

**Career Development Tips:
one size does not fit all . . .**

GEMSSTAR/TFWS/DWJS

Frailty Meeting

March 3, 2015

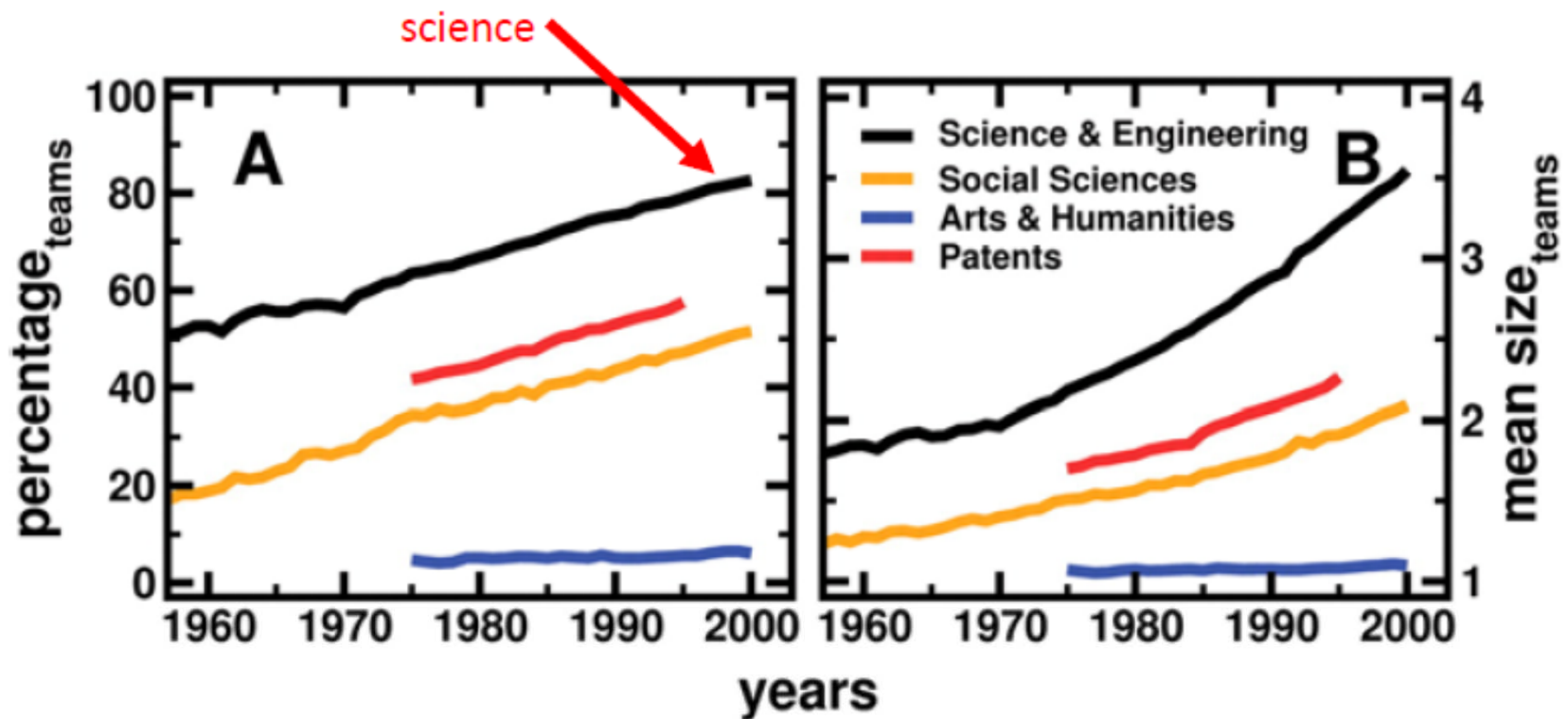
Kevin P. High, MD, MS
Tinsley R. Harrison Professor and Chair
Department of Internal Medicine
Wake Forest School of Medicine

What will I try to do . . .

- Trends in physician investigator “phenotype”
- Pathways to “independence” in academics
- Persistent truths regardless of NIH paylines and resource cutbacks
- Striking the right balance *within* your work life
- Striking the right balance *between* work and life

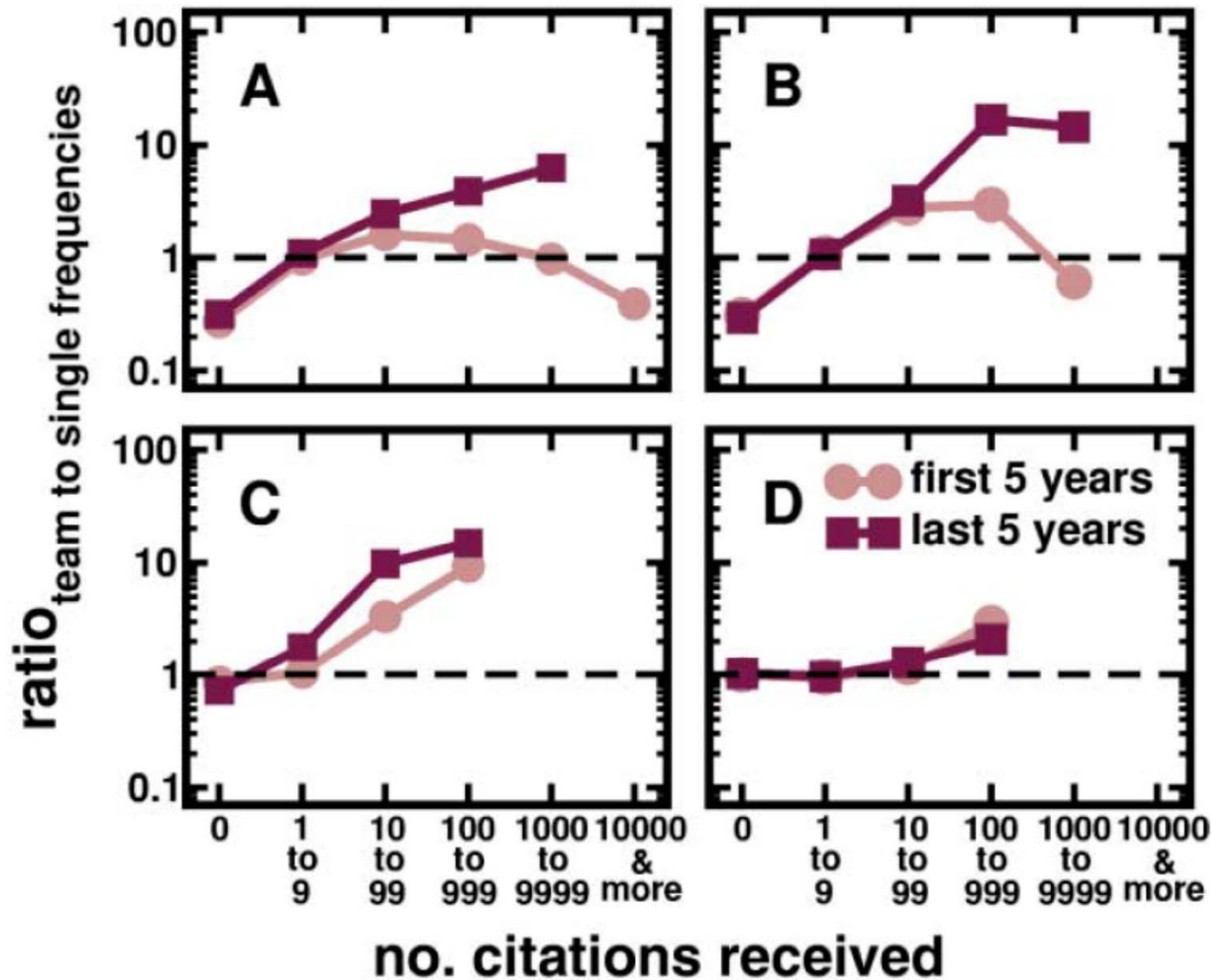
**Team Science – is it possible? Is it
advisable? How does it fit in the
future?**

