

Women In Radiology: looking backward and forward

Michigan Radiological Society Centennial
October 23, 2021

- Focus on Diagnostic Radiology
 - Numbers game...how many women are there?
 - Why aren't there more?
 - Ideas to help increase numbers
 - Is there gender balance in:
 - Leadership positions ?
 - Academic ranks ?
 - The future??

WOMEN IN MEDICAL SCHOOL/ DR RESIDENCY

Year	%MEDICAL STUDENTS	% DR RESIDENCY
1968	8	?
1981	23 - 31	21
2019	52	26

How does US compare with other countries?

- Survey of radiology organizations in 26 countries
- Globally, 33.5% radiologists = women
 - % higher in younger radiologists (48.5% < 35)
- Lowest in US (27.2%)
- Highest in Thailand (85%)
- “Countries with greater representation of women had higher gender equality and higher % of women in medical school”

Cater et al, “Bridging the Gap: Identifying global trends in gender disparity among the radiology physician workforce, ” Academic Radiology, 2018

Anecdote: 1960's

... A U.S. medical school is a 'male world'. The environment is dead serious, highly competitive and with grinding pressure. The search for identity in the male world of a medical school may force some women students to assume a more masculine role, hoping this will open the door to the male world. Other women will seek identity by becoming superfeminine. One way to gain entry and acceptance in the male world is by marriage to a medical student.

... Steps must be taken to assure greater opportunities for a woman to be a physician, wife, and mother after graduation. It is important for everyone to recognize that a woman does not have to leave her femininity at home the day that she enters the door of a medical school.

JZ Bowers, Special problems of women medical students, The Journal of Medical Education, 1968

Anecdote 2: My history, the 1960's

- Smith College, 1964
 - Applied to medical schools- Yale letter, Cornell, U of M
- U of M, 1968
 - Married medical student (!!)
- Internship and 1 yr Int Med, Blodgett Memorial Hospital, Grand Rapids
 - First women intern for decade – no private sleeping quarters, no surgical locker room for women MD's, Foley catheter placement by MD (ie me) not nurses

Anecdote 3 - My history, the 1970's,

- DR residency – GRAMEC
 - Taking place of men “discussion”
 - “Less than full time”, three small children

Anecdote...1970's

- Place: meeting of newly named James Picker Fellows (research support)
- 100 + men; 2 women
- Prominent Radiology leader: “We were challenged to include more women - and look - we have met the challenge,” pointing to the two women.

Why not more women?

- Lack of early exposure in medical school?
- Lack of role models, mentors?
- Women don't like/can't do physics, understand complex technology?
- Perceived lack of patient contact?
- Length of residency?
- Fewer women means fewer women. No desire to be the "lonely only"?
- Fear of radiation exposure?

Does it matter?

- Wasted talent
- Women can bring a more compassionate, communal feeling to an organization
 - Deborah Tannen: “men are competitive and prone to conflict whereas females are cooperative and given to affiliation”
- Patients like physicians who “look like them”
- Researchers more likely to investigate topics of personal interest; lack of women could limit investigations into women’s imaging

- Evidence that increased diversity helps foster community with more creativity, productivity, problem solving and innovation

Forman et al, AJR, 2012

What can practice leaders do to help?

- Market radiology to talented women medical students
- Mitigate perceived bias in recruiting
- Understand FMLA (1993) and Fair Labor Standards Act (2010) and have written policies addressing both
- Promote well being, address burnout
- Flexible work opportunities
- Mentorship
- Ensure equity

Practices could: market radiology to women medical students

- Women radiologists in visible roles - women students feel welcome
 - Greater number of women residents in programs with woman PD (JC Campbell et al, JACR, 2017)
- Medical student interest groups
- Involve medical students in WIR groups in programs
- Resident involvement in med student education can lead to personal mentorship and dispel negative myths

- PIER program (Pipeline Initiative for Enrichment of Radiology) in 2016 for 5 first year medical students (ACR)
 - To provide women and URM “ an introduction to fundamental principles of diagnostic imaging and radiation oncology as practiced in adult and pediatric academic hospitals and outpatient settings”
 - Paired with a preceptor
 - Internship during summer at preceptor’s institution
 - Students present research at NMA meeting
 - 25 students have completed

Practices could: mitigate perceived bias in recruiting

- Emphasize diversity on departmental websites
- Selection committee should be diverse - age, gender, ethnicity, race, academic ranks
- Address conscious and unconscious biases
- Can improve diversity using ERAS
 - DIO can change filters so can track who applies, who is invited to interview, who is interviewed and who is ranked

Practices could: follow FMLA and ABR leave policy

- FMLA (1993) - **provide 12 weeks unpaid, job protected leave** per year for eligible employees (ie having worked for at least 12 months, 1250 hours) for birth and care of a newborn or adopted child, care for immediate family member with serious health condition, personal medical leave
 - Residents (except 1st year, transfers) are eligible
- SCARD (2018) pledges to “strive for departmental, institutional and organizational change that **provides 12 weeks of paid parental leave** for eligible (as defined per FMLA) faculty members of all genders” (Canon et al, JACR, 2018)

