

# Social Media and Radiology Education: Survey Results of an Academic Radiology Practice ePoster 17-078

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# Financial Disclosures

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- None

# Introduction

- Social Media (SoMe) is ubiquitous & far-reaching
  - Utilization has grown dramatically over past decade
    - 65% of American adults use SoMe, up from 7% in 2005<sup>1</sup>
    - Growth may be leveling, but has held steady among adults<sup>2</sup>
- SoMe inroads in Radiology community
  - Increase visibility of radiology departments<sup>3,4</sup>
  - Promote & collaborate on research/academic endeavors<sup>4-7</sup>
  - Engage radiologists within departments<sup>3</sup>
  - Increase readership & grow audience for medical journals<sup>8</sup>
  - Foster relationships between radiologists, referring physicians, and patients<sup>3,4</sup>

# Introduction

- **Relative to other medical specialties, use of SoMe explicitly for medical education may be lacking among radiologists**
  - Paucity of publications in radiology literature
  - Studies published in Family, Emergency, and Internal Medicine literature show high utilization of SoMe among trainees (70-90%), including use of Free Open Access Medical Education (FOAMed)<sup>9-13</sup>
- Radiology education lends itself well to SoMe platforms
  - Image rich content
  - Technology-savvy practitioners
  - Tightly connected subspecialty-oriented culture
- What can we do to harness SoMe for Radiology Education?

# Purpose

- As initial step in developing a comprehensive SoMe-based radiology education curriculum, we investigated current SoMe utilization trends of radiology trainees (i.e., residents & fellows) and faculty attendings at our institution
  - Large, university-based academic radiology group with diagnostic radiology (DR) residency & multiple DR and interventional radiology (IR) fellowships programs
- Goals:
  - Report our institution's SoMe utilization trends for radiology education
  - Highlight differences in SoMe utilization between trainees & faculty
  - Highlight generational differences in SoMe utilization between Baby Boomers and Generation X/Millennials

# Methods

- HIPAA-compliant investigation was reviewed by our Institutional Review board and exempted from further review
- Anonymous survey instrument developed, focusing on:
  - **Demographic data** (respondent age & level of training)
  - **Personal SoMe utilization patterns** (respondent interest in electronic case-based curriculum, amount of time willing to review such curriculum daily, current apps or SoMe platforms used, amount of time currently spent on SoMe daily, & prior utilization of SoMe for education purposes)
  - **Personal preferences for delivery of future educational content** (potential features & specific content of interest)

