**Annotated Bibliography**

*Resources reviewed by Jennifer Snyder, MD and shared by our presenters on behalf of the “In Pursuit of Equity and Diversity in the Family Medicine Workforce and Leadership” preconference STFM Annual Conference 2018. This list is by no means comprehensive and our hope is that others can use it and add to it for further research, knowledge sharing and presentation. In my opinion these were the salient portions of the articles reviewed as they pertain to this presentation’s content.*

*Presenters: Joedrecka Brown Speights, MD, FAAFP, Stephanie Carter-Henry, MS, MD, Ardis Davis, MSW, Edgar Figueroa, MD, MPH, Kerwyn Flowers, DO, Kristen Goodell, MD, Mary Hall, MD, Jeri Hepworth, PhD, Carrie Pierce, MD, Jeannette South-Paul, MD, Jennifer Snyder, MD, Harry S. Strothers III, MD, MMM, Judy Washington, MD, FAAP.*

SPECIFIC TO FAMILY MEDICINE

**Medical Schools, Minority and Women Representation in Medicine. AAFP Statement (1996) (2014 COD) AAFP website accessed 4/7/2018**

*Support women and URM applicants to apply to medical school, in medical school, faculty, and leadership positions. Recommend academic institutions have specific outreach programs prior to medical school, and leadership development programs with mentorship opportunities and encourage engagement in medical research.*

**Diversity in the Workforce. AAFP statement (2005) (2015) AAFP accessed website 4/7/2018**

*Pledges support and initiative for medical workforce representative of the patient population served by family physicians*

**Lewis-Stevenson S; Hueston WJ; Mainous AG 3rd; Bazell PC; Ye X. Female and underrepresented minority faculty in academic departments of family medicine: are women and minorities better off in family medicine? Fam Med. 2001 Jun; 33(6):459-65.**

*Per abstract-in 2001 family medicine faculty more likely to be female 41% versus 25% and URRM 9% versus 4% in comparison with other academic medicine specialties. More women than men are in part time positions. Minorities are less likely to be an associate or full professor. At time of publication unable to find institutional or departmental themes/culture characteristics associated with success of women and URM but underrepresentation in higher ranks clear as most had lower ranking positions.*

**Smith, Mindy; Barry, Henry; Dunn, Ruth Ann; Keefe, Carol; Weismental, David. Breaking Through the Glass Ceiling: A Survey of Promotion Rates of Graduates of a Primary Care Faculty Development Fellowship Program. Fam Med 2006; 38(7): 505-10.**

*This study examines whether a primary care faculty development fellowship program can equalize rates of promotion between female and URM faculty compared to white and male faculty. Sent surveys to 9 years of graduates-called non-responders and had an 88% overall response rate. Conclusions include in retrospect male and female promotion rate similar but white promotions occurred more often than URM promotions. Limitations: 28/48 of the surveys had missing information regarding promotion. One limitation is that only one fellowship program out of many is included. That fellowship strives to include 4 URM fellows and 4 fellows that serve underrepresented communities/18 total annually. 198 graduates total were surveyed over 9 years. Fellows make up was URM 26%, women 43%, FM 47%. Promotion seemed to be most closely based on time (20% had promotions with 5 or fewer years; 62% with 6 or more years in academia). Choice of track-clinical vs academia influenced promotion and time within one institution. It was also noted that socialization skills such as developing/maintaining a network of relationships for success improved promotion rates. This article references success of institutional leadership development, optimizing meetings during work hours, increasing mentoring opportunities, and equal salary as ways to improve URM and female representation in family medicine. A weakness is that this study did not assess personal or institution traits. Conclusions were that age/rank at start time with institution more than race/gender affecting fellowship trained academic physicians. This reviewer wonders if age at start and duration with institution matters more than gender/race, then is the question of institutional culture the foundational area for change as some of the other articles reviewed suggest.*

**Xierali, Iman; Nivet, Marc; Gaglioti Anne; Liaw, Winston; Bazemore, Andrew. Increasing Family Medicine Faculty Diversity Still Lags Population. JABFM Jan-Feb 2017 Vol 30 No 1**