Number of Papers Authored by Teams and Size of Teams: Increasing Over Time



Wuchty, S., Jones, B.F. and B. Uzzi. Science 2007;316:1036-1039

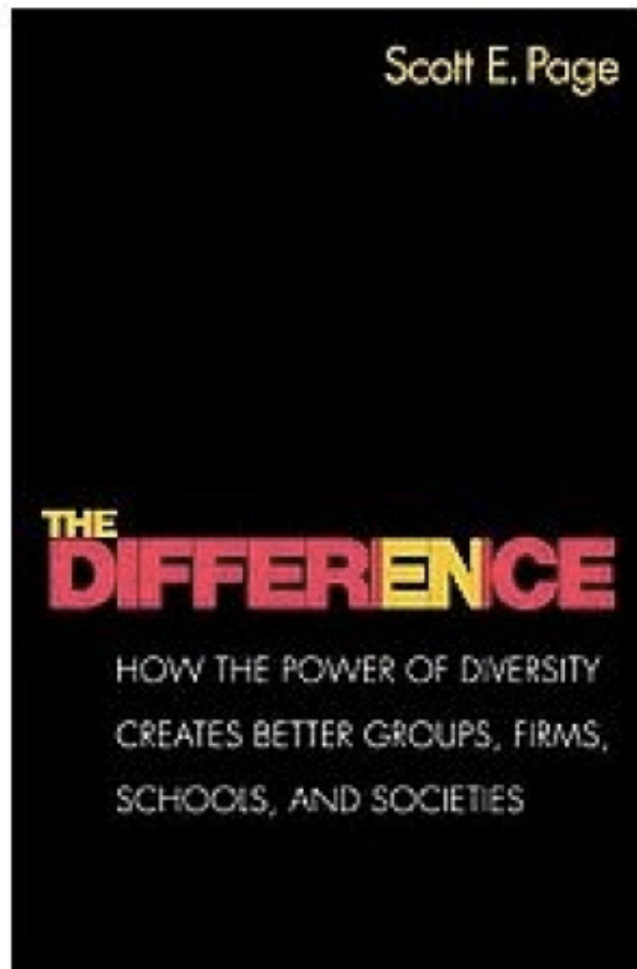
Team-authored papers cited MUCH more frequently than single/main authors



A = science and engineering

Wuchty, et al.
Science, 2007

The Power of Diversity



- Breakthroughs emerge by looking at complex problems from diverse perspectives.
- Inclusive enterprises with a diverse work force that recognize and value unique individual contributions tend to be more successful than more homogeneous ones – lessons from business.
- As the complexity of scientific problems increases, the need to build and to work within inter- and multi-disciplinary teams increases.

Evidence for a Collective Intelligence Factor in the Performance of Human Groups

Anita Williams Woolley,^{1*} Christopher F. Chabris,^{2,3} Alex Pentland,^{3,4}
Nada Hashmi,^{3,5} Thomas W. Malone^{3,5}

Psychologists have repeatedly shown that a single statistical factor—often called “general intelligence”—emerges from the correlations among people’s performance on a wide variety of cognitive tasks. But no one has systematically examined whether a similar kind of “collective intelligence” exists for groups of people. In two studies with 699 people, working in groups of two to five, we find converging evidence of a general collective intelligence factor that explains a group’s performance on a wide variety of tasks. This “c factor” is not strongly correlated with the average or maximum individual intelligence of group members but is correlated with the average social sensitivity of group members, the equality in distribution of conversational turn-taking, and the proportion of females in the group.

Group's Collective Intelligence correlated with:

1. Group cohesion, motivation, satisfaction?
 - NO
2. Individual IQ's or IQ of highest performing member?
 - Moderate
3. Average social sensitivity
 - YES! – “turn-taking” was strongly correlated with CI
4. Number of women?
 - YES!! – better turn-takers

