Resource Highlights

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The literature on the skill development and systems issues affecting the progress of women in medicine and science has been steadily expanding in recent decades such that getting a handle on these subjects can feel like trying to drink from a fire hose. Since these topics interconnect in many ways, our selection and organization of categories under which to offer an overview of this literature and related resources must be somewhat arbitrary. The boundaries are not bright. But the organization we selected does include all of the major issues within the scope of this project.

Because our goal is to create a resource that is both easily useable and as up-to-date as possible, we have included only references since 2000. And since each of these subjects is boundary-less, our goal under each subhead has been to offer an idea of the range of problem analysis, findings, strategies and resources rather than any attempt to be comprehensive.

A) INDIVIDUAL CAREER DEVELOPMENT SKILLS AND ISSUES

This section contains no subdivisions because no bright lines separate all the many critical career skill development areas. Most of the references discussed have particular relevance to women and can help them overcome the continuing cumulative career disadvantages that are the result of the systems issues outlined in the next section.

1. Babcock (2003)

BOOK: Babcock, Linda. Women don't ask: negotiation and the gender divide. Princeton U Press, 2003.

This book explores all the reasons why women do not initiate negotiations as frequently as men do, as if "nice girls don't ask," and why don't they fare as well when they do. Men and women take harder line against women, making worse first offers, pressuring women to concede more, and conceding much less themselves. Other hindrances: The voice that says "make sure everyone is happy." Take steps to reduce the doubt resulting from listening to this voice. Don't discount your relational skills but don't let others exploit it, or assume that for you "connection" slides into "accommodation." The "Likeability problem": Assertive women are less well-liked, but a woman's influence increases the more she's liked. Also the cultural double bind that women risk more than men if they appear too aggressive or unsympathetic.*Women have often been left out of or not pursued earlier discussions where many issues really decided [see Deborah Kolb: The shadow negotiation: how women can master the hidden agendas that determine bargaining success. Simon and Schuser, 2000]. Babcock concludes: Speak up or surrender your goals, and be prepared for your credibility to be questioned and your resolve tested.

2. Bowles & McGinn (2008)

A very detailed and extensive literature review on gender in general negotiation and job negotiations from psychology and organizational behavior. The authors use the literature to analyze gender inequalities in organizations and mechanisms for minimizing negotiation dynamics that contribute to gender inequities.

3. Compton & Palmer (2009) p167

> A qualitative study interviewing 22 female executive and mid-level administrators across four public universities examining the extent women leaders in higher education negotiated for their compensation and what strategies and gendered communication traits they used. The results showed that most of the participants stated that they tended not to negotiate because of how they were socialized. Upon reflection many of the participants realized they do negotiate, growing more confident with experience and positions of power, and using a combination of masculine and feminine communication traits.

4. Eagly (2007)

> This sentinel article includes many insights into why so few women successfully navigate the labyrinth of leadership [a much more useful metaphor than Glass Ceiling], for instance: People are more resistant to women's influence than to men's. If there's no critical mass of women, women tend to conform to whatever style is typical of the men. Compared to men, Women lack the *presumption of credibility and competence* when they take on a leadership role. Often they are perceived as lacking confidence, as unable to relax, as not genuinely themselves, as difficult to get to know, and as uncomfortable in their roles or with their authority. These factors make it difficult for them to build their social capital i.e. informal relationships. But these informal relationships are a strategic necessity—found to be even more important to success than performance at traditional management tasks. Too often, only the men who have worked directly with them know anything about what they do or how they think. Plus often women don't know enough people in the organization to get information when they need it and they don't know what will persuade others. Women also tend to have less camaraderie with their peers than men do—a distinct disadvantage since building common ground on something of mutual interest before they discuss a business issue is critical to effective persuasion and partnership. Women who do develop a broad set of peer relationships within the corporation stand out as far more effective, far more respected, and far more satisfied with corporate life.

5. Evans (2000)

> BOOK: Evans, Gail. Play Like a Man, Win Like a Woman Broadway Books, 2000.

> An executive Vice President at CNN, Evans here offered some valuable perspectives on "winning" at work:*Guys turn business into a game because it's more fun that way, and that helps them devise new plays, etc. Women have a different sense of the "game board" than men and are more comfortable with a circle than a pyramid. But if the game you're playing is on a pyramid, play on it! Then find a way to do circular and use your relationship orientation whenever you're free to. *Women shouldn't be so quick to turn their backs on the earned symbols of success, such as a nice office and salary equal to their male peers; these rewards of hard work become self-empowering.*Today, careers tend to be sequential and simultaneous, but women tend to be monogamy-oriented, seeking unproductively to make jobs last longer than they're meant to.

6. Fels (2004)

> BOOK: Fels, Anna. *Necessary dreams: Ambition in Women's Changing Lives*. Pantheon, 2004.

> This psychiatrist explores how for women the equation of hard work producing rewards, self worth, independence, pleasure and competence has run amok in some baffling way. She then documents how key recognition is to learning, productivity and developing a sense of identity; it is a much more powerful motivator than money. Every culture defines and regulates the economy of recognition. And from childhood on, females receive less of it for their accomplishments than do males. This pervasive lack of recognition for their accomplishments may explain why women

routinely underestimate their abilities and view themselves as frauds. When recognition is unavailable, women tend to lose their early convictions about their abilities which are replaced by aspirations for more available types of attention. This is true, even though young women outrank young men in all categories of maturity and ego strength, including cognitive complexity and impulse control. Women who do succeed still must devise brilliant strategies to reassure their male colleagues that they're not competing with them for recognition (because "hell hath no fury like a man devalued"). Fels also observes here: Whereas women must learn the art of self-empowerment, many men require constant affirmation and support and expect to receive it from women. She also cautions: Don't start a debate with an important man on an important issue when there are other men in the room or you'll be thrown off "the team" (try to have the conversation in private). A vivid example Fels supplies of the double binds: When Mr. Jon Roughgarden (a competitive, abrasive academic) became "Joan," she was shocked to find that her professional status also underwent a sex change—now she was interrupted, ignored, and condescended to. Recommendations from Fels: Because so little is mapped out for them, women more than men, need to actively imagine themselves into their futures. So try out different scenarios and try to formulate a life-plan and build a supportive community.

7. Gjerberg & Kjolsrod (2001)

What happens to the doctor-nurse relationship, traditionally understood as a dominant-subservient relationship, when both are women? A survey of over 3500 Norwegian physicians and qualitative interviews with 15 found that compared to male physicians, female physicians are met with less respect and confidence and are given less help. By refusing to do things for women physicians, either by neglecting orders or by telling them to do things themselves, nurses 'cut' women physicians 'down to size.' Not only do nurses' wishes to reduce status differences affect women more than men physicians, but 'sexual games' can also result in nurses giving men physicians better service. Women doctors' strategies include doing as much as possible themselves and making friends with nurses, but these routes include hazards. The authors conclude that both men and women physicians 'make alliances in order to create an optimal collaboration' but that women must 'clearly calculate and negotiate behavior to avoid conflicts. . .[whereas]men don't have to involve themselves in such negotiations in order to get respect and the service work done."

8. Heim (2001)

BOOK: Heim Pat et al., *In the Company of Women: Turning Workplace Conflict into Powerful Attitudes* Penquin Books, 2001

This book is a guide through the confusing thicket of woman-to-woman conflict. Most women report examples of other women undermining them at some time in their careers. The authors explain how *Power Dead-Even Rule* works in female relationships: "It's much more straightforward for men to wield power on the job than for women. When men take command of a situation, they're perceived as resolute and authoritative. But women are in a more precarious position; for a positive relationship to be possible between two women, the self-esteem and power of one must be, in the perception of each woman, similar in weight to the self-esteem and power of the other. These essential elements must be kept "dead even," unless one is older and more experienced than the other. Thus, women are more comfortable with a powerful woman who plays down their importance than one who does not." Heim's advice: If you are aware that your successes are about to or have already ruffled the feathers of the women around you, set them at ease, e.g., symbolically minimize your position, while gently but firmly asserting your authority.

9. Ibarra & Obodaru (2009)

    This highly respected, seasoned author offers a review of the most salient research on gender differences in leadership. The main finding is that men and women do not have differences in leadership styles. The only area where men outshine women is "envisioning"—i.e., framing current practices as inadequate and recognizing new opportunities and trends, generating new strategic ideas, and communicating possibilities in inspiring ways. Across countries studies find that "inspiring others" is at the top of the list of the qualities most important to overall leadership effectiveness. The only area in which women outperform men is "supporting others"—which is consistently at the bottom of the list of important qualities. Ibarra next discusses how women can climb this developmental hurdle and learn to sell their ideas and vision to numerous shareholders. She also addresses why this is so much harder for women: 1) because they are so collaborative, often serving as a catalyst allowing a group's potential to emerge, women get less credit for their ideas; 2) women also hesitate to go out on a limb because they must often choose between being seen as "competent and in control" and "visionary" [whereas men enjoy a "presumption of competence", women need to provide much more backup data to what they are saying); 3) women's use of emotion in their voices and their inclusive processes may be viewed as evidence of incapacity or a lack of range; and 4) women are less prone to self-promote and are more often penalized when they do. Therefore, Ibarra concludes that the issue is not women's skills but how they are perceived: because they develop their ideas collaboratively, women don't get credit for their visions. Furthermore, much of what is observed regarding sex differences is the result of women adapting to implicit bias and to a lack of recognition of their contributions—in other words, that men are the "pilots" is due less to their natural propensities than to cultural perceptual filters.