*This article describes trends in racial/ethnic/gender diversity in FM departments and compares FM with all other academic medicine faculty. Method was to use AAMC faculty roster to compare female and URM trends in allopathic US medical schools. Findings include faculty proportions of URM and female faculty have grown 2-fold between 1980-2015. URM and women in FM still not well represented or represented as expected given overall faculty percentiles in higher faculty rank. Women and URM better represented in FM than in other specialties but still not representative of overall population trends. The authors used FAMOUS (Faculty Administrative Management On-Line User System). 3 trends arose including that the lower ranks were more diverse than higher, FM departments had higher proportions female and URM than other faculty academic medicine faculty combined and URM faculty percentages are less than matriculating medical students and US population for FM and other departments. This study speculates “overt prejudice, subtle discrimination, undervaluing unique contributions of women/URM, family responsibility and opting out of promotion paths” as reasons for underrepresentation. There is a question of whether more URM/females practicing primary care leading to increasing numbers of faculty. Cited roadblocks in study include inability to identify IMG status or if faculty MD or other faculty. It is also unclear if a causal relationship exists between diversity of faculty and diversity of students. Recommendations include early introduction of pipeline programs, mentoring, and re-evaluation of current practices and policies to provoke institutional transformation.*

NOT SPECIFIC TO FAMILY MEDICINE

**The State of Women in Academic Medicine. The Pipeline and Pathways to Leadership. AAMC 2013-2014. https://members.aamc.org/eweb/upload/The%20State%20of%20Women%20in%20Academic%20Medicine%202013-2014%20FINAL.pdf**

*This report is a very helpful graphic representation of the percentages of women in academics and rates of their roles. It is an easy read with illustrations/graphs to facilitate information. Information 2013-2014 by AAMC*

**Balmer, Dorene; Darden Alix; Chandran Latha; D'Alessandro Donna; Gusic Maryellen. How Mentor Identity Evolves: Findings From a 10-Year Follow-Up Study of a National Professional Development Program. Academic Medicine (of note I used the published ahead of print manuscript-not the final article)**

*This article discusses how mentorship identity develops in faculty development courses-both explicitly-but more implicitly. Authors hypothesize that the implicit curriculum is very important to mentor identity development and they seek to demonstrate via interviews with former participants in the program that via an implicit curriculum- faculty can form a mentor identity by "observing role models, experimenting with provisional selves, and then by evaluating these experiments". Depending on how different styles work in different contexts, participants can develop their mentor identity. The interviews revealed "lessons: the importance of multiple mentors, the value of peer mentors, and the incremental process of becoming a mentor." There was agreement that mentorship training is explicit and implicit-discussed and modeled. Limitations of this study is that it was limited to one center and the study is based on self-reports via interviews. This paper exonerates deliberation in planning professional education programs and recognizing them as a source of implicit mentorship.*

**Borges, Nicole; Navarro, Anita; Grover, Amelia; Hoban, Dennis. How, When, and Why Do Physicians Choose Careers in Academic Medicine? A Literature Review. Academic Medicine. 2010 April; 85(4):680-6**

*In this article the authors reviewed 46 years of pubmed database using "academic medicine" and reviewed articles to determine why people choose academic careers. Findings include that values influence choice to pursue academics as well as mentors, gender, role models, and research programs. Learning more about a career in academic medicine as a resident and debt may be deterrents to pursuing academic medicine. The study emphasizes the lack of female physicians in academia as role models and lack of mentorship/leadership programs for women interested in a career in academic medicine. This article sites that "achieving national recognition and being viewed as a leader are less important than for male physicians” but it was unclear to this reviewer where that data was collected from (683). Overall the authors acknowledge some themes are present but their question remains largely unanswered.*

**Bunton, Sarah; Corrice, April. Evolving Workplace Flexibility for US Medical School Tenure-Track Faculty. Academic Medicine Vol 86 No 4, April 2011.**

