Social Media and Radiology Education: 
Survey Results of an Academic Radiology Practice  
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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\textsuperscript{1}
    • Growth may be leveling, but has held steady among adults\textsuperscript{2}

• SoMe inroads in Radiology community
  • Increase visibility of radiology departments\textsuperscript{3,4}
  • Promote & collaborate on research/academic endeavors\textsuperscript{4-7}
  • Engage radiologists within departments\textsuperscript{3}
  • Increase readership & grow audience for medical journals\textsuperscript{8}
  • Foster relationships between radiologists, referring physicians, and patients\textsuperscript{3,4}
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)\(^9-13\)

• 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\(^4\) 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)
Results

- **Personal Social Media Utilization**
  - 83% (n = 92) of respondents utilize SoMe
  - 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

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

<table>
<thead>
<tr>
<th>Number of Respondents</th>
<th>Facebook (%)</th>
<th>YouTube (%)</th>
<th>Instagram (%)</th>
<th>¥ Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75 (67.0)</td>
<td>64 (57.1)</td>
<td>29 (25.9)</td>
<td>6 (5.4)</td>
</tr>
<tr>
<td>WhatsApp (%)</td>
<td>21 (18.8)</td>
<td>13 (11.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snapchat (%)</td>
<td></td>
<td></td>
<td>23 (20.5)</td>
<td></td>
</tr>
</tbody>
</table>

¥ Other: Flickr, MySpace, Tinder, Grindr, Reddit, & Telegram (each n = 1, 0.9%)
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%)\(^1\)
  • Represents substantial increase since largest, most comprehensive study of SoMe utilization trends among medical professionals (74%) published in 2011\(^{12}\)

• 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)
References