10. Kalet et. al. (2006)

    This study of highly productive Robert Wood Johnson Clinical Scholar women [14+ years post-fellowship] found that they defined success both in terms of contributions to society and in terms of work/home balance which they explicitly created. These results suggest that professionals be assisted to clarify their view of success and to make choices aligned with their values.

11. Klaus (2003)

    BOOK: Klaus, Peggy. *Brag! The art of tooting your own horn without blowing it*. Warner books, 2003

    This book is filled with assistance on learning to turn the spotlight on you in a way that feels natural to you and to those on the receiving end. Authenticity is key. Living in the Age of the Entrepreneur, everyone must self-promote.

12. Reardon (2005)

    BOOK: Reardon, Kathleen: It's All Politics: Winning in a World Where Hard Work and Talent Aren't Enough. Doubleday, 2005

    This excellent professor of management is particularly helpful to women in helping them see that political savvy doesn't mean being devious: she notes that "refusing to participate in "the incivility" of organizational politics will keep you on the sidelines, watching your aspirations evaporate." She offers an analysis of the main types of cultures, e.g. control, competence, collaboration, and cultivation. Her advice on developing a Political Compass includes: *Seek to understand the whole range of good and bad behaviors. *Use a balance of internal and external orientations in assessments. *Take the high road and spare relationships from harm whenever possible. Reardon recommends: *Know what matters most to you. *Know about the systems you

work in. *Be inquisitive. Recognize when you're in a cognitive rut or making snap judgments and start asking more questions. *Form alliances. *Make sure important people depend on you for a valued resource *Anticipate disagreements. *Get feedback from close colleagues on how you tend to solve problems. Then try to approach problems differently. Become more flexible so that you're continuously expanding your view of significant events.

13. Sarfaty et. al. (2007)

   This study conducted in-depth individual telephone interviews of 20 academic medical faculty members at 11 of the 24 medical schools in the National Faculty Survey, all of whom perceived difficulty in negotiation. The interviews explored the role of negotiation in academe, barriers to negotiation, what faculty and institutions can do to improve the use of negotiation, and possible differences in negotiation by gender. The results showed that women tended to see negotiation as less important to an academic career than did their male colleagues. Conclusions were made that medical faculty are insufficiently aware of, or skilled in, the negotiation process and find significant barriers to negotiate in academe.

14. Small et. al. (2007)

   In this article, the authors developed a new paradigm to study gender and the initiation of negotiations. Through five studies they programmatically illustrated how gender and frames differentially affect the initiation of negotiations. One main result was significant gender differences when situations were framed as opportunities for negotiation yet these were eliminated when situations were framed as opportunities to ask.

15. Sturm (2009)

   This article discusses the systemic underpinnings of negotiation inequality, identifying structural disparities in information, networks, cognitive frames, and ground rules. It introduces the role of the organizational catalyst as a mechanism for bridging individual negotiations and systemic change. This innovation acknowledges that institutional transformation requires multiple negotiations at many different levels that, over time, can change the overall institutional culture and context for negotiation.

16. Thompson, Wang & Gunia (2010)

   This is a review highlighting recent empirical research on negotiation behavior and outcomes at five levels of analysis: intrapersonal, interpersonal, group, organizational, and virtual. This publication includes implications from the literature and even summary points.

B) SYSTEMS ISSUES

Women are a burgeoning source of intellectual capital in medicine and science; but a great deal of evidence demonstrates that gender equity is not an inevitable result of women's increasing numbers. A range of larger issues including many gendered features of our cultures must be addressed if women's talent is to reach fruition.   Because they greatly influence the amount of talent available to AHCs in the service of all their important missions, these are not "women's issues."

1. Unconscious Bias:

   Gender remains a powerful social category. And our understanding of reality is constructed in large part according to our expectations including many often unacknowledged beliefs about gender differences. These lower expectations, along with numerous cumulative career disadvantages, contribute to the

formation of what might be termed a "personal glass ceiling"—that is, women internalizing as *personal* the *cultural* difficulties they face, hence underestimating their own abilities and limiting their goals. This is the largest section because Unconscious Bias continues to be such a major factor in women's loss of their career ambitions and momentum. Despite the large number of women in the professions, evidence continues to accrue on the negative influence of stereotypes. Unlike the adaptations recommended under latter subheads which require organizational consensus and resources, with no expenditure but attention, everyone can become better at recognizing their "filters" and nurturing the talent in their midst.

a. AAMC (2009)

This is a literature review analyzing eight articles looking at the Implicit Association Test, experimental studies, and real life examinations of career-related unconscious bias. This source explores the role of unconscious bias in job recruitment and evaluations, and offers suggestions for search committees and others involved in hiring decisions at medical schools and teaching hospitals.

b. Banaji, Bazerman & Chugh (2003)

This article explores four related sources of unintentional unethical decision making: implicit forms of prejudice, bias that favors one's own group, conflict of interest, and a tendency to over claim credit. Then it discusses conscious strategies to counteract the unconscious biases.

c. Babaria, Abedin & Nunez-Smith (2009)

This small but important new study found that in clinical clerkships many female students still default to stereotypically feminine behaviors (e.g. apologizing, doing the work of support staff). Students begin discerning that women but not men physicians are required to make certain adaptations in order to succeed, for instance, adjusting to not getting automatic respect. Women students are also less able than their male peers to negotiate uncomfortable situations with attendings. For these and other reasons women tend to emerge from clinical training with less powerful relationships with individuals who are key to their future.

d. Barres (2006)

This Stanford neuroscientist underwent a sex change operation, from Barbara to Ben. Ben reports on the extra professional challenges he experienced as a woman, especially with regard to her ideas not being viewed as "credible." The article is less about his experience than a series of observations about how much higher the bar is for women and minorities such that few emerge as winners. Naturally, they become less self-confident and less likely to "compete". Barres recommends that we teach young scientists how to survive in a "prejudiced world" where "gentle people of all sorts are discriminated against" because the "rat race in science is skewed in favor of pushy people." Included is the quote from Stephen Jay Gould: "Few tragedies can be more extensive than the stunting of life, few injustices deeper than the denial of an opportunity to strive or even to hope, by a limit imposed from without, but falsely identified as lying within."

e. Beyond Bias and Barriers Executive Summary

This is the report's summary by the Committee on Maximizing the Potential of Women in Academic Science and Engineering. It summarizes the findings of unintentional biases and outmoded institutional structures that are hindering the access and advancement of

women and summarizes recommendations to transform institutional structures and procedures to eliminate gender bias.

f. Catalyst (2007)

This report is part of the Catalyst series examining barriers to women's advancement. This report analyzes responses to the open-ended questions from two previous Catalyst studies, *Women "Take Care," Men "Take Charge:" Stereotyping of U.S. Business Leaders Exposed and Different Cultures, Similar Perceptions: Stereotyping of Western European Business Leaders*. These new analyses explore the contours of the misleading beliefs documented in the previous reports; they also provide examples and anecdotes from respondents' experiences.

g. Eagly & Karau (2002)

This article examines experimental and real life research to support and explain role congruity theory, which discusses the perception of incongruity between leadership roles and the female gender role often resulting in prejudice toward female leaders. It concludes with possibilities for change.

h. Heilman et. al. (2004)

Three experimental studies involving 242 subjects investigating reactions to a woman's success in a male gender-typed job. Results indicate when women are acknowledged to have been successful, they are less liked and more personally derogated than equivalently successful men, and being disliked can negatively affect overall evaluation and recommendations concerning organizational reward allocation.

i. Isaac, Lee & Carnes (2009)

A systemic review of twenty-seven randomized controlled studies conducted between 1973 and 2008 of interventions that affect gender differences in evaluation of job applicants. The review identifies several institutional interventions with a high level of evidence promising the possibility of promoting gender equity in hiring.

j. Johnson (2000)

BOOK: Johnson, Allan. Privilege, power and difference. McGraw Hill, 2000

This searching examination of these subjects notes that men and whites have the great advantage and ease of not being aware of privilege, the "luxury of obliviousness." And one of the challenges of even raising these subjects is that drawing attention away from dominant groups provokes a defensive response even though the focus all the rest of the time is on the dominant groups such that they never recognize it as something special; thus the slightest deviation is perceived as a loss of privilege. He maintains that silence in effect is sexist because oppression depends on silence to continue; silence sends the message that there is no issue. Thus there's no such thing as being neutral or uninvolved in these regards. But most people go to great lengths to avoid seeing this, and so they turn it into something else, e.g. "women prefer to stay home" or "it doesn't count if I don't' intend it as an insult."

k. Kalev, Dobbin & Kelly (2006)

This study matched survey data on employment practices with longitudinal data on the workforce composition of 708 establishments from 1971 to 2002 to explore the effects of practices designed to establish organizational responsibility for diversity, practices

designed to moderate managerial bias through education and feedback, and practices designed to reduce the social isolation of women and minority workers. The results found that efforts to moderate managerial bias through diversity training and performance evaluations are least effective, efforts to attack social isolation through mentoring and networking show modest effects, and efforts to establish responsibility for diversity lead to broader increases in white women, black women, and black men in management. The authors found that programs that establish organizational responsibility (affirmative action plans, diversity committees, and diversity staff) are the most effective means of increasing the proportions of white women, black women, and black men in private sector management.

