

Evaluating the effect of the COVID-19 pandemic on the use and impact of social media in the urology residency match: A review of the literature

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Introduction

As social media (SoMe) use has become increasingly integrated into society, it is unsurprising that the use of SoMe in medicine, as well as urology, is on the rise. Notably, there was a ~35,000% increase in Tweets referencing the annual American Urological Association (AUA) conference in 2013 compared to 2011. This was followed by another 250% increase from 2013 to 2015¹. On an individual basis, an email survey in 2017 conducted by the AUA found that 74% of respondents admitted to having a SoMe presence in some capacity². With its continual rise, SoMe provides opportunities for sharing research, education, networking, mentoring, and aiding communication³⁻⁵. In recent years, the opportunities offered by SoMe were vital during the COVID-19 pandemic when a significant portion of medical education shifted to a virtual environment⁶. This transition online led to the creation of new opportunities for medical students such as the development of virtual events hosted by urology organizations and residencies⁵. These new ways to connect online have led to a significant increase in SoMe use among urology applicants and residency programs⁷. The onset of the COVID-19 pandemic led to meaningful and rapid changes in many areas of the residency application process. Residency interviews moved to a virtual format, opportunities for away rotations were limited or only offered virtually, and networking became more difficult with fewer in person events and conferences. Concurrently, publications documented an increased participation in SoMe use among urology residency applicants and residency program directors^{8,9}.

Aims and Objectives

This project comprehensively reviews the literature on recent changes in the frequency, content shared through, and purpose of SoMe use among medical students applying into urology, urology residency programs, and program directors since the start of the COVID-19 pandemic. It further aims to summarize the benefits and drawbacks of these changes, as well as their impact on the urology application and match process.



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Methods

A search of six databases—PubMed, Embase, Cochrane, Scopus, PsycINFO, and Web of Science—was performed on March 19th, 2022. Each database was searched using the following search strategy: Urology AND (Residency OR Resident OR Match OR Applicant OR Application OR Medical Student) AND (Social Media OR Twitter OR LinkedIn OR Facebook OR Instagram). The initial search results were screened for duplicates, leaving 202 individual papers, conference abstracts, and research letters. The articles and abstracts were first screened individually by all four reviewers using the Rayyan platform, a web-based systematic review tool which allows researchers to review, organize, and label sources both independently and as a group. During this initial screening, each reviewer independently determined whether the studies met the inclusion criteria of being relevant to the AUA Residency Match and including information on the use of SoMe in the urology application and match process. Full text articles not published in English, published prior to 2019, or focusing on residency matches outside of the United States were excluded.