- ABMS - “Starting in July 2021, all ABMS member boards with training programs of two or more years duration will allow for **a minimum of 6 weeks away** once during training for purposes of parental caregiver and medical leave, without exhausting time allowed for vacation or sick leave and **without requiring an extension of training**”

- ABR - “Beginning with the 2021-2022 academic year, residents will be considered eligible for Initial Certification **without an extension of training** with “Time Off” that does not **exceed an average of eight weeks (40 workdays) per academic year** over the duration of the residency” (TheABR.org, accessed 9/6/21)
 - This is maximal time- off
 - Time off includes vacation, bereavement leave, interview days away from institution, parental leave, caregiver leave, medical leave, other leaves as determined by PD
 - Policy does not supercede local policy, which could be more limited

Practices could: follow Fair Labor Standards Act (amended 2010)

- Eligible employers (ie 50 or more employees) must provide break time for nursing mothers to express milk in a private space (not bathroom) for 1 year after giving birth
 - Requires allotted time and space
 - 2017 ACR survey - only 13% practices meet requirements
 - ACGME common program requirements:
 - 1,D,2,c (The program, in partnership with its Sponsoring Institution, must ensure healthy and safe learning and working environments that promote resident well-being and provide for) clean and private facilities for lactation that have refrigeration capabilities, with proximity appropriate for safe patient care;

Practices could: address burnout and promote wellbeing

- Women physicians have 1.6 x odds of reporting burnout cf men and this increases 12-15% for each 5 hours worked over 40 hours/week (McMurray et al, J Gen Intern Med, 2000)
- ACGME has included physician wellbeing in Common Program Requirements for residents and is part of the Clinical Learning Environment Review (CLER).
 - Practices should address as well

- Must not tolerate harassment, bullying, discrimination
 - In recent survey, more women radiologists (24.4%) than men(4.4%) report being a victim of sexual harassment and less than 30% report the incident. (Camargo, Liu, Yousem, “Sexual harassment in radiology, ”JACR 2017)

Practices could: offer more flexible work positions

- Need to cover clinical demands but flexibility could increase coverage and take advantage of individual preferences
 - Alternative hours from traditional
 - Longer work days, fewer days a week (nurse paradigm)
 - Part-time positions/job-sharing -
 - Presently, often a stigma (“if you were really committed you would be working full-time”)
- Creativity needed but likely worth the time and effort
- Leadership must believe these changes are opportunities to promote sense of well-being and inclusion rather than a hassle!

Practices could: mentor new associates

- Men and women both need mentorship not only early in career but throughout
- Men can mentor women and vice-versa but commonality and appreciation of life circumstances helps ensure success
 - Structured program would help avoid need for mentee to reach out

Practice leaders/chairs could: ensure equity

- ALL policies need to be equal, fair and transparent (includes salary structure, bonuses, promotion criteria)
 - Objective criteria available to all
- Must begin with the Chair, leadership of group

Anecdote, 1980's

- Response to letter to editor (who was also Chair of a major academic department) by male physician whose wife was a speaker at a meeting, suggesting the editor had a bias by suggesting that all speakers at a Radiology meeting were men

“We accept women, notwithstanding the fact that they are forever pregnant, cry a lot , and are generally inferior to the male resident in amount of work, accuracy and use of appropriate expletives. Besides, they make me fine coffee and treat their bosses with appropriate deference, just as I insist my wife and my daughter treat me..”

Seminars in Roentgenology, April 1985

- In private letter to me stated this was “of course” sarcasm.

Is there gender balance in leadership positions? ...1983

- Women underrepresented on Editorial boards of 17 radiology journals
 - Only 6/17 had any women
 - Overall 1.7% positions held by women (9/529)
 - Women editors in chief - 0
- Women underrepresented as officers, committee chairs and committee members of 5 major radiology societies
 - Average: 3% committees had women members
 - No women Presidents
- Often one woman held several positions
 - ASTRO, one women filled 6/18 positions held by women

...2018

- 696 leadership positions (chief executive, board of directors, committee chairs and vice-chairs) in 18 North American radiology societies
 - Society membership: 67% male, 33% female
 - Leadership: 72% male, 28% female
 - 26% male society members held leadership positions; 21% females did

R Hamidizadeh et al, AJR, 2018

What about leadership in academic radiology? 2016

- Review of websites of 51 major academic departments
 - Females - 34% of radiologists
 - 25% vice chairs and section chiefs and 9% department chairs were female
 - Only in PDs did gender distribution (63% M vs. 37%F) resemble gender distribution of faculty

Grimm et al, AJR, 2016

Anecdote, the 90's

- Chair of a Department of Radiology in casual conversation to me...
- “Dr X (a woman) is certainly the person who is the most capable of being the division director, but she is part time and thus can't possibly have enough time to do the job”
- Addendum: She became division director and was known as a wonderful leader and clinician. The male who thought he was most qualified sued Chair for gender discrimination!