l. Kelly Fryer-Edwards et. al. (2007)

    The University Of Washington School Of Medicine's Committee on Continuous Professionalism Improvement, established in November 2006, reviews three approaches to organizational development used within and outside medicine and highlights features that are useful for enhancing an institutional culture of professionalism: organizational culture, safety culture, and appreciative inquiry.

m. Kittelstrom (2010)

    This is an article from the Chronicle of Higher Education discussing how academic mothers are treated no differently than academic fathers on a social level, even though there are sex-specific and time-limited significant differences during the intense years of childbearing and early care giving. The article mentions discrimination and problems associated with being a mother in academe.

n. Meyerson & Fletcher (2000)

    This is an article from the Harvard Business Review which used research from interviews, surveys, archival data, focus groups, and observations to look at "small wins" to overcoming unconscious bias.

o. Nosek et. al. (2009)

    Using more than half a million Implicit Association Tests completed by citizens of 34 countries this article reveals that implicit stereotypes associating science with males more than with females predicted nation-level sex differences in 8th-grade science and mathematics achievement. Then it discusses how the lack of women in science and mathematics could perpetuate these implicit stereotypes. It describes the possibility of this mutually reinforcing mechanism leading some cultures to maintain larger sex gaps in science participation and performance than others.

p. Ridgeway & Correll (2004)

    This article argues that cultural beliefs about gender and the social relational contexts in which they are enacted are among the core components that maintain and change the gender system. It describes some of the ways this gender system systematically and repeatedly biases men's and women's behaviors and evaluations in ways that reenact and confirm beliefs about men's greater status and competence. The article then suggests that the gender system will only be undermined through the long-term, persistent accumulation of everyday challenges to the system resulting from socioeconomic change and individual resistance.

q. Roos & Gata (2009)

> This study used web based questionnaires, interviews, and archival data from an Arts & Sciences (A&S) unit of a public research university to examine how subtle sex biases help to produce inequality anew in the academy, through nonconscious beliefs and attitudes that operate through workplace interactions, and through the use of subjective policies and procedures institutionalized in the academic workplace. The results showed gendered outcomes. The authors explain how these observations do not often require a conscious motive to discriminate. Indeed, they often simply reflect traditional ways of doing business, historical legacies, and/or the mapping of nonconscious attitudes, prejudices, and stereotyping about men and women onto organizational interactions and decision making. The authors outline how such mechanisms of inequity operate in practice, and describe the implications for gender equity research.

r. Sheridan et. al. (2010)

> This article describes the Participation in the Searching for Excellence & Diversity workshops for hiring committees at the University of Washington at Madison's school of medicine. This was one of the ADVANCE initiatives to create a more diverse faculty in academic medicine. The workshops had positive results showing a correlation between implementation of workshops and hiring outcomes, the presence of a dose–response effect, and the greater satisfaction of new hires in participating departments.

s. Shollen et. al. (2009)

> Electronic surveys were completed by 354 full-time faculty members at the University of Minnesota Medical School to compare men and women faculty perceptions about professional/ collegial relationships, mentoring, obstacles to satisfaction, institutional policies, circumstances that contribute to departure, gender equality, family issues, work life, and demographics. Multiple significant gender differences were found in items related to family situations, treatment and discrimination, and obstacles to career success.

t. Trix & Psenka (2003)

> This article analyzed 312 real letters of recommendation that helped medical school faculty receive their clinical and research positions. The letters were received by a large U.S. medical school from 1992 to 1995. The results showed that the letters for women were systematically different than the ones for males. The letters for females were shorter, more likely to be "letters of minimal assurance" (e.g., lacking in specificity), more likely to contain gender terms (e.g., "she is an intelligent young lady"), and were more likely to include "doubt raisers" (e.g., criticisms, hedges, and faint praise).

u. Williams (2002)

> This is an article describing court cases and lawsuits involving university discrimination against faculty who are mothers.

v. AAMC free seminar

> A free online learning seminar by AAMC designed to acquaint search committees and others with the overwhelming evidence that unconscious bias may influence the evaluation and selection of candidates from entry-level to leadership positions in all types of organizations, including medical schools and teaching hospitals. The presentation was created to be one step toward mitigating the effects of unconscious bias.

2. Improving Mentoring:

Studies conducted in previous decades in academic medicine tended to find that while similar numbers of men and women report having a mentor, women tend to gain less benefit from the relationship, e.g. that mentors more actively encouraged men than women protégés to participate in professional activities outside the institution, that women were more likely than men to report their mentor taking credit for their work, that women found their mentors to be less helpful with career planning than men did and more commonly noted that their mentor was actually a negative role model. Since it can be argued that women actually have a greater need for mentoring than men do, these findings are especially troublesome.

For many other reasons beyond the scope of this resource, AHCs have been recognizing the need for updated approaches to mentoring. The goal is building a supportive ecology in which collegial relationships develop as naturally as possible for all faculties. In addition to one-on-one mentoring programs, an emerging model is collaborative and peer mentoring programs, for instance, facilitated group-mentoring that provides a framework for professional development, emotional support, and career planning. Since mentoring entails effectively and comfortably communicating about many delicate issues, including beliefs about professionalism, and across many differences including gender and ethnicity, it is also recognized that many senior faculty could use supportive coaching in acquiring the competencies entailed in mentoring "across differences," and this should be available.

a. Advance U of Michigan (2010)

A guide for junior and senior faculty on giving and getting career advice created by the ADVANCE program at the University of Michigan. The guide explains the many types of career advising junior faculty need, the many forms that this career advising can come in, and what topics should be discussed.

b. Allen, Lentz, & Eby (2006)

A study looking at four different organizations with formal mentoring programs and using surveys to examine perceived design features of formal mentoring programs and outcomes from both mentors and protégés perspectives.

c. Benson et. al. (2002)

A study conducted at Medical College of Pennsylvania and Hahnemann University comparing a control group to a voluntary two-tiered mentorship group where the junior faculty member is assigned a senior faculty mentor in their 1st year to orient him/her to the new environment, and then assist the mentee in identifying a 2nd year mentor to support career development through promotion to associate professor. In this two tiered mentorship there is little structure and the mentee determines the frequency of contact and length of the second tier relationship.

d. Blau et. al. (2009)

This study analyzed female economists who attended the national CeMENT workshops, which are 2 days and held in conjunction with the American Economic Association annual meetings. The mentoring structure was 4-5 mentees with 1-2 senior female economists from various institutions discussing what it takes to get tenure and build peer networks of female junior faculty.

e. Girves, Zepeda, & Gwathmey (2005)

This is a literature review of four traditional and alternative successful mentoring programs that illustrate effective mentoring strategies, how effective programs can be institutionalized, and a set of general recommendations. The four programs: the

Meyerhoff Scholarship Program, the Summer Research Opportunities Program (SROP), Women in Science and Engineering (WISE) Initiative, and the Preparing Future Faculty (PFF) Program. These programs range from one campus programs to being a program on 300 campuses and the first two programs have received the Presidential Award for Science, Engineering, and Mathematics Excellence in Mentoring.

f.   Making the Right Moves Ch. 5 (pages 108-122)

A manual based on a course in laboratory leadership and scientific management created by collaboration between the Burroughs Welcome Fund (BWF) and the Howard Hughes Medical Institute. This chapter focuses on mentor and mentee responsibilities, effective mentoring strategies, and gender and culture issues.

g.   Mayer (2009)

In medicine, the challenges faced by female faculty members who are attempting to achieve academic advancement have been well described. Various strategies have been proposed to increase academic productivity to aid the promotion of women in medicine. We propose an innovative collaboration strategy that encourages completion of an academic writing project. This strategy acknowledges the challenges inherent in achieving work–life balance and utilizes a collaborative work style with a group of peer physicians. The model is designed to encourage the completion and collation of independently prepared sections of an academic paper within a setting that emphasizes social networking and collaboration. This approach has many similarities to the construction of a quilt during a "quilting bee."

h.   Mayer, Files, Ko, & Blair (2008)

An article that discusses socialized gender differences and how these differences relate to various mentoring models: traditional mentoring model, multiple-mentoring model, peer-mentoring model.

i.   Pololi & Knight (2005)

In this paper, we discuss an alternative structure and a broader vision for mentoring of medical faculty. While there is recognition of the need for mentoring for professional advancement in academic medicine, there is a dearth of research on the process and outcomes of mentoring medical faculty. Supported by the literature and our experience with both formal dyadic and group peer mentoring programs as part of our federally funded National Center of Leadership in Academic Medicine, we assert that a group peer, collaborative mentoring model founded on principles of adult education is one that is likely to be an effective and predictably reliable form of mentoring for both women and men in academic medicine.

j.   Sambunjak, Straus & Marušic´ (2006)

This is a systemic review assessing 142 full-text articles reviewing the evidence about the prevalence of mentorship and its relationship to career development in academic medicine.

k. Straus, Chatur & Taylor (2009)