*This article discusses medical school advancements in recognizing workplace diversity and modifying or making policies that enable diversion from a classic tenure track. The article suggests that given change in physician workforce and greater value placed on work-life balance that academic institutions should consider making progressive changes to retain faculty and allow opportunity for advancement without penalizing for familial engagement. Cites "unpublished data from AAMC that physicians under 50 value work-life balance over compensation and career advancement". This article reviews percentage of medical schools that have lengthened their probationary period, have a tenure clock stopping policy and allow less than full-time employment while on a tenure eligible track. One problem noted with policies was that even when existent, the faculty were hesitant to pursue policies unless using them was made the norm-such as automatic extensions for new parents. The article concludes that new policies and a culture shift may be necessary for academic institutions to retain and increasingly diverse faculty.*

**Edmunds, Laurel; Ovseiko, Pavel V; Greenhalgh, Trisha; Frith, Peggy; Roberts, Nia; Pololi, Linda; Buchanan, Alistair; Why do women choose or reject careers in academic medicine? A narrative review of empirical evidence. Lancet 2016; 388: 2948-58**

*This study performed a systematic review that resulted in 52 analyzed pieces and critically assessed the themes that presented throughout the analyzed pieces. Themes were: women are less interested in research-more interested in teaching, women become less committed to research as education and training progress, including women in research can encourage women to stay on academic medicine, women lack adequate mentors and role models, finances and concerns about work life balance are deterrents, and women experience gender discrimination and unconscious bias in medical school and during residency training.*

*Recommendations of “how” to close inequality gap include expose women to research prior to medical school-perhaps in high school as part of curriculum. Institutions could elevate the status of teaching, since currently research is considered “better” than teaching when considering promotion or institutional status. Institutions could also consider maternity and paternity leave policies as a government issue and consider a culture shift toward equality perhaps by introducing unconscious bias training and learning more regarding cultural change.*

**Fang, Di; Moy, Ernest; Colburn, Lois; Hurley, Jeanne. Racial and Ethnic Disparities in Faculty Promotion in Academic Medicine JAMA September 6, 2000 Vol 284, No 9**

*This study reviewed the AMA faculty roster system for decades and concluded that minority faculty were promoted at lower rate than white faculty. URM which included Black, Mexican American, Native American, Puerto Rican and native Alaskan were the least likely to be promoted. Faculty from historically black or historically Puerto Rican schools were not included in this assessment. Minorities at assistant and associate professor rank lag in promotion despite the steady increase of presence of minorities in medicine. Minorities are not awarded NIH scholarships as often. There is a possibility that minority faculty are promoted less because they publish less. This highlights an opportunity to improve/make research more accessible to aid in minority advancement or to change criteria for promotion away from research and toward education or community service to enhance minority advancement. Promotion rates are noted to be lower for foreign trained medical graduates.*

**Breaking Down Barriers for Women Physicians of Color. Galace, Anthony; Calimlim, Irene; The Greenlining Institute and Artemis Medical Society. October 2017. http://greenlining.org/wp-content/uploads/2017/10/Breaking-Down-Barriers-for-Women-Physicians-of-Color-1.pdf**

*This report is an easy and eloquent read of facts and examples from interviews with women of color. It discusses the importance of diversity for patients-for whom a physician who speaks their language builds trust. 60% of women minorities interviewed had returned to a neighborhood similar to the one that they grew up in. Policy recommendations include, "build support for aspiring women of color, improve diversity and inclusion across the health sector, ensure equitable opportunities and support for women physicians of color.”*

**Guevara, James; Adanga, Emem; Avakame, Elorm; Brooks, Carthon, Margo. Minority Faculty Development Programs and Underrepresented Minority Faculty Representation at US Medical Schools. JAMA 2013;310(21):2297-2304**

