



Adoption and Use of Social Media Platforms by Ophthalmology Programs during the COVID-19 Pandemic

Hasenin Al-kharsan, MD¹ Rebecca Tanenbaum, MD² Anne L. Kunkler, MD¹ Nimesh A. Patel, MD^{1,3,4}
Jayanth Sridhar, MD¹

¹ Department of Ophthalmology, Bascom Palmer Eye Institute, Miami, Florida

² Department of Ophthalmology and Visual Sciences, University of Chicago, Chicago, Illinois

³ Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, Massachusetts

⁴ Department of Ophthalmology, Boston Children's Hospital, Boston, Massachusetts

Address for correspondence Jayanth Sridhar, MD, Bascom Palmer Eye Institute, 900 NW 17th St, Miami, FL 33136
(e-mail: jsridhar1@med.miami.edu).

J Acad Ophthalmol 2022;14:e78–e80.

Abstract

Purpose The aim of this study was to determine whether the coronavirus disease 2019 (COVID-19) pandemic influenced the presence of ophthalmology residency programs on social media platforms.

Methods The presence of all accredited ophthalmology residency programs on Twitter and Instagram was assessed for January 2020 and August through March 2021 through an online search. The number of followers and posts per month during these periods was collected for each program. The presence of programs on social media was compared between the two time periods.

Results The percentage of programs on Instagram rose from 18% in January of 2020 to 57% in March of 2021 ($p < 0.001$). On Twitter, the percentage of programs rose from 24 to 37% ($p < 0.001$). From January 2020 to March 2021, the mean number of Instagram followers increased from 265 to 649 ($p < 0.0001$), while the mean number of Twitter followers increased from 421 to 532 ($p < 0.0001$). The top ten ophthalmology residency programs in 2021 according to Doximity all had Instagram pages, while 57 (53%) of remaining programs had pages ($p = 0.005$). Meanwhile, 7 top ten programs (70%) were on Twitter compared with 36 (34%) of the remaining programs ($p = 0.036$).

Conclusions The presence of ophthalmology residency programs on Instagram and Twitter increased significantly after the onset of the COVID-19 pandemic. Social media represents an evolving platform through which programs can connect with prospective residents.

Keywords

- social media
- medical education
- COVID-19

received
October 26, 2021
accepted
January 3, 2022

DOI <https://doi.org/10.1055/s-0042-1743584>.
ISSN 2475-4757.

© 2022. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Thieme Medical Publishers, Inc., 333 Seventh Avenue, 18th Floor, New York, NY 10001, USA

Social media has been increasingly adopted in medicine for medical education, the marketing of practices, and for patient outreach.¹⁻³ Residency programs in ophthalmology and across medicine have also turned to social media to advertise their training programs. The exposure offered by social media platforms may influence training programs' reputations and rankings given that program rankings such as Doximity incorporate "reputation" data in their evaluation of programs.⁴

In earlier manuscripts, we characterized ophthalmologists' social media use practices as well as ophthalmology residency programs' social media presence.^{5,6} However, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic led in-person gatherings such as academic conferences and residency interviews into the virtual space. We aimed to evaluate whether the SARS-CoV-2 pandemic correlated with an increase in the presence of ophthalmology programs on social media platforms.

Methods

A list of accredited ophthalmology residency programs was obtained from Doximity and cross-referenced with the Accreditation Council for Graduate Medical Education. The presence of each ophthalmology department on Twitter and Instagram was assessed for January 2020 and August through March 2021 by online search as previously described.⁶ January 2020 was selected as the initial time point for analysis as it represented the culmination of the ophthalmology residency application cycle immediately prior to the height of the coronavirus disease 2019 (COVID-19) pandemic, which brought stay-at-home orders and shutdowns. January 2021 (and the months surrounding from August 2020 through March 2021) was selected as the subsequent time point for comparison as it represented the next ophthalmology residency cycle in the midst of the COVID-19 pandemic during which in-person residency interviews were cancelled and instead conducted virtually. The number of followers and posts per month during these periods was collected for each program.

McNemar's test was used to compare the presence of ophthalmology residency programs on each social media platform in the specified months in 2020 and 2021. Paired *t*-test was used to compare the mean number of followers and posts. A *p*-value <0.05 was considered statistically significant. Data analysis was performed using StataIC 17 (StataCorp, LLC, College Station, TX).

Results

During January 2020, 22 (18%) of 120 accredited programs were on Instagram and 29 (24%) were on Twitter (→ Fig. 1). Of the 117 accredited programs in March 2021, 67 (57%) were on Instagram and 43 (37%) were on Twitter ($p < 0.001$ comparing January 2020 to March 2021 for both Instagram and Twitter). Additionally, 11 programs created a second resident page separate from their institutional pages on Instagram.

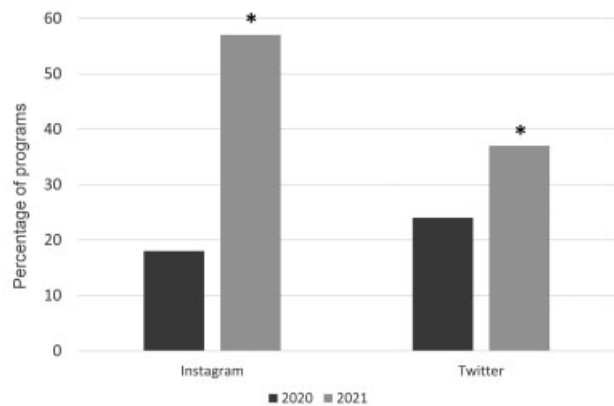


Fig. 1 Percentage of ophthalmology residency programs on Instagram and Twitter in January 2020 compared with March 2021. * indicates $p < 0.001$.

