamilyedge.berkeley.edu>

# Women in Leadership in Science and Medicine

## In NCI-designated cancer centers<sup>1</sup> (2009):

- 14% of directors

## In medical schools<sup>2</sup> (2008):

- 10% of medical school deans
- 12% of department chairs
- 21% of division/section chiefs
- 17% of full professors
- 29% of associate professors
- 40% of assistant professors

## In physical sciences (inc. physics)<sup>3</sup> (2006)

- 8% of full professors
- 17% of tenured/tenure track faculty

## In mathematics<sup>3</sup> (2006)

- 9% of full professors
- 17% of tenured/tenure track faculty

## In life sciences<sup>3</sup> (2006)

- 26% of full professors
- 32% of tenured/tenure track faculty

# Why Do We Need Women Leaders

## IMPROVES THE BOTTOM LINE!

Top management teams with **highest representation of women** experience better financial performance.

This finding holds for both financial measures analyzed:

**Return on Equity (ROE), which is 35 percent higher, and  
Total Return to Shareholders (TRS), which is 34 percent higher.**

In each of five industries analyzed, companies with the highest women's representation on their top management teams experienced a **higher ROE** than the companies with the lowest women's representation.

In four out of five industries, the companies with the highest women's representation on their top management teams experienced a **higher TRS** than the companies with the lowest women's representation.

In academic science/medicine, leadership gender improves gender demographics.



# Career-Related Mentor Support

- Sponsorship
- Exposure and visibility
- Coaching
- Protecting
- Giving challenging assignments that lead to professional growth



# We Have to Move Beyond Talk

- Recognition that **structured mentorship** must occur
- We **cannot rely on department chairs**, chance, or the sheer “pluck” of young faculty
- We must **move beyond competition** to true collaboration, and **measure and reward** what we say we value
- Leaders have to **advocate for appropriate changes**
- Leaders have to **budget for faculty development** for all levels of faculty, including our leaders and emerging leaders

# Psychological Mentor Support: AKA Ole' Boys (GIRLS) Network

Benefits of a female mentoring network are many

- **Role modeling**
- **Acceptance**
- **Confirmation**
- **Counseling**
- **Friendship**



The goal is to confer an enhanced sense of  
competence, identity and effectiveness on the job

# The Many Faces of Mentoring...

- Professional parent
- Teacher
- Guide
- Counselor
- Motivator
- Sponsor
- Coach
- Advisor
- Role model
- Referral agent
- Door opener

**Nobody can be  
all of them!**



**Personal Advisory Board**

# Role of Professional Associations

- Provide **opportunities** for those considering a career choice
- Enhance the **institutional mentoring** for academic faculty
- Provide support and encouragement to **newly practicing scientists/physicians**
- Raise visibility by **nominating women** for awards and office
- **Women on program committees and as speakers**
- **Proportional representation** women on program committees
- Competitive **travel awards** for women students
- **Networking events** at annual meeting
- **Lectureships** honoring women



# Mentoring via Personal Stories

**Overlapping trends** in medicine include:

- Increasing number of women entering medicine
- Growing number of generation X physicians
- Implementation of duty hour regulations
- Diversifying workforce

In pace with the **increasing complexity of their lives and practices**, women trainees (and men) are seeking **creative solutions to the challenges of simultaneous work and parenting.**



The University of Texas M. D. Anderson Cancer Center



*Legends  
and  
Legacies*

*Personal journeys of women  
physicians and scientists at  
M. D. Anderson Cancer Center*

EDITED BY ELIZABETH L. TRAVIS, Ph.D.

***“The strength and intelligence of these phenomenal women are overwhelming. They will impact the lives of those dealing with the challenges of cancer for generations. I applaud them and celebrate their successes.”***

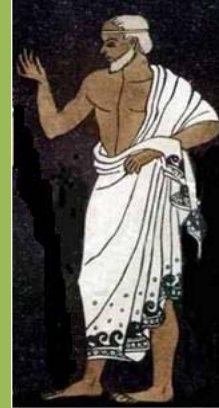
**-- Former First Lady Barbara Bush  
Life Member of M. D. Anderson’s  
Board of Visitors**

***“...The extraordinary women of M. D. Anderson invite us on their journeys and along the way inspire countless young girls to realize that they can be whatever they want to be too.”***

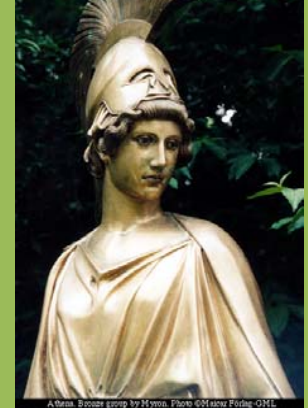
**-- Nancy L. Snyderman, M.D.  
NBC News Chief Medical Editor**

# Legends and Legacies The Authors

Mentor



Athena



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