# Methods

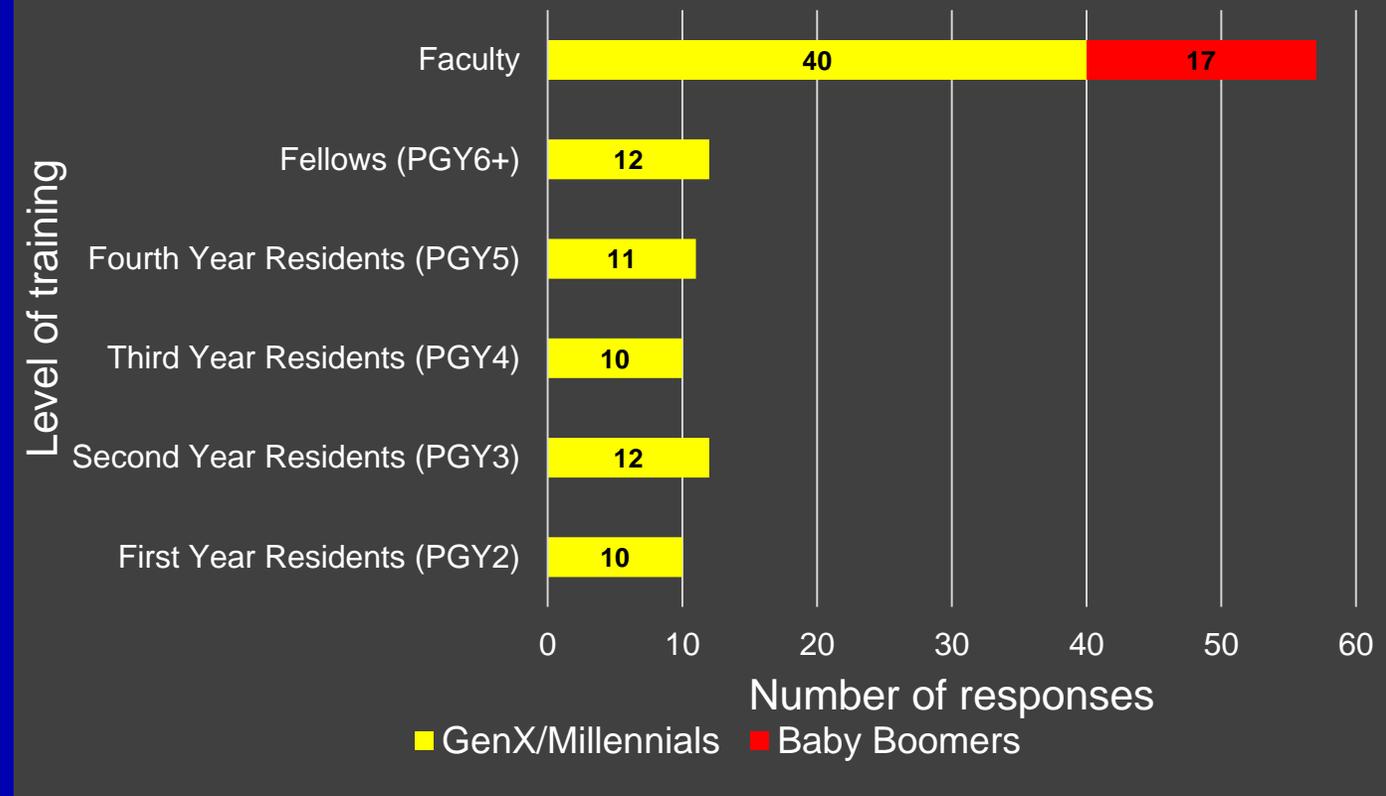
- Data collection
  - Anonymous survey distributed to all (n = 172) radiologists (including trainees & attendings) at our institution via online, cloud-based survey development software (SurveyMonkey, Palo Alto, California)
  - Survey instrument available for 15 days (July 13-27, 2015)
  - No incentives for survey completion
- Statistical analysis
  - Performed through Indiana University Department of Biostatistics with comparison across groups using chi-square, ordered (Mantel-Haenzel) chi-square, and Fisher exact test where appropriate
  - P values < 0.05 were considered statistically significant
  - Due to lack of universally-accepted age ranges for defining generations<sup>14</sup> we defined “Baby Boomers” as persons 50 years of age and older and defined the “Generation X/Millennials” cohort as persons less than 50 years of age for this study

# Results

- **Demographics**

- 65% (n = 112) completion rate
  - 51% faculty (n = 57)
  - 49% trainees (n = 55)
- Disproportionate number of Generation X/Millennials (84%, n = 94) relative to Baby Boomers (15%, n = 17)
  - Due to large number of trainees and relatively young faculty at our institution
  - 1 person did not specify age
- Relatively equal distribution between levels of training
  - Range 9-11%, (n = 10-12)

Figure 1. Survey Response by Level of Training



# Results

- **Personal Social Media Utilization**

- 83% (n = 92) of respondents utilize SoMe

**Table 1. Social Media Platforms Utilized by Respondents**

	Facebook (%)	YouTube (%)	Instagram (%)	¥ Other (%)
Number of Respondents	75 (67.0)	64 (57.1)	29 (25.9)	6 (5.4)
	WhatsApp (%)	Snapchat (%)	Twitter (%)	
	21 (18.8)	13 (11.6)	23 (20.5)	

¥ Other: Flickr, MySpace, Tinder, Grindr, Reddit, & Telegram (each n = 1, 0.9%)