From January 2020 to March 2021, the mean number of Instagram followers increased from 265 to 649 ($p < 0.0001$), while the mean number of Twitter followers increased from 421 to 532 ($p < 0.0001$). The mean number of posts per month on Instagram rose from 0.8 in January 2020 to 1.7 in January 2021 ($p = 0.003$). The mean number of posts on Twitter did not differ in a statistically significant fashion from January 2020 (3.1 posts per month) to January 2021 (2.4 posts per month) ($p = 0.12$). The 11 resident-specific pages on Instagram had a mean 783 followers per page.

The top ten ophthalmology residency programs in 2021 according to Doximity all had Instagram pages, while 57 (53%) of remaining programs had pages ($p < 0.01$) (→ Fig. 2). Meanwhile, 7 top ten programs (70%) were on Twitter compared with 36 (34%) of the remaining programs ($p = 0.036$). Top ten programs had a mean of 2236 followers on Instagram compared with a mean of 931 followers for the remainder of programs ($p = 0.07$). Meanwhile, top ten programs with a Twitter page had a mean of 6584 followers on relative to a mean of 450 followers for remaining programs ($p < 0.0001$).

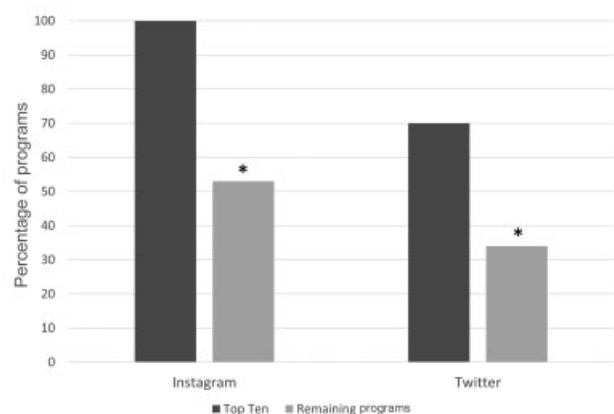


Fig. 2 Percentage of top-ten ranked ophthalmology residency programs on Instagram and Twitter compared with all other programs in March 2021. * indicates $p < 0.05$.

Discussion

Social media platforms have been leveraged by ophthalmology programs for medical education, patient outreach, and as a means of advertising their programs. Our study demonstrates that social media presence among ophthalmology programs increased significantly during the COVID-19 pandemic.

In a prior manuscript, we reported that 18% of accredited programs were on Instagram, while 24% were on Twitter in January of 2020. By March 2021, the presence of programs on Instagram increased by 39% and by 13% for Twitter, both statistically significant increases. We hypothesize that the increase is at least partially attributable to the COVID-19 pandemic. Particularly, the COVID-19 pandemic led ophthalmology programs to host virtual rather than in-person interviews. Social media platforms offered an avenue through which programs could reach out to applicants in the virtual sphere. Ophthalmology programs would likely have increasingly adopted social media with time regardless of the COVID-19 pandemic, but we hypothesize that the pandemic led to an accelerated adoption.

Furthermore, there was a discrepancy in the presence of programs on social media based on their rankings. Top 10 programs according to Doximity had a significantly higher presence on both Twitter and Instagram. Given that Doximity and other program rankings incorporate reputation data, the exposure offered by social media may bolster top programs' rankings.

Interestingly, while programs' presence on Instagram and Twitter increased, mean activity levels were not high, with a mean of roughly two posts on Instagram and Twitter in 2021. With respect to Instagram, many users use the "story" feature with posts that vanish after 24 hours, so our estimates of activity likely underestimated true activity.

The increasing use of social media in medicine raises important considerations with respect to professionalism and patient privacy protections. With the increasing use of social media both by programs and trainees, professionalism guidelines for the use of social media should be emphasized. The American Academy of Ophthalmology has published

guidelines regarding professional use of social media by providers.⁷ Programs should consider formally addressing these guidelines into their curricula.

Ultimately, the present study demonstrates that ophthalmology residency programs increasingly adopted social media after the onset of the COVID-19 pandemic. As institutional and personal social media use becomes more prevalent in ophthalmology, emphasis should be placed on patient privacy protections and professionalism.

Note

The present work was supported by funding from the National Eye Institute Center Core Grant (P30EY014801) and the Heed Ophthalmic Foundation. The funding organization had no role in the design or conduct of the study.

Conflict of Interest

None.

References

- 1 Sanguansak T, Morley KE, Morley MG, Thinkhamrop K, Thuanman J, Agarwal I. Two-way social media messaging in postoperative cataract surgical patients: prospective interventional study. *J Med Internet Res* 2017;19(12):e413–e413
- 2 Bae SS, Baxter S. YouTube videos in the English language as a patient education resource for cataract surgery. *Int Ophthalmol* 2018;38(05):1941–1945
- 3 Ko LN, Rana J, Burgin S. Incorporating social media into dermatologic education. *Dermatol Online J* 2017;23(10):23
- 4 Doximity. Residency Navigator Methodology <https://res.cloudinary.com/dcnbtqcvb/image/upload/v1/pdfs/residency-navigator-survey-methodology.pdf>. Published 2021. Accessed April 1, 2021
- 5 Al-Khersan H, Lazzarini TA, Fan KC, et al. Social media in ophthalmology: an analysis of use in the professional sphere. *Health Informatics J* 2020;26(04):2967–2975
- 6 Al-khersan H, Tanenbaum R, Lazzarini TA, Patel NA, Sridhar J. A characterization of ophthalmology residency program social media presence and activity. *J Acad Ophthalmol* 2020;12:e110–e114
- 7 Advisory Opinion - Social Media and Professionalism. <https://www.aao.org/ethics-detail/advisory-opinion-social-media-professionalism>. Published 2018. Accessed April 1, 2021