The purpose of this article is to explore the phenomenon of the mentor-mentee relationship and to characterize this relationship among people who have obtained early career support from a government funding agency, in order to facilitate the development of future mentorship programs. A qualitative study was completed involving clinician scientists who were awarded early career support from a provincial funding agency (Alberta Heritage Foundation for Medical Research, Edmonton, Alberta, Canada) and their mentors. Individual, semi structured interviews were completed, and transcripts of interviews were analyzed using a grounded theory approach. Interviews with 21 population health or clinician investigators (mentees) and seven mentors were completed from October to December 2006. Several themes were identified including the experience with mentorship, experience of being assigned a mentor versus self-identification, roles of a mentor, characteristics of good mentoring, barriers to mentorship, and possible mentorship strategies. Participants believed mentorship to be important, but several experienced significant difficulty with finding mentors and establishing productive relationships. Challenges exist within academic medicine around ensuring that clinician scientists receive appropriate mentorship. Strategies to enhance the mentorship process were identified, including the development of formal mentorship initiatives, the creation of workshops organized by funding agencies in partnership with universities, and the development and evaluation of a mentorship training initiative for mentors and mentees. These findings can be applied to any academic health sciences institution.

l. Thorndyke et. al. (2006)

Empowerment of faculty is essential for academic success. The Junior Faculty Development Program (JFDP), sponsored by the Office of Professional Development of the Penn State College of Medicine, was established in 2003 with the goal of promoting the development and advancement of junior faculty so they can achieve success in their academic careers. The program consists of two components: a curriculum in research, education, clinical practice, and career development, and an individual project completed under the guidance of a senior faculty mentor. The curriculum provides faculty with knowledge, skills, and resources. Mentoring provides relationships and support. Together, these elements combine to empower junior faculty to better manage their careers. The effectiveness of the program has been demonstrated by several measures: participants evaluated the program highly, demonstrated increases in their perceptions of their own abilities, and completed tasks important to the advancement of their careers. Participants stated they were better prepared to advance their academic careers and that the individual projects would contribute to their career advancement. On the basis of this experience, the authors suggest that faculty development programs should empower faculty so that they can more effectively chart a successful career in academic medicine. This report describes an empowerment model, and the design, implementation, and evaluation of the Junior Faculty Development Program in 2003-04 and 2004-05. The authors offer this program as a model for the benefit of other institutions and for one of their most valuable assets: junior faculty.

m. Underhill (2005)

This quantitative meta-analytic review provides a critical analysis of the effectiveness of mentoring, with an emphasis on research designs that compared career outcomes of mentored individuals to non-mentored individuals in corporate settings.

n. VA Commonwealth Fac Mentoring Guide

A booklet compiled as a guide to encourage mentoring activities at the School of Medicine on the Medical College of Virginia Campus of Virginia Commonwealth

University. It contains a series of suggestions based on research concerning mentoring in health care, academia and business.

    o.   Zellers, Howard, & Barcic (2008)

A review of the evolution of mentoring programs in the U.S. including one to one senior and junior pairs, peer mentoring, group mentoring, collective mentoring-multiple mentor single mentee, musing mentoring, and consortia and national mentoring programs. It discusses the limited research on these mentoring variations and discusses why it is important to have a formal mentoring program in academia rather than informal mentoring.

3.   Faculty Promotion Policies

    a.   Barrett (2008)

This article explains how the organizational structures of academic health centers (AHCs) vary widely, but they all exist along a continuum of integration—that is, the degree to which the academic and clinical missions operate under a single administrative and governance structure. This author provides a brief overview of the topic of AHC integration, including the pros and cons of more integrated or less integrated models. He then traces the evolution of the University of Florida (UF) Health Science Center, which was created in the 1950s as a fully integrated AHC and which now operates under a more distributed management and governance model.

    b.   Buckley et. al. (2000)

This study surveyed 567 faculty members at Virginia Commonwealth University School of Medicine and its associated Veterans Affairs Medical Center to assess gender differences regarding attitudes about career progress, resources for career development, and values related to academic success and recognition. Some main results showed that women faculty were less likely to be tenured or at the level of professor, spent more time in clinical activities, had less time for scholarly activity, and reported slower career progress. Women were more likely to report that promotion and tenure criteria had not been reviewed with them. There were also gender differences in the indicators of career success that the participants valued.

    c.   Conrad et. al. (2010)

This study used semi structured interviews of 96 medical faculty members at different career stages and in diverse specialties at 5 U.S. medical schools. The interviews were used in order to examine the impact of the hierarchy, including both the organization's hierarchical structure and professionals' perceptions of this structure, in medical school organization on faculty members' experience and advancement in academic medicine. The results of the interviews showed a common response about the hierarchy of chairs, based on the indeterminate tenure of department chairs, as a central characteristic of the structure of academic medicine. Many faculty saw this hierarchy as affecting inclusion, reducing transparency in decision making, and impeding advancement.

    d.   Feder & Madara (2008)

This study looks at The University of Chicago Division of the Biological Sciences and Pritzker School of Medicine. They reconceptualized the appointment, promotion, and tenure criteria to recognize all forms of scholarship as equally legitimate bases for academic tenure. They created and implemented the use of electronic forms (e-forms) that systematically call for the specific data and analyses that are pertinent to each faculty

track, rank, and appointment or promotion action. The results of the feedback in regards to the e-forms shows that faculty find it to be more work but that the e-forms helped clarify both the criteria themselves and the evidence or analysis required to address these criteria. Promotion and tenure committee members and departmental chairs reported that the e-forms both enhanced their ability to assess the merit of promotion cases and led to greater realism or honesty in the characterization of accomplishment.

e. Fleming et. al. (2005)

This article reviews the evolution and early promise of faculty promotion and tenure tracks. It explores ways clinician-educators are designated within academic promotion and tenure models, addresses the value of the clinician educators in the AMC system and the challenges they face, examines measurement and evaluation issues, and offers suggestions for change.

f. Jacobson et. al. (2010)

This article details the development of the Academic Administrator Clinician-Educator (AACE) Track in the Department of Psychiatry at the University Of Pittsburgh School Of Medicine. The AACE Track was developed as part of an institution-wide movement to promote the development and retention of future academic leaders. The program had a 6-month pilot phase where the program was thoroughly analyzed and evaluated. The article explains the multiple components of the track including: mentorship, meetings, clinical experiences, educational opportunities, administrative activities, and AACE Projects.

g. Kanter (2008)

This article is a commentary on the Medical Faculty Job Satisfaction Survey that was developed by the Association of American Medical Colleges (AAMC) in cooperation with the Collaborative on Academic Careers in Higher Education (COACHE). The specific question being analyzed in this article asks "does the consistent application of criteria for promotion lead to fair decisions?" The commentary analyzes a continuum from rule-based decisions to goal-based decisions in promotions committees and brings explains the intricacies of why promotion decisions are complicated.

h. Schafer (2002)

This article describes changes and separations that are occurring in academic medicine. The first "fault line" the author describes is the separation of the departments. It is explained how there is no longer centralization in academic medicine and how all of the departments now are working in secluded and specific centers. The author explains the history behind this separation and its implications. The author argues that organizational structure should be continually reshaped and must evolve with the creation, dissolution, merger, and separation of its divisions, as dictated by the academic assets and critical masses of each. It cannot be immobilized by tradition, legacy, and assumptions of ownership. The second "fault line" the article discusses is the separation between research and clinical faculty. The author argues that this intellectual disintegration of the research and clinical components of academic medicine poses a serious threat to the future of the medical profession because scientists are in danger of losing the clinical relevance of their work, while clinicians are in danger of losing the scientific basis of medical practice. The article ends with multiple recommendations at the institutional level to reorganize medical schools, and the individual level to reestablish the pivotal role of the physician-investigator.

i. Simpson et. al. (2007)

This article looked at the Consensus Conference on Educational Scholarship, which was convened by the AAMC) GEA in 2006. This study aimed to establish documentation standards for medical education activities, beyond educational research, for academic promotion consistent with principles of excellence and scholarship. The results showed reaffirmation of the 5 education activity categories and Q2Engage is discussed as the documentation standards across all education activity categories.

j. Thomas et. al. (2004)

This study used a questionnaire that was administered to all MD faculty at the rank of instructor and above in the Department of Medicine at the Johns Hopkins University School of Medicine to quantify the magnitude of the difference in career advancement between the clinician-educator faculty and the research faculty, .and to explore the characteristics of faculty that might explain the difference. With a 69% response rate some main results showed that after adjusting for age, gender, time at rank, and work satisfaction, the odds of being at a higher rank were 85% less for academic clinicians and 69% less for teacher– clinicians than for basic researchers.

k. UMichigan(2004)

This is the Appendices from the March 2004 Report of the subcommittee on Family Friendly Policies and Faculty Tracks. It gives a summary of the different track systems at Michigan, Yale, UCSF, Johns Hopkins, UPenn, Duke, and University of Pittsburgh. The appendices then chart differences in multiple schools for the frequency of faculty members changing tracks.

l. Williams (2004)

This is an Advice column piece in The Chronicle of Higher Education following up on the Drago & Williams article written in 2000 that used case studies of professors to propose a half-time tenure track. This article explains how part-time, tenure-track arrangements have been on the books at a substantial number of institutions for years but have been under used because of the stigma behind working part-time in academia.