Is there a gender difference at rank of professor? 2017

- Answer: Not really
- Database from Doximity (2014) of 5089 academic radiologists (78% men) who had graduated in 1990 or 2000
 - 16.5% of women were full professors cf 26.1% men
 - Women had fewer total, first, last author publications
 - Women less likely to have NIH funding
 - Women generated less Medicare revenue

- “Male and female radiologists are equally likely to hold rank of full professor once factors reflecting clinical and research productivity are taken into account (ie all things being equal) ...Radiology remains one of the few specialties in which the likelihood of being a full professor is equal between men and women of similar experience and research productivity. ”

N Kapoor, D Blumenthal, S Smith, I Ip, R Khorasani, “Gender differences in Academic Rank of Radiologists in U.S. Medical Schools”, Radiology, 2017

Is there a gender difference at rank of professor? 2017

- Answer: YES
- Prior conclusion not warranted because “all things are not equal”
 - Unadjusted comparison of rates of promotion shows that women are significantly less likely to be full (16.5% cf 26%) or associate professors (18% vs. 21%) than male colleagues
- Why are women less likely to achieve academic standard required for promotion?
 - Lack equal opportunities as men (eg, less likely to be asked to speak, be involved in others projects, be on committees)

- Women have more limited free time
 - Women still have disproportionate share of child rearing and household responsibilities
- Strategies to help women(and men) thrive
 - More flexible work hours
 - Teaching strategies for time management skills
 - Sharing ideas of managing dual career households
 - Provide child care at universities
 - Dedicated mentoring
 - Leadership recognize possible unconscious biases

C Glastonbury, S Wall, RL Arenson, “Gender issues persist in academic radiology promotions”, Radiology 2017

Are women not promoted because they publish less?

- Survey of first and last authors in publications in 9 American radiology journals 2002-2017 (one issue a year in each) and compared with gender composition of academic rank
 - Over this period, women represented 24% to 29% faculty (27% mean)
 - Mean percentage of full professor 17%, assoc professor 24%
 - First authorship of women grew from 27% to 37%; sr. authorship grew from 16% to 24%
 - “Although women have proportionately increased their contributions to radiology literature over time period, they are still underrepresented as senior radiology faculty and remain disproportionately as junior faculty”

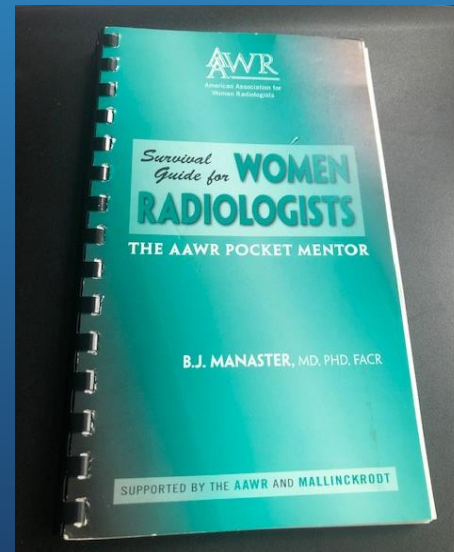
Anecdote - 2000's

- “ In all honesty, I didn't encounter much bias until I was deep within medicine, during medical school on clinical rounds. That is when the comments started. “How are you going to have children and a career?” “You're too pretty and will never be taken seriously.” “Hey, cupcake, where's the doctor?” Others aren't fit for print. It was only then that I began to see I was “different” and definitely underrepresented .”

Programs of interest

- ACR Commission for Women and Diversity
 - Chair, Johnson Lightfoot
 - Includes Committee for Women and Committee for Diversity and Inclusion
- MRS Commission on Women and Diversity
 - Goals - establish database, mentoring interested young girls, women and minorities, improve opportunities for women and minorities in radiology, increase awareness of value of diversity

- AAWR (American Association for Women Radiologists)
 - Founded in 1981..American Association OF Women Radiologists
 - Rather than protest barriers decided to seek solutions
 - AAWR.org



Take away points

- Despite the increase in female medical students, the percentage of female residents in diagnostic radiology has remained nearly constant for more than 40 years!
- It remains more difficult for women than men to have leadership positions in academic radiology departments and radiology organizations.
- Because “all things are not equal”, promotion of women in academic radiology departments has been slower than their male counterparts

- Women in radiology today are unlikely to encounter the macro-inequities of the past..
 - But, everyday slights and biases persist
- And...with the recognition that there are problems, comes a responsibility that all of us, beginning with practice leaders and department chairs, can bring about change.

Please... Remember the ladies...

- “I long to hear that you have declared an independency. And, by the way, in the new code of laws which I suppose it will be necessary for you to make, I desire you would **remember the ladies** and be more generous and favorable to them than your ancestors. Do not put such unlimited power into the hands of the husbands. **Remember, all men would be tyrants if they could..”**

Abigail Adams in letter to husband John, March 31, 1776

Michigan Radiological Society

Be it Known by These Presents that

Ray H. Hydareny

Having met the professional requirements and complied with
the stipulations of the constitution of this society was made an
active member in the year nineteen hundred and eighty one

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