*This research reviewed AAMC data and evaluated characteristics of schools that led to greater URM faculty and promotion. The striking finding in review of this data is that presence of a URM faculty development program did not lead to an increase in URM faculty or increased rate of URM faculty promotion. The analysis showed that URM faculty between 2000-2010 were most likely to reside at “newer, private, historically black, and smaller institutions than non-URM faculty”. “Our results suggest that current minority faculty development programs on average were not associated with these changes in underrepresented minority representation, recruitment, or promotion”. URM faculty programs that were longer standing and more comprehensive or intensive were found to have better results. Study states more research needed for longer duration to more accurately assess URM faculty programs success at retaining URM faculty and increasing promotion. Requests studies including quality of URM faculty development programs and comparing success over longer period of time.*

**Lewis, Darcy; Paulsen, Emily. Proceedings of the Diversity and Inclusion Innovation Forum: Unconscious Bias in Academic Medicine. How the Prejudices We Don’t Know We Have Affect Medical Education, Medical Careers, and Patient Health. AAMC and The Kirwan Institute for the Study of Race and Ethnicity at The Ohio State University. AAMC 2017.** [**https://members.aamc.org/eweb/upload/Unconscious\_Bias.pdf**](https://members.aamc.org/eweb/upload/Unconscious_Bias.pdf)**.**

*This document captures how unconscious bias can affect faculty recruitment and the importance of awareness of unconscious bias and protections from this during the hiring process. This piece also discusses importance of mentoring within the process of faculty recruitment and selection as well as within the mentor-mentee relationship.*

**Lewis, Vivian; Martina, Camille; McDermott, Michael; Trief, Paula; Goodman, Steven; Morse, Gene; LaGuardia, Jennifer; Sharp, Daryl; Ryan, Richard. A Randomized Control Trial of Mentoring Interventions for Underrepresented Minorities. Academic Medicine. Vol 91 No 7, July 2016**

*This study used an online questionnaire answered every two months for one year to evaluate changes in psychological well-being or “needs satisfaction” for mentor-protégée dyads. The study compared dyads with a five-hour training session for the mentors and another group without a five-hour training session for the mentors. This randomized controlled trial "showed a potential short-term effect on changing needs satisfaction" after the first two month interval, but no longer term difference at other two month intervals. The study reports that more information is needed but in my review of article-it does not seem that there was a significant change per self-report/online survey in the mentors who had undergone training for this program and those that had not. At two months the protégées of mentors who had undergone specific training scored better at meeting needs that the mentors without training but at twelve months there was no statistical significance. Peer networking was not found in this trial to improve self-reported scores, but has found to improve satisfaction in other studies. Noted in the discussion were high levels of satisfaction at the beginning and end of study, which the authors perceive as potentially indicative of a selection bias in those volunteering for this study as being already fairly satisfied and high functioning. As far as the authors were concerned, this may be the first randomized control study evaluating mentorship/peer mentorship multicenter. They endorse that more research in this area is needed.*

**Mader, Emily; Rodriguez, Jose; Campbell, Kendall; Smilnak, Timothy; Bazemore, Andrew; Petterson, Stephen; Morley, Christopher. Status of underrepresented minority and female faculty at medical schools located within Historically Black Colleges and in Puerto Rico. Medical Education Online, 21:1, 29535. 2016.**

*This is a very interesting article that compared AAMC 2013 faculty roster for all allopathic medical schools to historically black colleges and universities and PR regarding women and racial/ethnic percentages both as to constituency of faculty and leadership. Women and minorities are much better represented at these institutions. Women represent 43.5% of HBCU faculty vs 36.5% at PWU. Women in chair positions at HBCU: 30.1% vs PWU 15.6%. Women in chair positions: PR 38.23 % vs PWU 15.38%. African American HBCU faculty: 59.5% vs PWU 2.6%; chair 73.1% vs PWU 2,2%. PR 75% vs PWU 3 % for both chair and faculty filled by Hispanic/Latino community. Sites Flexner report of 1910 which caused multiple HBCU to close medical programs. "Currently URMM make up 8% of all medical school faculty positions-a 1% increase from 1993". The percentages in this study suggest that culture could play a role in minority choice of faculty and that HBCU and PR medical universities are more progressive regarding engaging women in positions of leadership. The culture at these institutions may enhance understanding of academic culture and barriers for women and URM.*