4. Recruiting

a. AAMC Annual Meeting (2009)

This is a round table discussion at the AAMC Annual Meeting. There are multiple parts addressing questions concerning talent development and leadership recruitment. Some of the videos discuss how to deepen the recruitment pool and better recruit women and minorities.

b. Bickel et. al. (2002)

This study was run by the AAMC's Increasing Women's Leadership Project Implementation Committee. Some of the information-gathering methods used were: data on the representation of women from dean's offices, a qualitative study of chairs' leadership challenges and gender differences among chairs, and examination of medical schools' Women in Medicine (WIM) initiatives and faculty mentoring programs. There are recommendations from the committee discussing how to recruit and retain women faculty, including an appendix on Questions to Assess the Faculty Development and

Diversity Orientation of Candidates for Chair and Dean Positions and an appendix on *Assessing Faculty Turnover Costs*

c. Bickel & Brown (2005)

This article discusses qualities of Generation X and the Boomers generation. The article discusses how there are faculty development challenges because of differences and tensions resulting from the generational differences between senior and junior faculty. The article includes implications and strategies to work with these differences to improve development and recruitment.

d. Deloite (2008)

This report is an alternative corporate model for retaining this new generation of workers. It describes the shortcomings of current approaches to managing talent, which include money and perks. According to this report companies spend too much time and money on the endpoints of recruiting and retaining when the proposed model, The Develop-Deploy-Connect Model, would be to enhance developing and creating flexibility for employees.

e. Faculty Vitae (2007)

Using research with executive search consultants and medical school deans and administrators, this article presents seven themes of problems with academic recruitment. The article then discusses seven innovative ideas that are in place and working at medical schools to improve recruitment. The article ends with three up and coming trends in the leadership search process.

f. Kneeland (2010)

This work posits that the medical profession might benefit from recognizing how progressive nonmedical companies systematically approach ''talent shortages'' through a recruiting and retention strategy called ''talent facilitation.'' It highlights the 4 actions of talent facilitation (attract, engage, develop, and retain) and provides examples of how each action might be utilized to address medicine's recruitment and retention challenges. Although other policy maneuvers are needed to address overall physician workforce shortages (such as the planned opening of more medical schools and changes in the payment system to promote primary care), the talent facilitation approach can help individual organizations meet their needs and those of their patients.

g. Mallon (2008)

This document captures common themes from in-depth interviews with a dozen search firm leaders from the nation's most prominent executive recruitment firms conducted by the AAMC staff. The document explains problems and suggestions for organizational assessment, the search committee, institutional and leadership priorities, and succession planning.

h. Mallon & Corrice (2009)

This report summarizes the major findings from two surveys administered as part of AAMC's Leadership Search and Recruitment Project. The one survey went to the deans of the 126 fully accredited U.S. medical schools to gather data about the duration of

searches, use of search consultants, and effective search practices in the hiring process for department chairs and major center director. The second survey went to the CEOs of 109 integrated teaching hospitals to gather data about the role of the hospital CEO in the search process of clinical department chairs.

i. Morton et. al. (2008)

This publication assesses existing issues in recruiting women surgical faculty from the University of Pennsylvania by using interviews with the surgical division chiefs. Some of the issues brought up in the interviews included lack of female mentors, varying opinions on targeted recruiting of women, and feelings that women choose not to accept leadership roles. The article explains a universal agreement about the difficulty of identifying and recruiting women and the lack of knowledge and resources available to division chiefs and search committee chairs involved in the process. It then goes onto explain possible solutions, the implementation of some strategies, and areas that need improvement.

j. Sheridan et. al. (2010)

This study created and implemented a training workshop for faculty search committees designed to improve the hiring process and increase the diversity of faculty hires at the University of Wisconsin–Madison. They describe the workshops, which they presented in the School of Medicine and Public Health between 2004 and 2007, and they compare the subsequent hiring of women faculty in participating and nonparticipating departments and the self-reported experience of new faculty within the hiring process. The results showed that attendance at the workshop correlated with improved hiring of women faculty and with a better hiring experience for faculty recruits, especially women. The authors articulate successful elements of workshop implementation for other medical schools seeking to increase gender diversity on their faculties.

k. Women_Faculty_Full_Report_p28-35

This is the report from Harvard's Task Force on Women Faculty. They were charged with "making recommendations concerning the design and implementation of a series of concrete measures designed to promote gender diversity in faculty ranks and in academic leadership positions across the University." The Task Force consulted with faculty and administrators; collected faculty demographic data and policies from individual Schools; and looked at external benchmarking of policies and practices against peer institutions. They present multiple recommendations for the oversight structures, data collection, faculty recruitment, and faculty retention.

5. Salary Equity

Studies continue to document gender-related compensation inequity, although given the large number of explanatory variables involved and difficulty obtaining data, salaries are difficult to compare. Also sometimes "fair" can be difficult to determine. Nonetheless, regular examination by any unit/organization assures that serious unexplained differences do not go unaddressed. While paying women less than men may seem innocuous to some administrators, such discrepancies in compensation can take down morale, increase attrition and open a department to legal action.

a. Ash et. al. (2004)

This article analyzed surveys from 1814 fulltime faculty members from 24 random U.S. medical schools to examine equity in promotion and salary for female versus male medical school faculty nationally. Some conclusions from the study were that female medical school faculty neither advance as rapidly nor are compensated as well as

professionally similar male colleagues, and women's deficits are greater for faculty with more seniority.

b. Booth (2009)

This article examines psychological factors and survey-based evidence aiming to explain the gender gap in the UK.   The author then describes her own research, which includes looking at competition in females within single sex female schools. The results showed that on average girls from single-sex schools were found to be as likely as boys to choose the real-stakes gamble and to be as likely as boys to choose competitive behavior, while in co-ed school there was a significant difference between the genders. These results suggests that observed gender differences in competitive behavior, and in behavior under uncertainty found in previous experimental studies might reflect social learning rather than inherent gender traits alone.

c. Eckes & Toutkoushian (2006)

This paper examines some of the legal issues and statistical approaches surrounding claims of reverse sex discrimination in pay in the field of higher education. They begin by reviewing the way in which legal cases examine sex discrimination in pay in academe and the different approaches that institutions can take to remove pay disparities for women. They show that across-the-board salary adjustments for women are less likely than individualized salary adjustments to raise concerns about the salary determination process and possibly reverse discrimination. This would also lead to lower costs to the institution. These differences arise regardless of the salary model specification used by an institution when making salary adjustments. Finally, the authors use a model developed by the plaintiffs in a salary equity study at one institution to demonstrate the effects of using different adjustment methods on the total cost to the institution when making salary equity adjustments for both genders.

d. Laine & Turner (2004)

This is an editorial piece that discusses past research showing the gender gap in salaries in academic medicine. It briefly mentions sources explaining some of the reasons behind this gender gap including gender differences in negotiations and discrimination. Then the authors discuss some demonstration projects and interventions that are going on to improve the situation and some recommendations for the future.

e. Shin (2009)

This study used data from 1106 establishments in the National Center for the Educational Quality of the Workforce's (EQW) National Employer Survey (NES) to look at what makes some organizations more unequal than others in terms of the earnings distribution. The analysis focuses on how organization- level characteristics such as workforce composition within the establishment and flexible workplace practices are associated with within-establishment earnings inequality. The results suggest that gender heterogeneity, percentage of newly hired workers within the organization, and flexible workplace practices such as job rotation and self-managed teams are significantly associated with earnings dispersion within manufacturing establishments.

f. Umbach (2007)

This study uses hierarchical linear modeling (HLM) to analyze the effect of human capital, structural characteristics of the discipline, and disciplinary labor market conditions on faculty salaries. Faculty in disciplines characterized by relatively low demand, high teaching loads, and low amounts of research funding earn less than do

faculty in other disciplines. Additionally, even after controlling for an array of individual and disciplinary characteristics, women faculty members earn less than their male peers.

    g.   Wright et. al. (2007)

This article describes an intervention to lower gender disparities in salaries. The process entailed researching faculty salaries using institutional databases; verifying the information with the departments; identifying individual women who appeared to be paid less than a comparable man in the department; reporting the results to the Dean, and incorporating the information into the department head's annual evaluation with the Dean. The results in creating the salary report showed significant gender disparities in salary, even after adjusting for rank, track, degree, specialty, and leadership positions. The result of the intervention showed significant increases in leadership positions of females and four years after the intervention there was not a statistically significant difference in salaries between genders comparable male and female faculty.