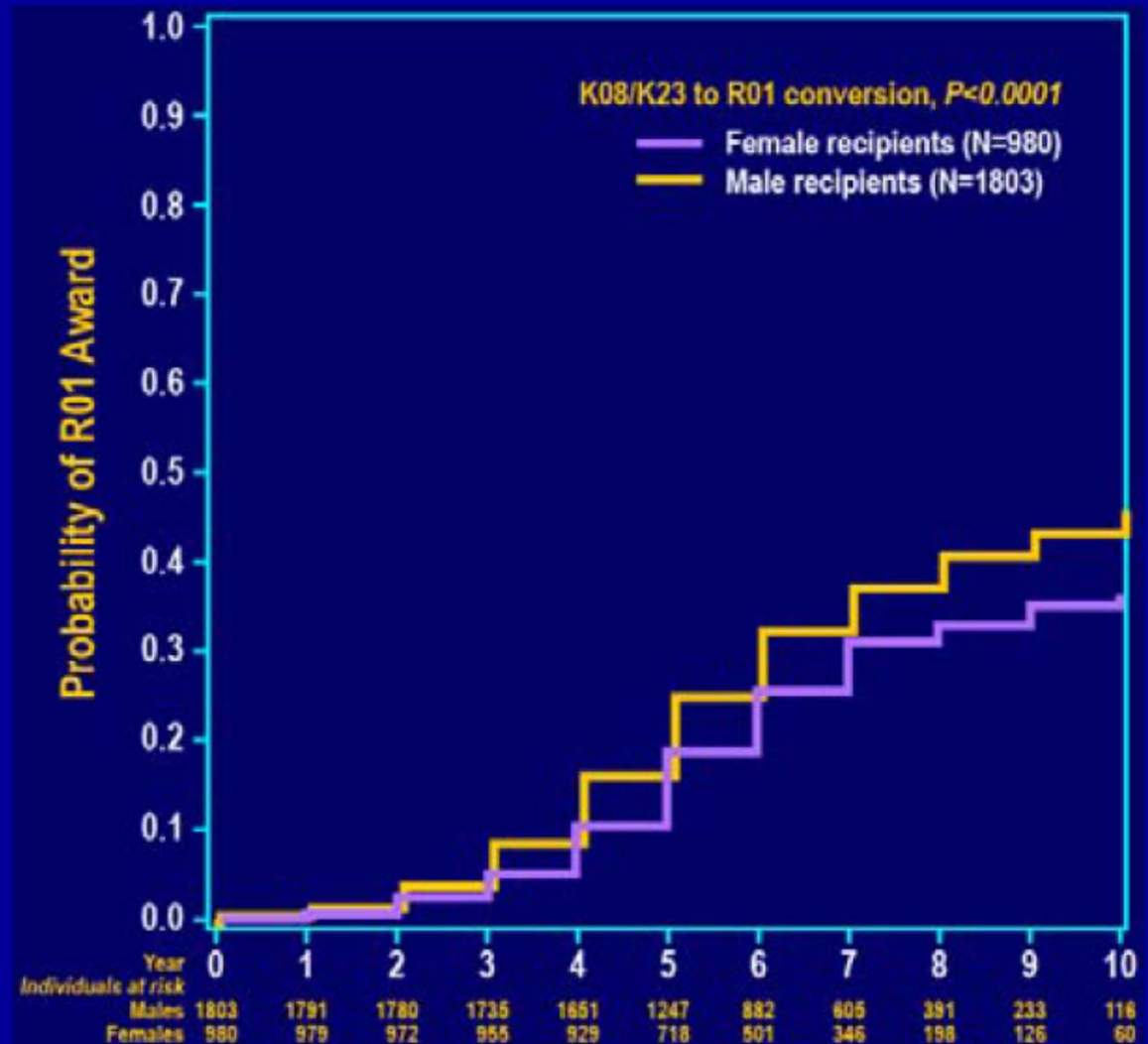
So the ideal team to build is . . .

- One with
 - High collective intelligence to have the biggest impact
 - Include high performers in the group
 - Keep it diverse, and
 - Make sure it includes women!!

Sex Differences in Attainment of Independent Funding by Career Development Awardees

Reshma Jaggi, MD, DPhil; Amy R. Motomura, BSE; Kent A. Griffith, MS; Soumya Rangarajan, MPP; and Peter A. Ubel, MD

- 5-yr rate of R01 attainment: 19% among women and 25% among men
- Even among men, the 10-year rate of R01 attainment (in a better funding environment than today's) was <50%



Differences receiving R01, self-perception of success and pubs

	Women	Men	
Received R01			.006
Yes	78 (37.0)	184 (48.7)	
No	133 (63.0)	193 (51.3)	
Self-perception of success as a medical researcher			.002
Very or quite a bit	94 (45.2)	218 (58.8)	
Somewhat, a little bit, or not at all	114 (54.8)	153 (41.2)	
Publications, mean (SD)			
Total since K award	26.7 (22.1)	33.6 (26.0)	.001
First-authored since K award	8.6 (8.0)	9.9 (10.5)	.11
Senior-authored since K award	7.2 (9.2)	11.5 (14.4)	<.001

NO difference in leadership or R01 applications

	Women	Men	
National leadership position			.76
Yes	55 (26.7)	114 (31.6)	
No	151 (73.3)	247 (68.4)	
Institutional leadership position			.54
Dean, department chair, or division chief	24 (11.5)	54 (14.7)	
Clinical or residency director	38 (18.3)	68 (18.5)	
None or other	146 (70.2)	245 (66.8)	
Applied for R01			.20
Yes	144 (68.3)	276 (73.2)	
No	67 (31.7)	101 (26.8)	