- 91% (n = 50) of trainees use SoMe compared to 75% (n = 43) of faculty
- Majority (81%, n = 91) use SoMe < 30 minutes per day
  - 27% (n = 30) use SoMe 15-30 minutes daily
  - 38% (n = 43) use SoMe < 15 minutes daily
  - 16% (n = 18) do not use SoMe daily
- **35% (n = 39) of radiologists have previously used SoMe for educational activities**
- **66% (n = 73) of radiologists would be willing to join SoMe for educational activities**

# Results

- **Personal Preferences for Educational Content**
  - Respondents strongly endorsed that electronic, case-based radiology education curriculum via SoMe would be valuable for training or education (88%, n = 99)
  - Overwhelmingly (83%, n = 93) in favor of spending 10 minutes or less per day with a SoMe-based educational curriculum
  - Specified unknown case format (78%, n = 87), PowerPoint (Microsoft, Redmond, Washington) slide format (75%, n = 83), and recorded online mini-lecture (41%, n = 46) as most useful features of a potential SoMe curriculum
  - Favored email (68%, n = 75), SoMe (11%, n = 12), proprietary radiology workflow and communication management software (Primordial Flow, Primordial Design, San Mateo, California) (11%, n = 12), and internal server (4%, n = 4) as platforms

# Results

- **Trainees versus Faculty Attendings**
  - Trainees more likely to find electronic case-based curriculum valuable for training or education than attendings (trainees 95%, n = 52 vs. faculty 82%, n = 47; p = 0.046)
  - Faculty willing to spend less time daily with SoMe educational curriculum (p = 0.01)
    - Majority of attendings (60%, n = 34) desire to spend less than 5 minutes per day, compared to the majority of trainees (53%, n = 29) who reported willingness to spend between 5-10 minutes per day engaged in an electronic case-based curriculum
  - In terms of specific SoMe platforms utilized, there was only a statistically significant difference in utilization of Facebook, which trainees were more likely than faculty to utilize (trainees 76%, n = 42 vs. faculty 60%, n = 33; p = 0.038)
  - Higher proportion of faculty were non-SoMe users compared to trainees (faculty 25%, n = 14 vs. trainees 9%, n = 5; p = 0.029)

# Results

- **Generation X/Millennials versus Baby Boomers**
  - **Generation X/Millennials reported a much greater willingness to join SoMe to participate in educational activities than Baby Boomers ( $p = 0.0001$ )**
    - Generation X/Millennials 73% ( $n = 68$ ) vs. Baby Boomers 24% ( $n = 4$ )
  - In terms of specific SoMe platforms utilized, there was only a statistically significant difference in utilization of Facebook, which Baby Boomers were less likely than Generation X/Millennials to utilize ( $p = 0.0003$ )
    - Baby Boomers 29% ( $n = 5$ ) vs. Generation X/Millennials 74% ( $n = 70$ )

# Discussion

- SoMe utilization among radiologists is very high (83%, n = 92), which is considerably higher than 2015 utilization rate among U.S. adults (65%)<sup>1</sup>
  - Represents substantial increase since largest, most comprehensive study of SoMe utilization trends among medical professionals (74%) published in 2011<sup>12</sup>
- While there is a wide presence of radiologists on SoMe platforms, considerably fewer report prior use for education purposes
  - Given high utilization rates of SoMe by radiologists, case-based electronic education has the potential to be widely disseminated on SoMe platforms
- SoMe is a ripe target for use in medical education
  - Easily accessible, little overhead cost, potential for high visibility, ability to cross institutional and medical specialty barriers, and content is created for perpetuity
- Trainees are a ripe target for SoMe-based education tools
  - Higher utilization rate of SoMe and are willing to spend more time engaged in SoMe-based educational curriculum than faculty

# Conclusion

- SoMe is a ubiquitous part of modern life with increasing reach into medicine
- SoMe espouses many attributes that make it an attractive tool for radiology education curriculum, but may be underutilized in current practice
- Differences in perception of its utility for radiology education depending on level of training (faculty versus trainee) and generation (Baby Boomer versus Generation X/Millennial)

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