6.   Career and Leadership Development Programs

    a.   AAMC list of leadership programs

This is a set of tables containing a sampling of leadership development programs targeted at leaders in medicine, higher education, and health care. The tables specify the sponsor of the program, name of the program, a brief description, the intended audience, a contact phone number, and the program website.

    b.   AAMC Early Career Women Faculty (2010)

This is the agenda for the 2010 Early Career Women Faculty Professional Development Seminar, which is jointly sponsored by the Association of American Medical Colleges and Harvard Medical School, Department of Continuing Education. The seminar covers topics including strategic communication skills, negotiation, and leadership topics. There are also small group sessions which focus on mentoring participants in career building skills such as narrative and CV development.

    c.   AAMC Mid-Career Women Faculty

This is a brief description of AAMC's Mid-Career Women Faculty Professional Development Seminar, which is three and a half-day program designed for women primarily at the associate professor level.

    d.   AAMC Mid-Career Women Faculty Agenda

This is the agenda for the 2009 Mid-Career Women Faculty Professional Development Seminar. It includes descriptions of the speeches and workshops.

    e.   Dannells et. al. (2008)

This is a longitudinal study to determine the extent to which program participants of The Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) program compared with women from two comparison groups on several leadership indicators: administrative leadership attainment (four items), full professor academic rank (one item), leadership competencies and readiness (eight composite scores), and leadership aspirations and education (three items). The results showed that 12 out of the 16 indicators had statistically significant differences between the ELAM participants and the control group, indicating higher levels of leadership development among the ELAM fellows.

f. Emans et. al. (2008)

> This publication describes the creation and implementation of a comprehensive faculty development program for all faculty members across a pediatric institution in an effort to address the changing demographics of junior faculty in pediatrics, the low percentages of women in higher academic ranks, and an institutional commitment to providing resources to retain excellent faculty. This article details the components of the program focused on institutional and individual vitality, the evaluation strategies, and the ongoing challenges. Some of the conclusions from the project found that the most critical early elements of a new Office of Faculty Development were a needs assessment, support from and reporting directly to hospital leadership, a communication strategy, partnerships with chiefs, seminars and individual meetings to elucidate promotion criteria, annual career conferences, creation of an institutional framework, and tracking of metrics for the institution and with each department.

g. Gordon (2006)

> The article focuses on the Career Connections program at Deloitte & Touche USA LLP. Full-time coaches have provided one-on-one counseling to employees and partners. It is estimated that at least 650 people have been retained by the program. The article describes how Director Joseph Gibbons is part of an effort to expand the program and establish a complete coaching environment in which everyone in the company will not only receive coaching but will be a coach to someone else. Some of the initiatives to expand the program are then discussed.

h. HERS Bryn Mawr Summer Institute

> This is a sample schedule of the 2010 Higher Education Resource Services (HERS) Bryn Mawr Summer Institute. It is a residential program with an intensive leadership and management curriculum for approximately 70 women faculty and administrators on the Bryn Mawr College campus.

i. LAMP (2010)

> This is an informational flier for the Leadership in Academic Medicine Program (LAMP). It is a year-long faculty development and orientation program for new faculty at the Indiana University School of Medicine, which includes seminars discussing topics including the fundamentals of career planning, self-management, and leadership skills.

j. Morahan et. al. (2001)

> This study analyzes the experiences of the nationally funded Centers of Excellence in Women's Health at seven U.S. medical schools (including UPenn) in initiating and sustaining leadership programs for women. The publication includes detailed descriptions and comparisons of the program development and evaluation of the leadership programs. There is also a list of resources for initiating a women's leadership program.

k. Ohio State Leadership Institute

> This is a detailed description of Ohio State's Presidents and Provost's Leadership Institute, which is a two-year program that focuses on long-term faculty leadership development. The program includes workshops, lunches with university leaders, leader interviews, and professional development planning.

7. Family Friendly Policies
    a. Cisco

    Cisco Systems has appeared many times on Fortune and Working Mother's best places to work. This is Cisco's 2009 Corporate Social Responsibility Report, which goes into the details of the companies programs and benefits that encourage development and advancement. Some of the topics discussed are: open employee communication, the use of technology, the Employee Engagement Team, employee assistance programs, HealthConnections, the LifeConnections Center, and inclusiveness benefits and policies.

    b. Eli Lilly and Company

    Eli Lilly and Company has received corporate recognition and has been listed for multiple years in a row as one of the "Best Places to Work" in multiple magazines. This is their total compensation and benefits package for full-time employees. This benefits handbook has an easy to use table of contents and not only includes flexible work options and basic family friendly policies but it also contains a section on "Above and Beyond" benefits that include a summer camp for school-aged children and School Vacation Day Programs.

    c. Fogg et. al. (2003)

    This is an article in the Chronicle of Higher Education that reports on some unusual perks and benefits at select colleges for faculty members.

    d. Harvard Office of Work and Family

    This is an easy to navigate website of Harvard's Office of Work and Family that includes their child care information, child care subsidies, Mothers' Rooms, and other family friendly policies.

    e. Mason et. al. (2005)

    This is the report on the Sloan Foundation funded project called the *UC Faculty Family Friendly Edge*, which is a set of system-wide policy and program recommendations aimed at giving UC a competitive advantage by improving the work and family lives of its tenure-track faculty. It consists of both (1) increasing the use of existing family friendly policies and programs—which have been under-utilized because of lack of knowledge and fear of policy use—and, (2) implementing new family friendly initiatives.

    f. MIT Family Friendly Policies

    A compilation of MIT's family friendly policies including but not limited to extension of the tenure clock, junior faculty research leave, and personal leaves, etc.

    g. Novotney (2010)

    An article describing some highlights of family friendly policies that were introduced to universities, why these policies are not only good for the faculty but also the universities, and why it is important to keep moving forward with more family friendly policies.

h. Penn State (2001)

> A handbook that provides twelve child care options in a step-by-step format for businesses to best choose a child care strategy that fits the business and responds to the employees' needs.

i. Riley (2010)

> An article from The Feminist Press that compiled a list of some family-friendly and woman-friendly science, technology and health-related companies based on information provided by sources such as Working Mother, Fortune/CNN, Yahoo! hot jobs, Computerworld.com, The Wall Street Journal/CareerCast.com, and the companies' websites. The list contains the percentage of the women in the company and a very brief description of their exceptional policies.

j. UC Family Friendly Policies

> This is a list of UC's Family Friendly Policies that comes from the Benefits and Privileges Policy Handbook, which includes descriptions, eligibility, and all details.

k. Women_Faculty_Full_Report_p49-58

> This is Harvard's May 2005 Report of the Task Force on Women Faculty. The page selection describes "Best Practice" work-life policies and contains comparison charts of Harvard's work-life policies compared to the recognized "Best Practices" in the areas of: Leaves, Tenure Clock Extension, Part-Time Tenure-Track Positions, and Sexual Harassment.

8. Other Flexible Work Arrangements
   a. Alternative Work Schedules

   > The U.S. Department of Commerce Human Resources website for alternative work schedules. The website contains flexible and compressed schedules with definitions and models.

   b. Alternative Work Schedules II

   > The U.S. Department of Commerce Human Resources website for alternative work schedules. This website defines and explains flexible work schedule types including: Maxiflex, Variable week, Variable day, Gliding schedule, and Flexi tour.

   c. Drago & Williams (2000)

   > Drago & Williams provide a brief history of the tenure track and theorize about why the tenure clock precludes gender equality in academics. They provide a detailed model of a half-time tenure track that offers proportional pay, benefits, and advancement for part-time work for any tenure-track faculty member with care giving responsibilities for children, elderly, ill family members, or partners.

   d. Harrison & Gregg (2009)

   > The authors interviewed seven of the Society of General Medicine Horn Scholars Program applicants and six division chiefs from the 2001 and 2004 award cycles and

performed a qualitative analysis of the one- to two-hour audio taped interviews to see how each identified the negative and positive consequences of part-time work, and how each conceptualize part-time work. The results show an interesting distinction in conceptualization of part-time work as either "working less" or "working differently". The conclusion suggests a new model to reconceptualize work in order to retain workers in academic medicine.

e.   Hewlett & Luce (2005)

Most professional women step off the career fast track at some point. With children to raise, elderly parents to care for, and other pulls on their time, these women are confronted with one off-ramp after another. When they feel pushed at the same time by long hours and unsatisfying work, the decision to leave becomes even easier. But woe to the woman who intends for that exit to be temporary. The on-ramps for professional women to get back on track are few and far between, the authors confirm. Their new survey research reveals for the first time the extent of the problem--what percentage of highly qualified women leave work and for how long, what obstacles they face coming back, and what price they pay for their time-outs. And what are the implications for corporate America? One thing at least seems clear: As market and economic factors align in ways guaranteed to make talent constraints and skill shortages huge issues again, employers must learn to reverse this brain drain. Like it or not, large numbers of highly qualified, committed women need to take time out of the workplace. The trick is to help them maintain connections that will allow them to reenter the workforce without being marginalized for the rest of their lives. Strategies for building such connections include creating reduced-hour jobs, providing flexibility in the workday and in the arc of a career, removing the stigma of taking time off, refusing to burn bridges, offering outlets for altruism, and nurturing women's ambition.

f.   Maresh (2004)

This article interviews family physicians on why they are choosing part-time work options. The article also explains how this works, different part-time options such as job share arrangements, and how to make the transition into part-time work.

g.   Negotiating Flexible and Compressed Work Schedules

This is the U.S. Office of Personnel Management's website explaining tools to better negotiate flexible and compressed work schedules. The article explains how to use collective bargaining, scheduling, and how to terminate alternative work schedules in governmental agencies.

h.   Penn State (2001) pp.14-17

This is a handbook containing effective strategies for recruitment and retention. The selected pages describe the advantages and disadvantages of alternative work schedules. This selection also includes steps in developing alternative work schedules and possible examples.

i.   Weiss & Vickberg (2008)

This is a facilitation including the senior consultants of the Great Place to Work® Institute, a group of peers from Best Companies, client organizations, and members of the larger Great Place to Work® community discussing work/life success and sharing best practices. This write up includes best practices from companies in regards to: time off/re-entry programs, flexibility programs, reduced workload programs, and support programs.

j. Williams (2004)

>   This is an Advice column piece in The Chronicle of Higher Education following up on an the above Drago & Williams article written in 2000 that used case studies of professors to propose a half-time tenure track. This article explains how part-time, tenure-track arrangements have been on the books at a substantial number of institutions for years but have been under used because of the stigma behind working part-time in academia.

k. Whyte (2009)

>   BOOK: Whyte, David: The Three Marriages: Re-imagining Work, Self and Relationship, Penguin, 2009.