National Advisory Council on Aging K Working Group

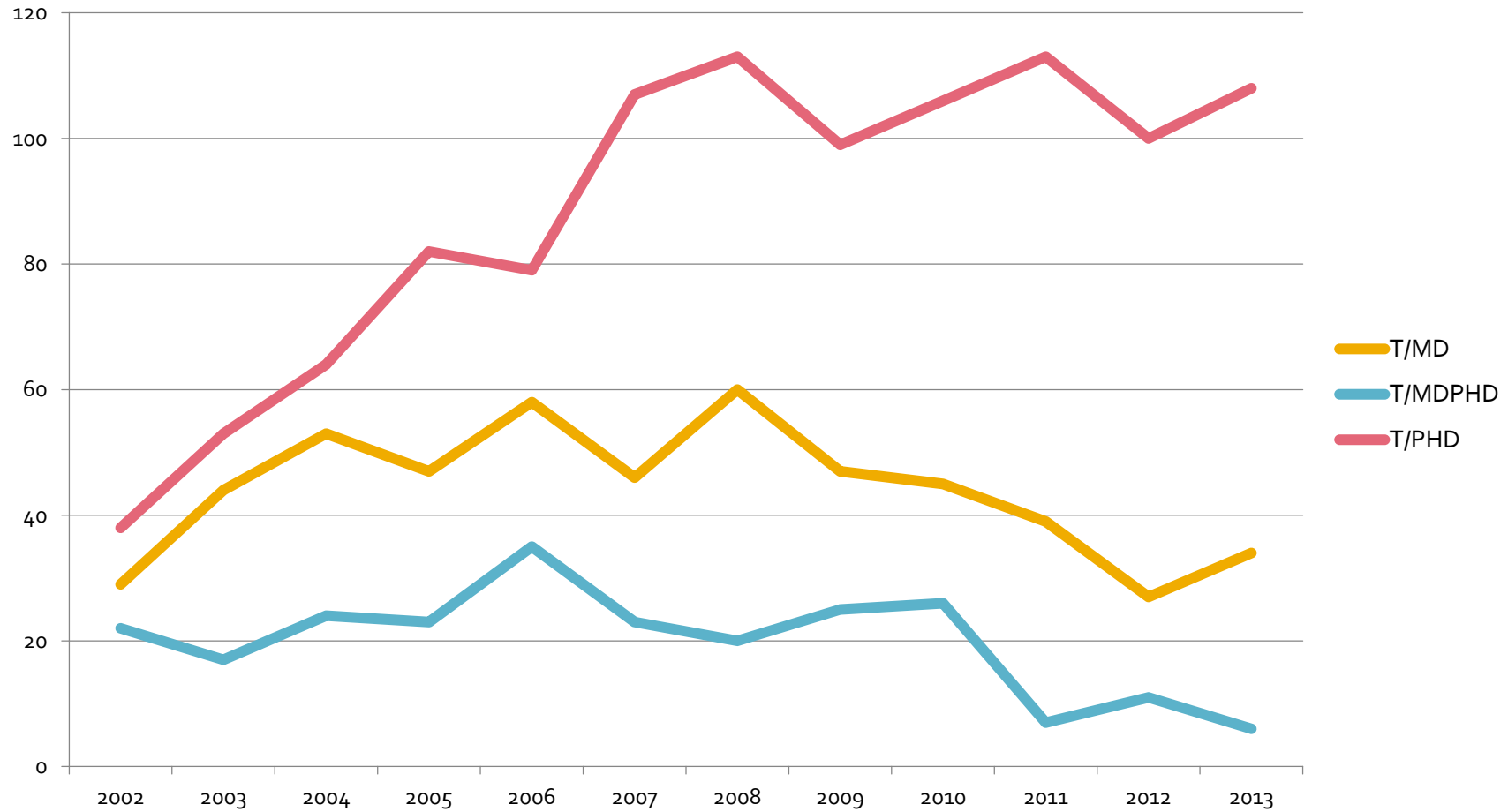
COUNCIL MEMBERS

- Kevin High - Chair
- Bradley T. Hyman
- Ana Maria Cuervo
- Charles Pl Mouton
- Jonathan Skinner
- Eliseo Peres-Stable

NIA Staff

- Chyren Hunter
- Robin Barr
- Marie Bernard
- Ta Loan
- Samir Sauma

K applications to NIA 2002 - 2013

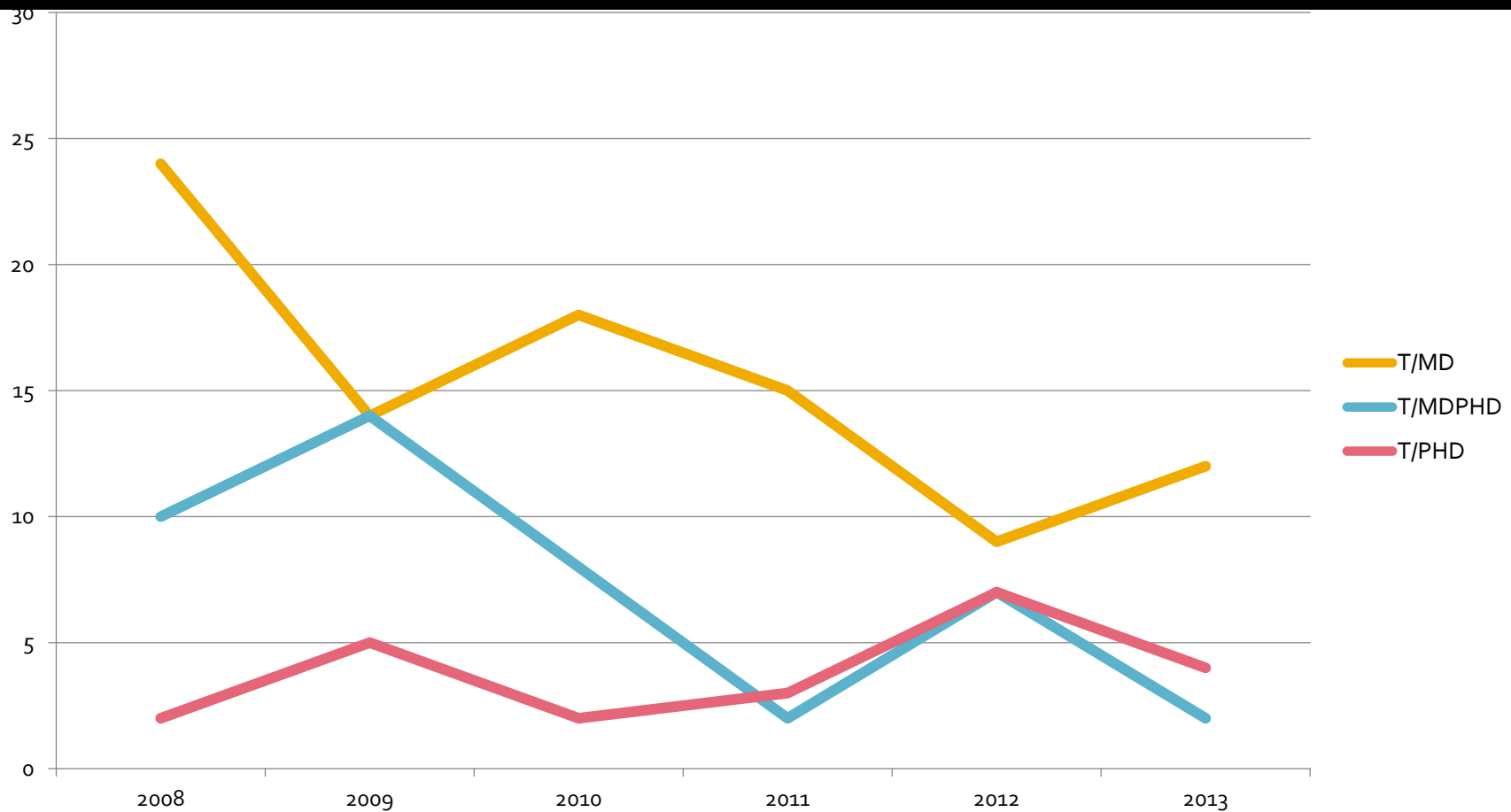


K submissions from MD and MD-PhD applicants saw a steady decrease from 2008 – 2013.