**Pololi, Linda. Changing the Culture of Academic Medicine. Perspectives of Women Faculty. 2010**

*Linda Pololi uses the perspective of women faculty at academic institutions to "offer insights unavailable to those positioned solidly in the center of the culture"(3). Her goal in research and writing is to "contribute to a transformative movement in academic medicine-fostering a culture of belonging, authenticity, humanism, and vibrancy in learning" (5). She shares interviewees experience of incongruence of values in academic medicine and a culture of "competitive behavior rather than collaboration"(10). For instance at time of research only 8 women deans existed among 131 US medical schools (20). This book dispels myths such as children as a distraction, attrition, lack of leadership ambition and lack of necessary skills for promotion. The book emphasizes the failure of academic culture to develop relationships-leading to disconnection and competitive individualism over collaboration, leading to a culture of disrespect and distrust that most faculty, particularly women and minorities, may not find tolerable for the entire course of their careers.*

**Powell, Deborah MD; Scott, James L. MD; Rosenblatt, Michael MD; Roth, Paul B. MD; Pololi, Linda. Commentary: A Call for Culture Change in Academic Medicine. Academic Medicine 85(4) April 2010**

*This commentary reports the reasoning for the C-Change project and commits C-Change as a "course of action [which] is fully aligned with the national recommendations of the AAMC, NIH and Academy of Sciences" goals of increasing women and URM in leadership. The article outlines figures indicating lack of change over the number of women and URM over the past three decades. Rather than focus on women and URM, C-Change focuses on the culture of institutions that inhibits women and URM's advancement in leadership. The purpose of the article is to foster awareness as to the network of 5 deans and the institutions that are participating in this project. Dr. Pololi participates in C-Change and more of the specific interview results and conclusions/themes emerging from this movement are outlined in her book also cited in this bibliography.*

**Reed, Darcy; Enders, Felicity; Lindor, Rachel; McClees, Martha; Lindor, Keith. Gender Differences in Academic Productivity and Leadership Appointments of Physicians Throughout Academic Careers. Academic Medicine Volume 86, No 1 January 2011.**

*This article compares women physicians and men physicians working at the Mayo clinic in a retrospective longitudinal cohort study comparing the relationship between publications and leadership position/advancement. Findings include that men published more than women in their early careers but in later careers-after about 27 years of service, women began publishing more than men. The reasons for this are unclear; limitations include that this study reviewed only one institution. Other studies have also found that men tend to publish more than women and that there is a correlation between publication and leadership advancement. This study discusses potential to lose women in academic medicine and miss out on their later career productivity secondary to this lag in productivity and discusses how this lag affects trajectory, tenure and retention. The question again arises whether scholarly productivity should be decreased in promotion weight to capture the unique and important contributions of women's perspective in leadership.*

**Rodriguez, Jose; Campbell, Kendall; Fogarty, John; Williams, Roxann. Underrepresented Minority Faculty in Academic Medicine: A Systematic Review of URM Faculty Development.**

**Fam Med 2014; 46 (2): 100:4**

*This article focuses on URM and uses SORT criteria to review the literature available and grade studies. Conclusions include GRADE A recommendations: Identify and support senior faculty mentors, peer networking, professional skill development, knowledge of institutional culture, participate in structured faculty development, GRADE B recommendations include: mentoring, include minority faculty in activities that lead to promotion, faculty development, orient career goals and give credit for community service when considering advancement, teach skills such as CV development, networking, organizing, confidence building. This review of the literature identifies need for URM faculty development programs, reduction of clinical/administrative responsibilities to allow time for research. It suggests giving promotional weight to community service and considering seed money for development/research.*

**Thibault GE. Women in academic medicine. Academic Med 2016;91(8)1045-1046**

*This commentary discusses that although there has been improvement for women in medicine and as faculty over the past decades, representation still fall short of recommended goals of women in leadership positions, for example goal of 50% of department chairs by 2025 would be women and 50% of deans would be women by 2030. The author speculates reasons for lower salary and encourages that the long view includes women in leadership and states that society is not reaching its full potential if women in medicine are not.*