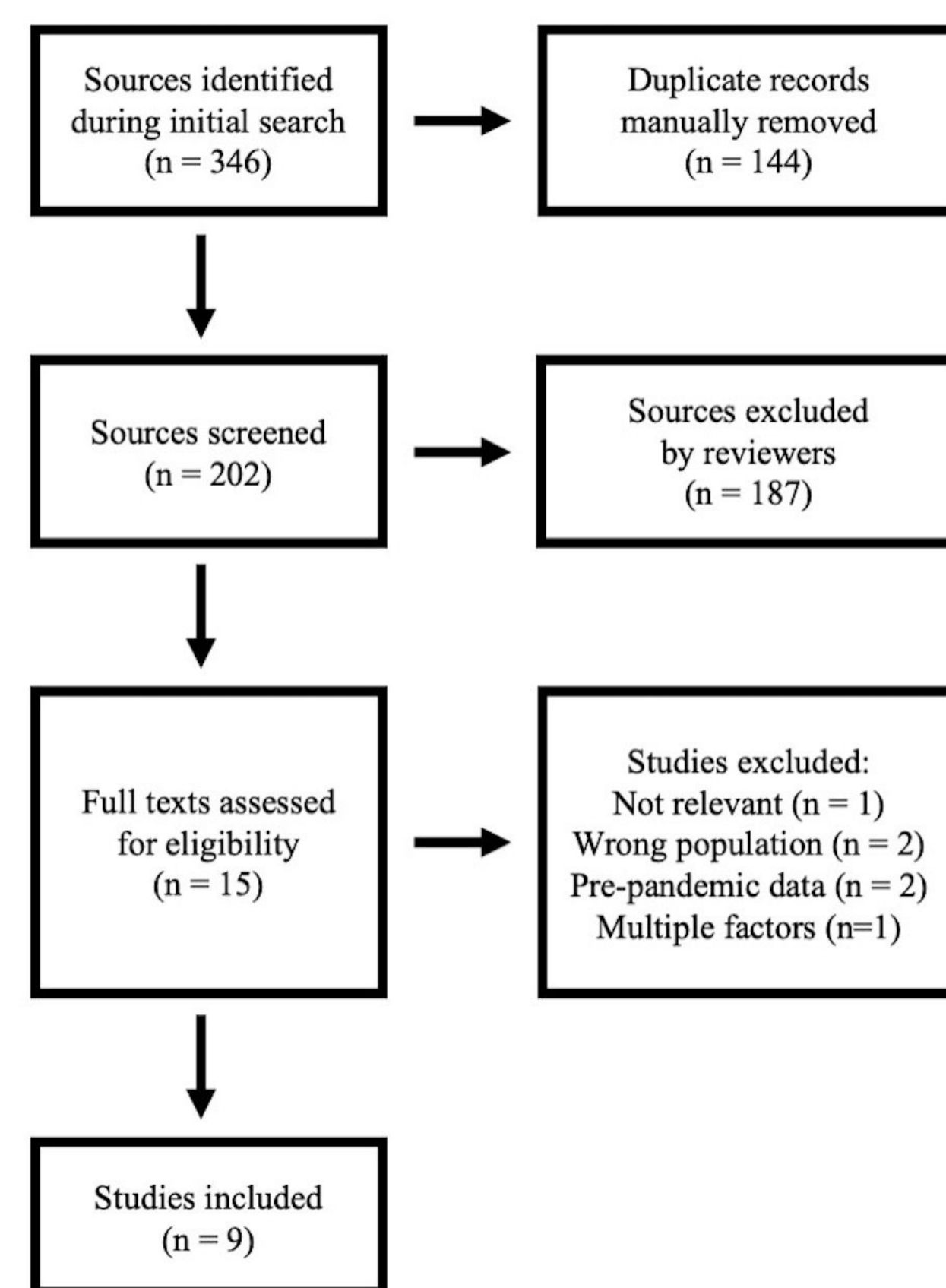


Figure 1. Flowchart depicting the article appraisal process.

In total, 15 entries met the criteria for full text review, and each was independently evaluated by each of the four reviewers. Subsequently, six entries were unanimously determined to not meet the inclusion criteria included in the final analysis. During full text review, reviewers extracted the key findings of each entry, focusing on trends in SoMe use, how SoMe was used, and reported benefits and drawbacks of SoMe use as part of the residency application process.

Results

One survey found a significant increase in the median number of programs participating in SoMe from 26-50% in 2018-2019 to 51-75% in 2021⁷. The use of SoMe for professional purposes among applicants also increased from 44% in 2018-2019 to 80% in 2021⁶. Over 74% of applicants in 2021 reported increasing their SoMe use as a result of application changes due to the ongoing pandemic⁷.

One study found that program directors considered SoMe to be one of the least important factors in selecting applicants for interviews¹⁰. Another study found that only 6% of program directors reviewed an applicant's SoMe before offering an interview¹¹. Furthermore, greater than 80% of program directors reported that SoMe played no role in assessment of applicants^{11,12}. However, even though only a small proportion of program directors acknowledged SoMe was considered in the application process, one survey found that 15% of program directors reported SoMe was beneficial to an applicant's chances of matching and 12% reported that SoMe hurt an applicant's chances¹².

Reference	Summary
Ahmed (2021)	-Less than 5% of program directors considered SoMe a "very important" factor when considering which applicants to interview
Carpinito (2022)	-79% of applicants used Twitter during the residency application cycle, with 49% reporting that they made their account during the application cycle -84% of applicants found Twitter to be a useful source of information during the application cycle
Ernst (2021)	-Described an online mentorship program for students interested in urology during the residency application cycle that utilized Twitter for educational purposes
Friedman (2022)	-The number of applicants with a Twitter account doubled between start of the COVID-19 pandemic and Match Day 2021
Heard (2022)	-5% of program directors reported that social media was a part of their assessment of applicants while 80% reported social media was not involved -61% of program directors reported that social media played a more significant role in the match process due to the COVID-19 pandemic
Ho (2021)	-More applicants found SoMe to be useful for making decisions about applying to (33% vs 10%), interviewing at (26% vs 7%), and ranking programs (20% vs 9%) in 2021 than in 2018/2019 -Twitter was the most common platform for applicants to access program information, increasing from 38% to 71%
Johnston (2019)	-53% of programs had a Twitter account while 28% had a Facebook account
Manning (2021)	-Trigram (three-word combination) analysis for 2020 revealed a shift from a primary focus on oncology ("risk, prostate, cancer" and "cancer, awareness, month") to recruitment and education ("virtual, open, house" and "urology, grand, rounds") in 2020
Siegel (2021)	-35% of applicants believed programs reviewed their social media before extending an interview while only 6% of programs admitted to doing so

Table 1. Table summarizing the main findings of included studies.

Conclusions

The use of SoMe for academic discussion, mentorship, and the distribution of information by residency programs has been accelerated by the COVID-19 pandemic. Medical students are using Twitter and other SoMe sites more frequently, and residency programs are seeing the importance of outreach on these platforms. The authors believe that this trend will continue post-pandemic, and that students from all over the United States will be able to use these sites to pursue academic growth and to connect with the greater urologic community. The pandemic provided an explosion of new strategies for virtual engagement and a testing ground for their implementation. Continuing to analyze these SoMe tools will benefit students, physicians, and residency program staff.

It is also important to consider the impact of SoMe use on students' professional futures. Though program directors do not always consider SoMe posts when making residency match ranks, there is a non-negligible cohort of program directors who feel that students should not post personal content, political opinions, or about other controversial topics on SoMe. In turn, it is important for students to be mindful of how and what they post on SoMe. Continuing to analyze and reevaluate the benefits and drawbacks of these SoMe tools will remain important as virtual interactions become increasingly relevant to the field of urology.

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