K Working Group Questions

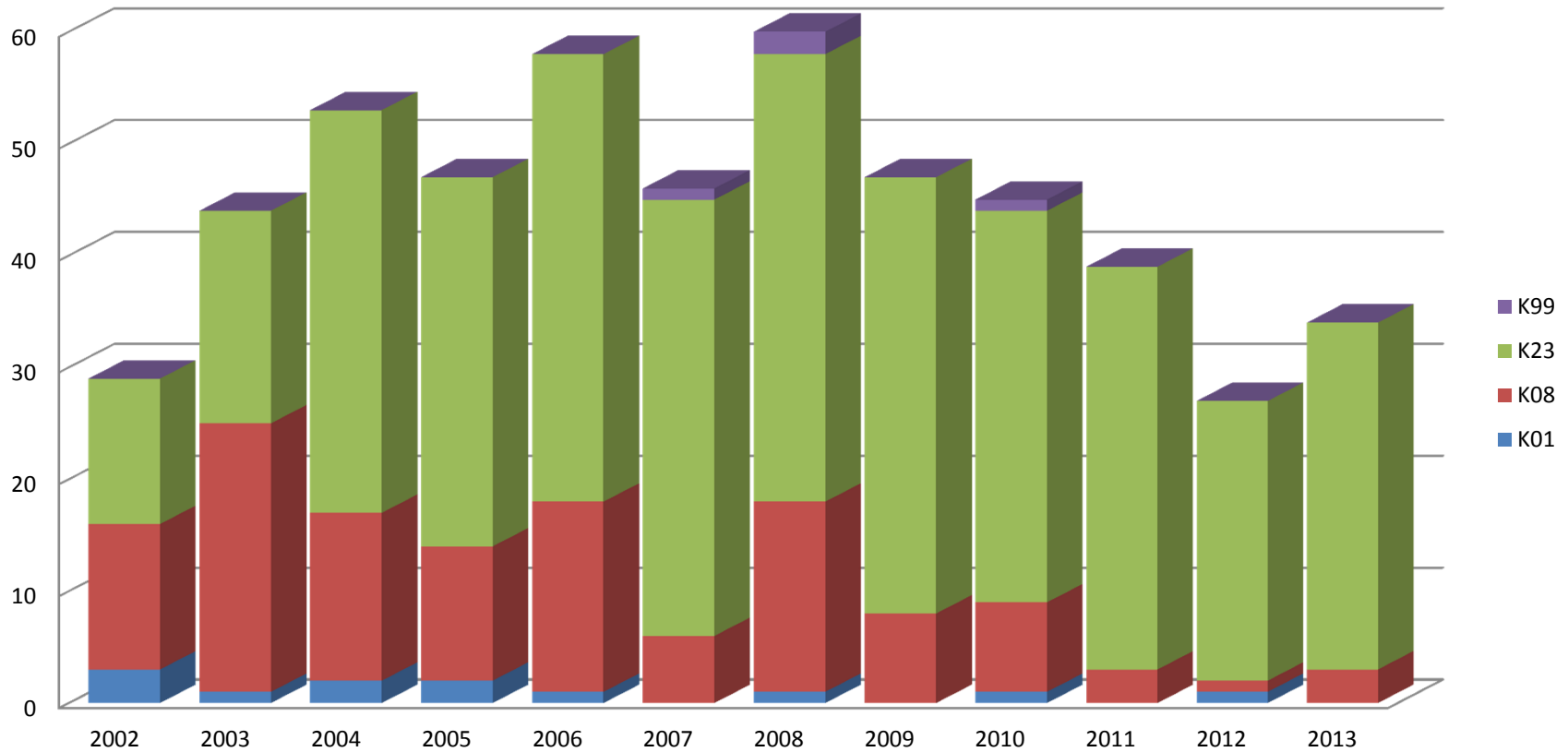
- (a) Why has there been a fall in clinical research applications for K awards?
- (b) How well are the K awards doing in jump-starting clinical-investigator careers?

BEESON K applications to NIA 2008 - 2013



The decline in MD and MD/PhD applicants is exemplified in the Beeson Program (the overall decline is driven somewhat by the decline in Beeson applicants)

NIA K applications - MD

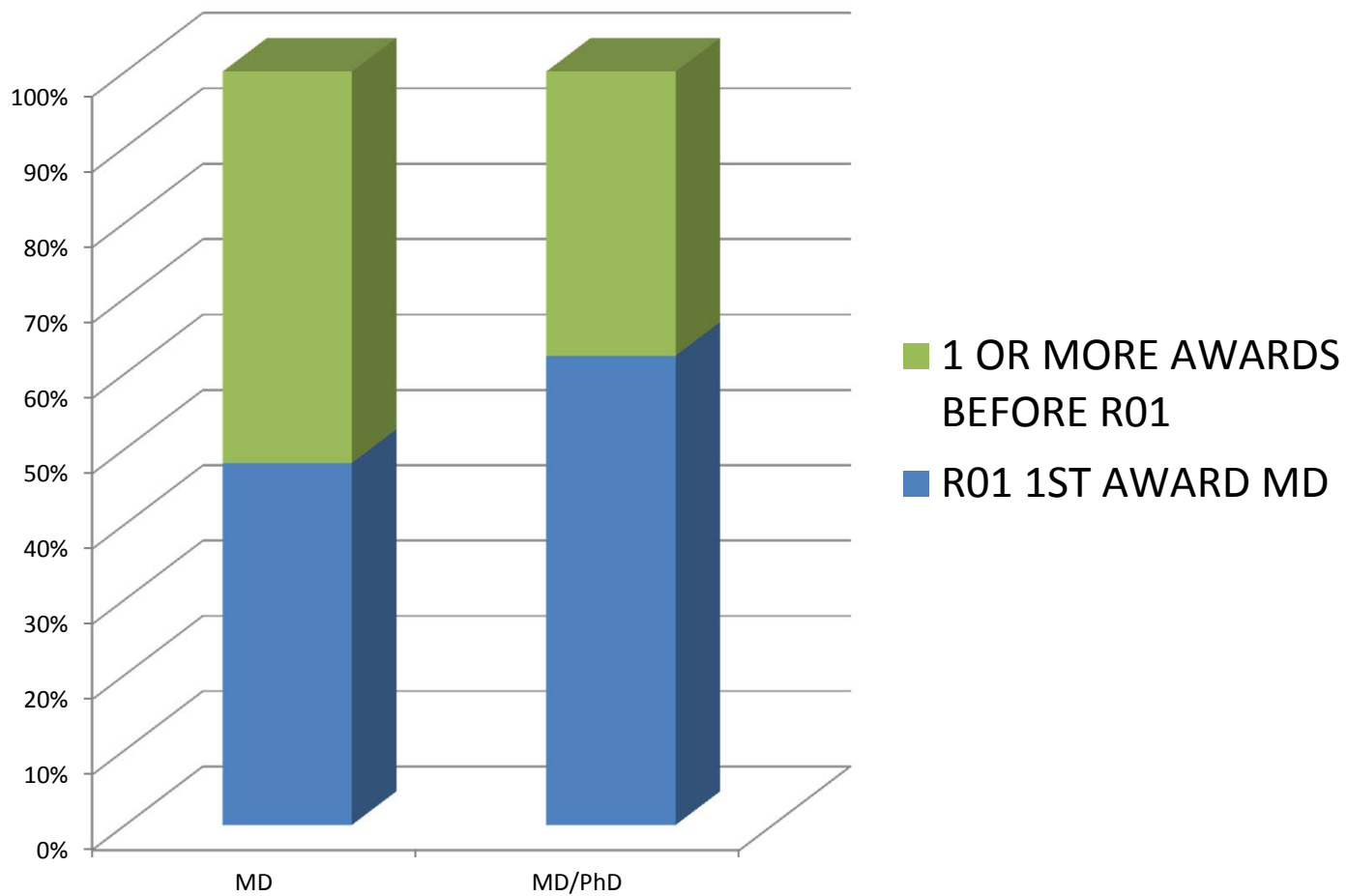


- **K08 applications from MDs realized the largest decrease during this period.**