>   Whyte posits that each of us is in 3 marriages: to ourselves, to our work and to our primary relationships; and that each is nonnegotiable-- so the question is not one of "balance" [i.e. bartering parts of ourselves] but of how to get the three conversing with each other in ways that make sense.

9. Other Systems Issues

a. AAMC Report

>   This is the AAMC's Increasing Women's Leadership Project Implementation Committee's Report examining four years of data on the advancement of women in academic medicine. The report discusses how only institutions able to recruit and retain women, especially in leadership positions, will be likely to maintain the best house staff and faculty, and have the best long-term success. The report includes a variety of recommendations from the committee for medical schools, teaching hospitals, and academic societies.

b. Bickel (2007)

>   This Commentary opens with a discussion of the persistence of gender disparities in career development and the challenge of interpreting those disparities. It suggests three areas of targeted action to facilitate the realization of women's' intellectual capital: 1) updated approaches to faculty and leadership development and mentoring, 2) more flexible faculty structures, and 3) holding department chairs accountable for diversity outcomes and offering them support to meet these goals.

c. Bristol et al. (2008)

>   There exists a growing consensus that career flexibility is critical to recruiting and retaining talented faculty, especially women faculty. This study was designed to determine both accessibility and content of work-life policies for faculty at leading medical schools in the United States. The sample includes the top ten medical schools in the United States published by U.S. News and World Report in August 2006. We followed a standardized protocol to collect seven work-life policies at each school: maternity leave, paternity leave, adoption leave, extension of the probationary period for family responsibilities, part-time faculty appointments, job sharing, and child care. A

review of information provided on school websites was followed by e-mail or phone contact if needed. A rating system of 0–3 (low to high flexibility) developed by the authors was applied to these policies. Rating reflected flexibility and existing opinions in published literature. Policies were often difficult to access. Individual scores ranged from 7 to 15 out of a possible 21 points. Extension of the probationary period received the highest cumulative score across schools, and job sharing received the lowest cumulative score. For each policy, there were important differences among schools. Work-life policies showed considerable variation across schools. Policy information is difficult to access, often requiring multiple sources. Institutions that develop flexible work-life policies that are widely promoted, implemented, monitored, and reassessed are likely at an advantage in attracting and retaining faculty while advancing institutional excellence.

d. Carnes (2010)

In Japan, as in the United States, a growing proportion of physicians are women. Hence, the different social roles that men and women occupy and the gendered norms for behavior are increasingly relevant in ensuring that male and female physicians have equal opportunity to participate and advance in all aspects of medicine. Elsewhere in this issue, Nomura and colleagues report on a large survey of primary care residents in Japan. They found that on average women's self-rated confidence on many clinical tasks was lower than men's. This is not surprising given similar gender differences in self-assessed competence in other research and the socialization of women in virtually all cultures to be modest. The actual differences in average scores were small suggesting considerable overlap in the distributions of responses from male and female residents. In addition, research from other countries finds no association between physicians' self-reported confidence in clinical tasks and objective measures of competence on which female physicians' rate at or above the level of their male counterparts. Congruent with different social roles for men and women, Nomura and colleagues also found gender differences in the average responses about work-family priorities and aspirations toward leadership, but some women indicated a desire for research careers and some men were "life-oriented." The author of this commentary argues that to draw conclusions about all male or all female physicians from average differences of a large group of residents may reinforce gender stereotypes that continue to impede each individual female physician's career advancement and each individual male physician's struggle for work-life balance.

e. Carnes & Bland (2007)

In controlled studies, both men and women preferentially select men over women for leadership positions, even when credentials are identical and despite field studies demonstrating women's equivalent or slightly better leadership effectiveness. The assumption that men will make better leaders than women is attributed to the pervasive existence of unconscious stereotypes that characterize both men and leaders as agentic or action oriented and women as dependent. The Clinical and Translational Science Award (CTSA) from the National Institutes of Health (NIH) Roadmap is a novel, prestigious award that will place considerable power in the hands of one principal investigator-condition that predict activation of bias in favor of selecting male leaders. The authors review research supporting this assertion. To mitigate the impact of this bias and broaden the pool of potential leaders for this transformative initiative, the authors offer the following suggestions. To academic health centers they suggest (1) internal search

committees comprised of at least 35% women that establish a priori the desired qualities for the CTSA leader and broadly solicit applicants, (2) explicit specification of the full range of desirable skills of a CTSA leader, and (3) systematic efforts to increase awareness of the negative impact of unconscious gender bias on women's advancement. To the NIH they suggest (1) the new multiple principal investigator rule for the CTSA program, (2) a statement in the request for applications (RFA) encouraging diversity among principal investigators, (3) repetition in the RFA of the public NIH statement of the importance of work life balance for young investigators, and (4) constitution of study sections with at least 35% women.

f.   Cooke et. al. (2010)

This article summarizes the changes in medical education over the past century after the Flexner report. It describes the current challenges, using as a framework the key goals of professional education: transmitting knowledge, imparting skills, and inculcating the values of the profession. The article discusses such problems as how the knowledge base for medical practice has greatly expanded and the delivery of care has become vastly more complicated, without proper education in such topics as health policy, interpersonal teamwork, and the organization of health services. The article details various problems with medical education in the 21st century and gives recommendations to follow Flexner's message 100 years ago, that medical education has to reconfigure itself in response to changing scientific, social, and economic circumstances in order to flourish from one generation to the next.

g.   Dannels et al (2008)

The Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) program provides an external yearlong development program for senior women faculty in U.S. and Canadian medical schools. This study aims to determine the extent to which program participants, compared with women from two comparison groups, aspire to leadership, demonstrate mastery of leadership competencies, and attain leadership positions. A pre-/posttest methodology and longitudinal structure were used to evaluate the impact of ELAM participation. Participants from two ELAM cohorts were compared with women who applied but were not accepted into the ELAM program (NON) and women from the Association of American Medical Colleges (AAMC) Faculty Roster. The AAMC group was a baseline for midcareer faculty; the NON group allowed comparison for leadership aspiration. Baseline data were collected in 2002, with follow-up data collected in 2006. Sixteen leadership indicators were considered: administrative leadership attainment (four indicators), full professor academic rank (one), leadership competencies and readiness (eight), and leadership aspirations and education (three). For 15 of the indicators, ELAM participants scored higher than AAMC and NON groups, and for one indicator they scored higher than only the AAMC group (aspiration to leadership outside academic health centers). The differences were statistically significant for 12 indicators and were distributed across the categories. These included seven of the leadership competencies, three of the administrative leadership attainment indicators, and two of the leadership aspirations and education indicators. These findings support the hypothesis that the ELAM program has a beneficial impact on ELAM fellows in terms of leadership behaviors and career progression.

h. Desroches et al (2010)

The purpose of this study was to determine whether professional activities, professional productivity, and salaries of life sciences faculty differ by gender. The authors undertook this study because previous studies found differences in the academic experiences of women and men. In 2007, the authors conducted a mailed survey of 3,080 life sciences faculty at the 50 universities whose medical schools received the greatest amount of National Institutes of Health funding in 2004. The response rate was 74% (n = 2,168). The main outcome measures were a faculty member's total number of publications; number of publications in the past three years; average impact score of the journals in which he or she had published; professional activities; work hours per week; the numbers of hours spent specifically in teaching, patient care, research, professional activities, and administrative activities; and annual income. Among professors, the women reported greater numbers of hours worked per week and greater numbers of administrative and professional activities than did the men. Female faculty members reported fewer publications across all ranks. After control for professional characteristics and productivity, female researchers in the life sciences earned, on average, approximately $13,226 less annually than did their male counterparts. Conclusions drawn were that men and women in the academic life sciences take on different roles as they advance through their careers. A substantial salary gap still exists between men and women that cannot be explained by productivity or other professional factors. Compensation and advancement policies should recognize the full scope of the roles that female researchers play.

i. Estrich (2000)

BOOK: Estrich, Susan. *Sex and Power*, Penguin, 2000.

Representative quotes from this hard-hitting author: *It is a measure of how far we have come that so many young women today could believe that they don't face discrimination. They don't see a work-place structured for people with no child-care responsibilities as inherently discriminatory.*It's not a pipeline issue. How could it be, in a world structured by and for the winners of the game of child-rearing chicken? *Looking at children simply as a handicap to a parent's career ignores the fact that many of us get smarter when we become mothers, more mature, more responsible, and more adept at handling people. It may be true that mothers work fewer hours than men while their children are young, but they also drink less, commit fewer crimes, have fewer heart attacks, get into fewer fights at work, are less driven to make costly business decisions for the sake of ego, are less likely to be sued for sexual harassment, or to quit for a better job. Whether women cost more than men, even under the most traditional analysis, depends on which costs you consider. We are not taking advantage of the tremendous talents of the absolute majority of the population to the detriment of the students, the faculty, and institutions as a whole….Women's leaving the professional workforce is our collective loss. If it weren't for gender—if it weren't for the fact that it is middle-aged women who are being excluded, which doesn't seem unusual—the loss would be obvious… Too many women leave because they can't find a way to use their talents.

j. Fletcher (2000)

> BOOK: Fletcher, Joyce. Disappearing acts: gender, power and relational practice at work, MIT Press, 2000.