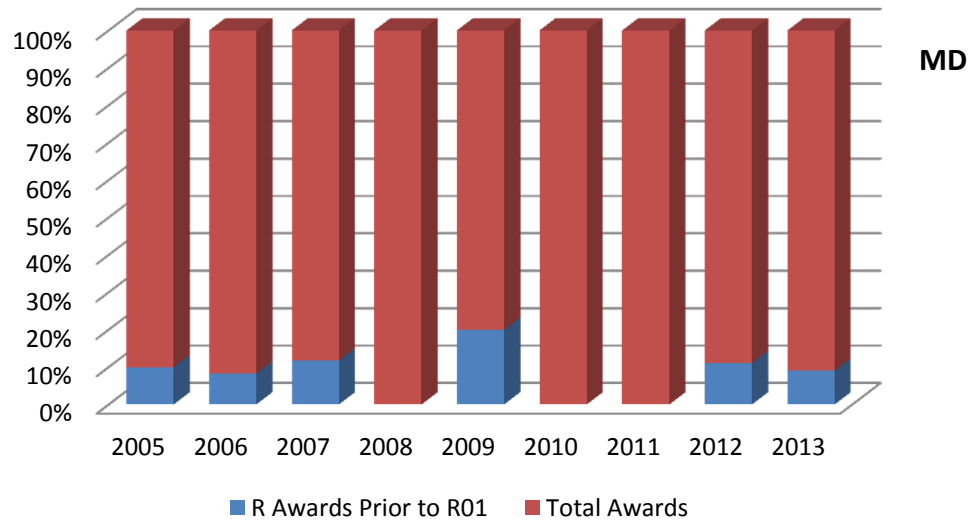
Declining Relevance of the K Award in 2015 for Physician Scientists

- **Uncertainty of a grant-funded career – especially bench to bedside (Ko8 “phenotype”)**
- **Median salary for physician scientists outpaced compensation supported by K award – no change in amount of K-supported salary in 20 years**
- **Decreased ability for departments/institutions to cost share (i.e. fill the “k gap”).** - Indirect cost rate of 8% plays a role
- **More difficult for clinicians to pay > 25% of salary in 25% clinical time due to shrinking margins**
- **Other mechanisms may be replacing K awards for training**
 - CTSAs, VA CDAs, Public/Philanthropic funds

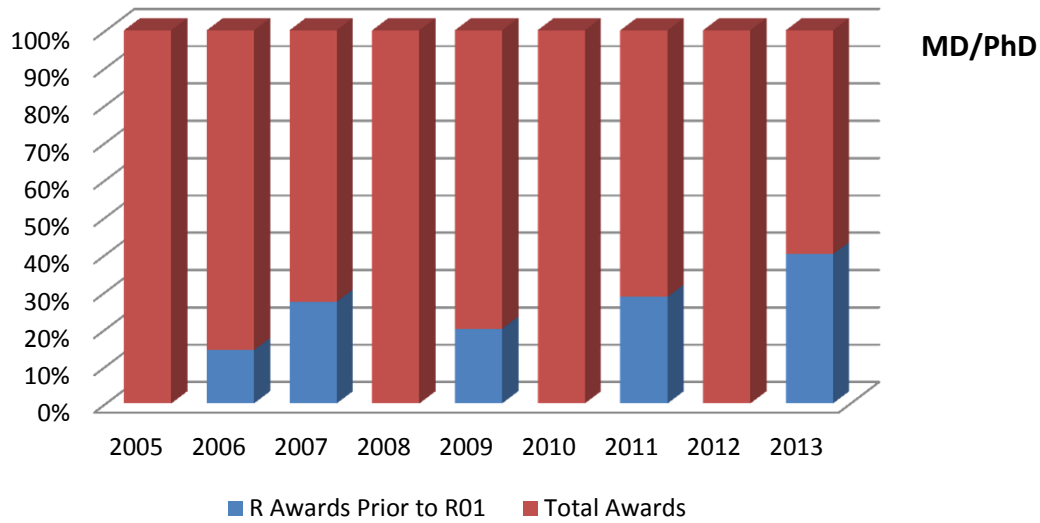
Physician Scientist R01 Awardees with Awards before the R01 2005-2013



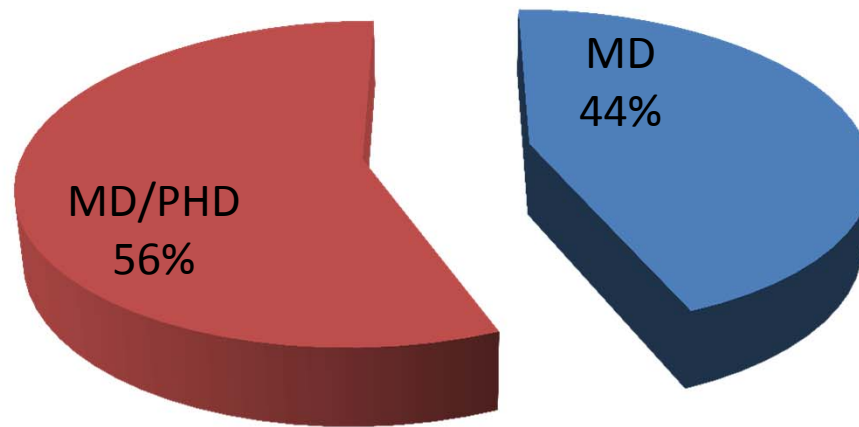
Physician Scientist R01 Awardees with prior R awards



MD/PhD physician-scientists increasingly utilize R support prior to the 1st R01.



**1st R01 -
Physician-Scientists
with no K support**

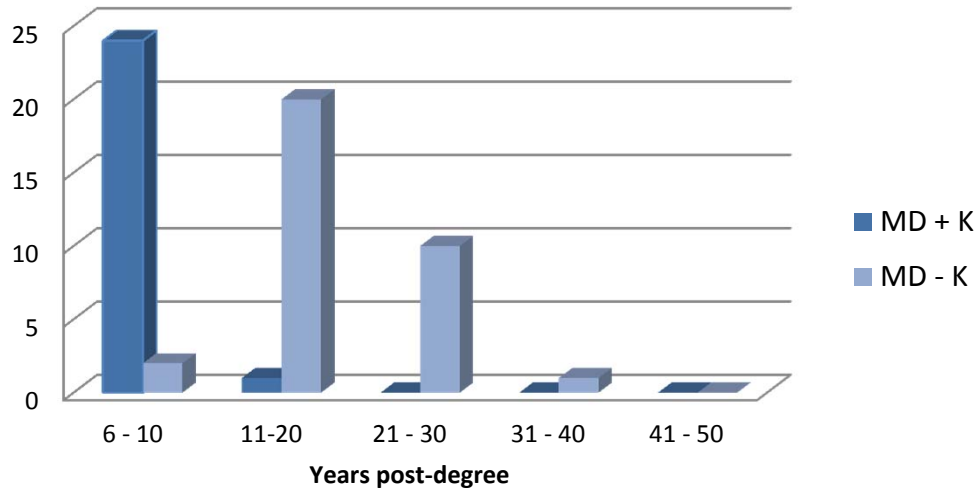


**About half of physician
scientists do not seek K funding
prior to the R01.**

So

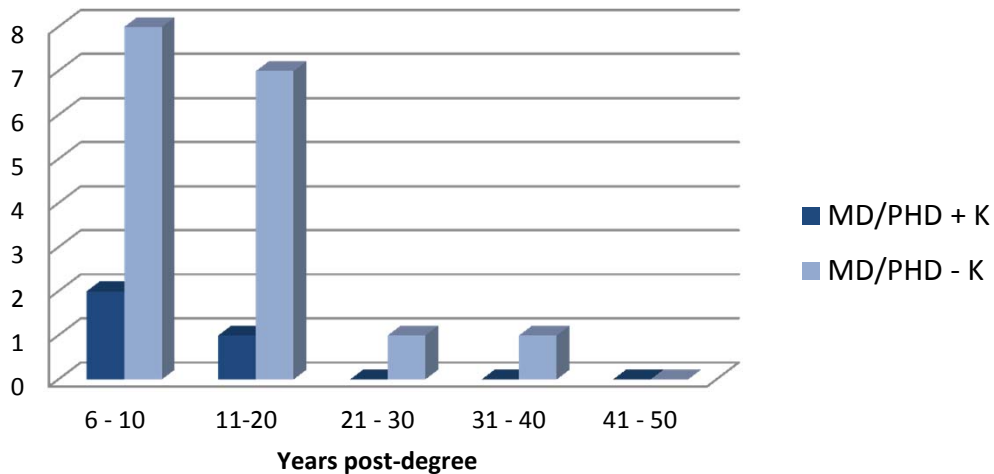
- About half of first R01 recipients have a prior K
- Only a few have a prior R grant
- How did the others get there?
 - Co-investigator on others grants!
 - Foundation funding or other non-NIH funding
- How effective is a K vs. these other pathways?

MD Degree to R01

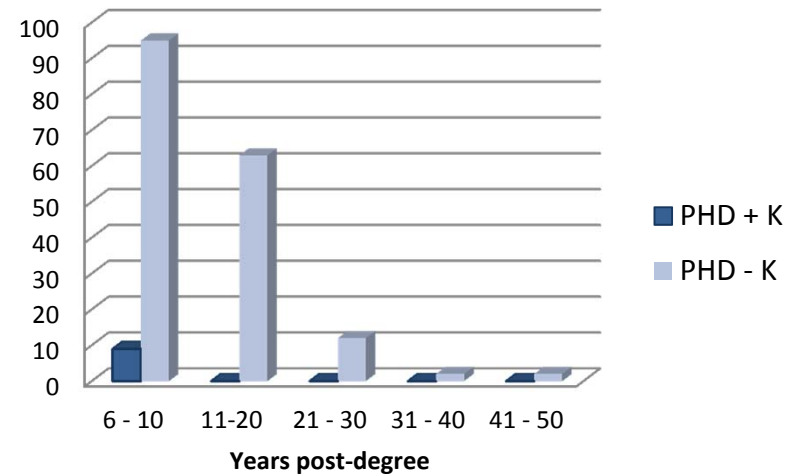


- Most MDs with a K award receive R01 funding within 10 years
- Most w/out a K take another decade
- Most MD/PHDs and PHDs without a K award receive R01 funding within 10 years.

MD/PHD Degree to R01



PHD Degree to R01



Draft Recommendations

- Increase the \$ amount for each K award commensurate with covering the same percentage of salary in 2015 that was covered in 1996.
- Consider a “step down” K award that allows < 75% effort charged to the K award AND allows concomitant co-funding of research effort by federal grants.
- Foster creative ways to facilitate continuation of K-initiated research programs (i.e. a more MD-friendly K99/Roo grant).
- Expansion of “pre K” awards. GEMSSTAR R03; supplemental support for junior faculty through NIA program grants (OAICs, Alzheimer’s Centers, Nathan Shock Centers, RCMARs, and Roybal Centers).

Persisting, Universal Truths about being an academic physician

- We have the best job in the world!!
- There will always be a shortage of good people who make others play better together
- Alignment is critical:
 - Clinical → Research → Education – try to make sure each activity leverages the others

Persisting, Universal Truths

- Come to your annual review prepared
 - Show your excellence!!
 - Identify the obstacles you've faced but more importantly propose solutions!!
 - Your boss LOVES people who identify problems AND their solutions; they loathe those that merely complain!
- Know what sources pay your salary and how your activities effect each
 - There is no "pot of gold" – you have to earn your salary