> While the "organization of the future" is touted as team-based, placing a high emphasis on relational skills and emotional intelligence, this study of engineers found that such skills often "get disappeared" in practice because they are associated with the "feminine" or softer side of work. Women remain responsible for meeting relationship needs without calling attention to the needs themselves, allowing organizations to perpetuate the myth of self-reliance and independence. Thus, the contradiction: relational activity is not needed and women must provide it. If reward systems and norms reflected the need to integrate autonomous action and relational activity, this would shift the system in positive directions for both sexes and for organizations and their stakeholders.

k. Howell, Servis & Bonham (2005)

> This article describes multigenerational challenges confronted at the University of California, Davis, School of Medicine, and the school's responses to them. Some of the challenges discussed include issues related to work hours, workload, compensation, evaluation for advancement, recruitment and retention, and attendance at required meetings. Awareness of the different generational qualities and values allowed the school of medicine to identify the multigenerational origin of many of these ongoing issues and challenges and to plan appropriate solutions within the Office of Academic Affairs. These include policy changes related to work–life balance, utilizing multiple faculty tracks with different roles, allowing part-time faculty appointments, creating a variety of faculty development programs geared toward different generational needs (which utilize flexible modules, menus of options, and alternative technologies for presentation), defining appropriate reward and incentives through compensations plans, and creating peer reviewed awards. The authors conclude that these efforts mitigate conflict, promote diversity, and allow multigenerational teams to function more effectively and creatively in education, research, and clinical care.

l. Konrad & Kramer (2006)

> This small study of corporate boards found that: on corporate boards a solo woman is marginalized; when there are 2 women they are perceived as a separate group and may be confused with each other; when there are 3 or more women, dynamic shifts often occur with men decompressing from their aggressive styles. Women tend to work to broaden discussions, are more dogged in pursuing answers to difficult questions, and are more collaborative. Boards' overall performance tends to improve.

m. Levin & Mattis (2006)

> This article examines the economic and social reasons to focus on gender diversity and the costs of companies' failure to address diversity issues, specifically, turnover and retention. There is an emphasis on showing how companies that address gender diversity issues as business issues, not just as human resources issues, will reap rewards both inside and outside the company. The authors examine women's roles as consumers.

Women's roles as business students are looked at, specifically, the negative stereotypes reinforced in business school and carried into the workplace. The article concludes with several Harvard Business School case studies produced from 1999-2004 that illustrate the successful integration of women into academic and corporate life.

n. Linzer et al (2009)

To establish guidelines for more effectively incorporating part-time faculty into departments of internal medicine, a task force was convened in early 2007 by the Association of Specialty Professors. The task force used informal surveys, current literature, and consensus building among members of the Alliance for Academic Internal Medicine to produce a consensus statement and a series of recommendations. The task force agreed that part-time faculty could enrich a department of medicine, enhance workforce flexibility, and provide high quality research, patient care, and education in a cost-effective manner. The task force provided a series of detailed steps for operationalizing part-time practice; to do so, key issues were addressed, such as fixed costs, malpractice insurance, space, cross coverage, mentoring, career development, productivity targets, and flexible scheduling. Recommendations included (1) increasing respect for work– family balance, (2) allowing flexible time as well as part-time employment, (3) directly addressing negative perceptions about part-time faculty, (4) developing policies to allow flexibility in academic advancement, (5) considering part-time faculty as candidates for leadership positions, (6) encouraging granting agencies, including the National Institutes of Health and Veterans Administration, to consider part-time faculty as eligible for research career development awards, and (7) supporting future research in "best practices" for incorporating part-time faculty into academic departments of medicine.

o. Marshall (2009) p.188

This exploratory study interviewed seventeen women at the professional level of dean or higher, at a college or university, and who had school-aged children or younger to understand how female higher education administrators with children made sense of and negotiated their multiple roles and commitments as professionals and parents. Findings detailed motivations to pursue advanced careers as well as advantages and disadvantages of managing career and family. The article explains compromises and tradeoffs, benefits, and ends with recommendations for offsetting the negative aspects.

p. McCracken (2000)

This article discusses the analysis of why women were leaving Deloitte & Touche and the initiatives they took to stop the outflow. The article gives the lessons they learned in the process of making change including: making sure senior management is front and center, making an airtight business case for cultural change, making the effort visible and public, beginning with dialogue as the platform for change, using a flexible system of accountability, and promoting work-life balance for men and women . The article explains concrete operational steps to bring about real change, and how the key at the company was to send a clear, powerful message for change while still giving heads of local offices some discretion.

q. Morahan & Bickel (2002)

Positing that there have been large numbers of women in the faculty pipeline in higher education and academic medicine for well over two decades—plenty of time for them to emerge as major players, these authors ask "how can we better capitalize on women's intellectual capital?" Their emphases include: 1) since most women and men in Generations "X" and "Y" are seeking work that allows for a high-quality life outside of work without decades of deferred gratification, AHCs need to redefine the "ideal worker" from someone with no responsibilities outside of work; 2) identifying and altering cultural norms that rely upon women's relational behaviors as a free resource, simultaneously being required and devalued; 3) rewarding interdisciplinary team efforts; 4) challenging the norm that work is the public sphere and completely separate from the private family sphere;5) recognizing and rewarding leaders for workforce diversity and talent management; 6) valuing qualitative research and "soft science" similarly to quantitative "hard science.

r. Sheridan et al. (2010)

One opportunity to realize the diversity goals of academic health centers comes at the time of hiring new faculty. To improve the effectiveness of search committees in increasing the gender diversity of faculty hires, the authors created and implemented a training workshop for faculty search committees designed to improve the hiring process and increase the diversity of faculty hires at the University of Wisconsin–Madison. They describe the workshops, which they presented in the School of Medicine and Public Health between 2004 and 2007, and they compare the subsequent hiring of women faculty in participating and nonparticipating departments and the self-reported experience of new faculty within the hiring process. Attendance at the workshop correlates with improved hiring of women faculty and with a better hiring experience for faculty recruits, especially women. The authors articulate successful elements of workshop implementation for other medical schools seeking to increase gender diversity on their faculties.

s. Shrier et al (2007)

The purpose of this study was to examine bias and sexual harassment experiences of physician mothers and their physician daughters; correlations of these experiences with career satisfaction, stress at work, stress at home, and percentage of women in specialty; and influences of the mother on her daughter's experiences. A convenience sample of 214 families with mother and daughter physicians was sent a 56-item survey that included questions on bias and sexual harassment experiences. Statistical comparisons were made within 136 dyads where both mother and daughter returned the questionnaire. Eighty-four percent of mothers and 87% of daughters responded. Mothers and daughters reported similarly high rates and severity of sexual harassment before medical school, while in residency/fellowship, while in practice/work setting, and by teachers and supervisors. Daughters reported higher rates of harassment during medical school and by patients, mothers by colleagues. Gender and racial/ethnic discrimination was lower for daughters compared with their mothers, but gender discrimination was still substantial. Compared with other daughters, daughters who experienced discrimination or sexual harassment reported lower career satisfaction and more stress at work and at home and worked in

specialties with fewer women. Gender discrimination and sexual harassment remain entrenched in medical education and professional workplaces. Maternal role models and mentors were not as protective as anticipated. Leadership of medical institutions and professional associations must deal more effectively with persistent discrimination and harassment or risk the loss of future leaders.

t. Wear & Keck-McNulty (2004)

The purpose of this article was to describe the attitudes of female nurses and female resident physicians toward each other in surgery, internal medicine, obstetrics-gynecology, and emergency medicine in one Midwest teaching hospital in the United States. Using a qualitative methodology, 51 women were interviewed in 2002: 28 nurses and 23 residents. Questions were asked to determine if and how female nurses and female residents believed gender was a factor in their interprofessional relationships, how each described their relationship with the other, the kind of assistance female nurses provide to female residents, the kind of assistance sought by female residents, and the strengths and challenges of the female nurse-female resident relationship. Data were analyzed using NUD*IST software. Consistent with similar studies conducted in Norway and Australia, the results include the following: For female nurses, occupation is secondary to gender, which is to say that gender is the most important link between female nurses and female residents. For female residents, gender is secondary to occupation/occupational status. With the number of female residents increasing each year in hospitals, this relationship should be further examined so that dysfunctional communication patterns between the two groups can be challenged.

u. Willett et al (2010)

This study assessed gender differences among residents regarding their plans to have children during residency and determine the most influential reasons for these differences. Using the Health Belief Model as a framework, the authors created an instrument to survey 424 residents from 11 residency programs at three academic medical institutions about their intentions to have children during residency. The authors developed a scale to assess the perceived career threats of having children during residency, evaluated its psychometric properties, and calculated the effect of the mediators. The response rate was 77% (328/424). Forty-one percent of men versus 27% of women planned to have children during residency ($P \_ .01$). The instrument measured four career threats—extended training, loss of fellowship positions, pregnancy complications, and interference with career plans—on a five-point Likert scale. The scale had a Cronbach alpha of 0.84 and an eigenvalue of 2.2. Compared with men, women had higher scores for each item and a higher mean score (2.9 versus 2.1, $P \_ .001$), signifying greater belief in the potential of pregnancy to threaten careers. After adjusting for age, institution, postgraduate year, and knowledge of parental leave policies, women were less likely to plan to have children during residency (odds ratio 0.46 [95% confidence interval 0.25–0.84]). In mediation analysis, threats to career explained 67% of the gender variance. Women residents intentionally postpone pregnancy because of perceived threats to their careers. Medical educators should be aware of these findings when counseling female trainees.