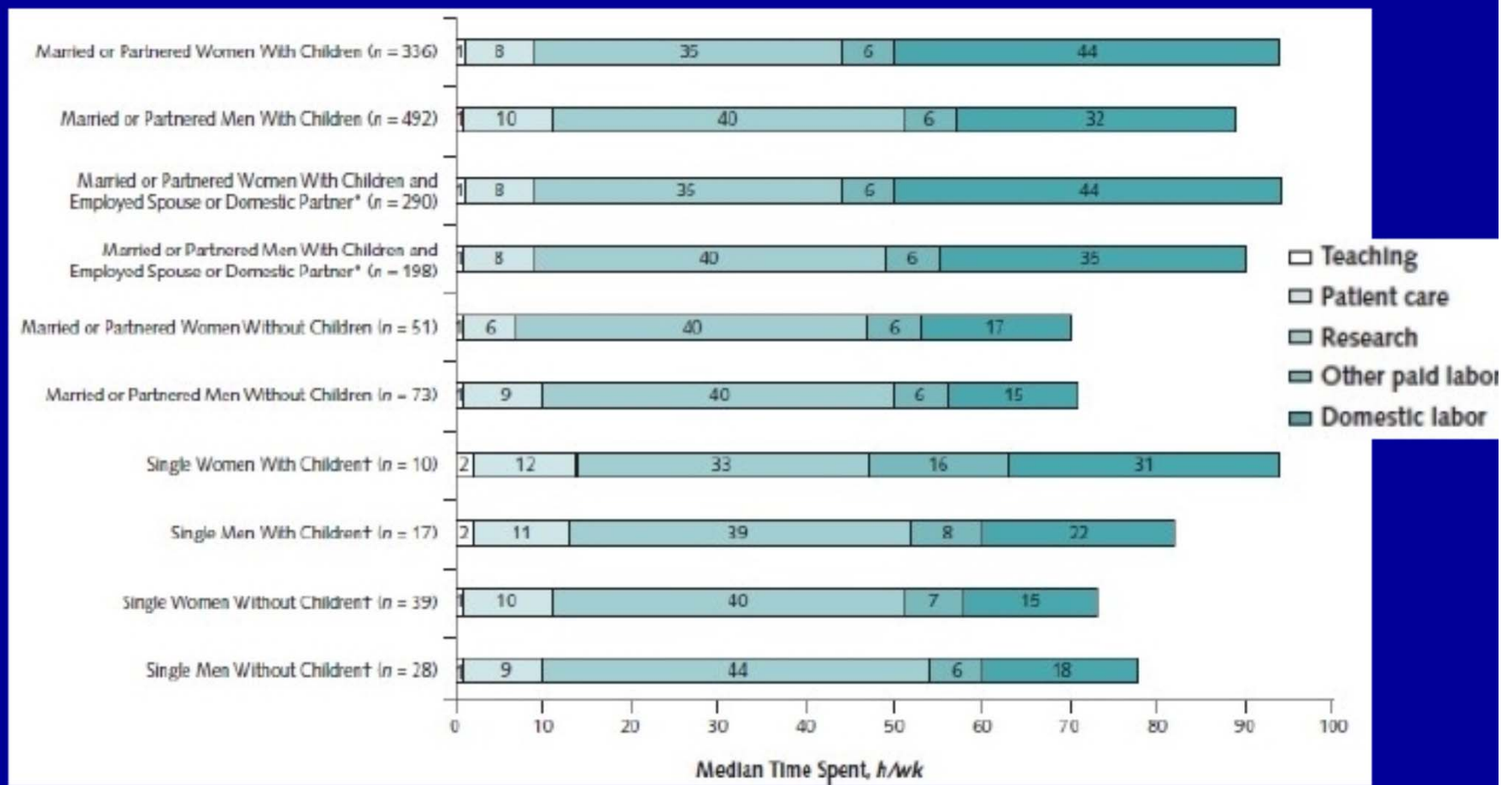
Persisting, Universal Truths

- You HAVE to write!
 - Papers – set a goal to have one in press or one in review each quarter - and have one in preparation AT ALL TIMES
- You have to stay fresh:
 - Change jobs (not necessarily where you do that job – ok to be at the same institution) at least every 5-7 years
- You will have to work hard . . . How hard?

Facilitate Work-Life Balance

Jolly S, Griffith KA, DeCastro R, Stewart A, Ubel P, Jaggi R. Gender Differences in Time Spent on Parenting and Domestic Responsibilities by High-Achieving Young Physician-Researchers. *Ann Intern Med.* 2014;160

- **Junior faculty spend considerable time on parenting & domestic tasks, especially by women with children, and this competes directly with research time**



Qualitative research on work-life balance in academic medicine

Work–Life Balance in Academic Medicine: Narratives of Physician-Researchers and Their Mentors

Erin A. Strong, MS¹, Rochelle De Castro, MS^{2,3}, Dana Sambuco, MPA^{2,3}, Abigail Stewart, PhD^{4,5}, Peter A. Ubel, MD^{6,7}, Kent A. Griffith, MS⁸, and Reshma Jagsi, MD, DPhil^{2,3}

J Gen Intern Med

DOI: 10.1007/s11606-013-2521-2

- 100 recipients of Ko8 or K23 and 28 mentors
- Semi-structured interviews
- As opposed to other fields of study where affordable child care dominates work-life balance issues, not a concern in this group

Work-life balance

- Five major themes
 - Challenge/importance of work-life balance
 - Gender roles and spousal dynamics make this issue more challenging for women
 - The key role of mentoring
 - Impact of institutional policies and practices
 - Perceptions of stereotype and stigma associated with taking advantage of institutional support

Spousal roles and stereotypes

“...I think my long-term mentor and my chairman... they have had a fundamentally different work–life balance because they both had wives who stayed home full-time and took care of their kids. And so even though they are at least emotionally and psychologically supportive...they weren’t able to give me really strong advice about how to do that because they never had to deal with it.” (Female, K-Awardee)

Key role of mentors

“I think I have learned from my mentors. In particular, two female mentors...I’ve learned a lot in terms of working to be as productive as you can be with your academic career...but realizing that you still have to fit in the rest of your life as well, especially being a woman....” (Female, K-Awardee)

Institutional policies

“You don’t want to...tell too many people when your kids are sick or if you have to sneak out to something at their school...Truthfully, I feel like when guys say they need to go to a soccer game and they do that everybody thinks they’re...incredible; women, nobody’s going to pat you on the back when you have to run out to do something...you just either suck it up and don’t care what people think or...edit where you are going and what you’re doing sometimes.” (Female, K-Awardee)

Institutional policies

“I think they are supportive both on paper and also in reality. So, for example, allowing me to work from home. I didn’t have to do it under the table like I’ve heard some people do. We actually had it all written out what days I would be here and what days I would be there....” (Female, K-Awardee)

Working/negotiating within your own environment: staff, colleagues, supervisors

- Keep your “street cred”
 - The easiest way to lose credibility with your colleagues is to stop doing clinical work
 - You are a PHYSICIAN scientist
- Make sure your staff NEVER take the heat
 - Their job is to say “yes” – if they need to say “no,” they should say “let me check and get back with you” and then you say no

Working/negotiating within your own environment

- Cc your direct boss
 - First, know who that is!
 - Center Director, Department Chair, Section Chief/Division Head, Dean, CMO, COO, CEO
 - Keep them in the loop – they'll get asked about things you think are only your business

Remember who you work for



**Remember who you work for . . .
your babies will grow up**



Your oldest is a triathlete, your son's a surfer dude and your "baby" is a junior in college – so make time for them now!

