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ORIGINAL RESEARCH

Getting the First Thousand—Optimizing Instagram Residency Content to Increase Followers During the COVID-19 Pandemic

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INTRODUCTION

Social media remains a growing platform for physicians to facilitate learning, network, and disseminate information.^{1,2} In anesthesiology, engagement on social media platforms continues to grow and will likely expand in the future.³ Although Twitter appears currently more popular, engagement in younger generations via Instagram may be more impactful in the future as Instagram use is significantly higher than Twitter for the age group 18-34.⁴ Instagram differs from other social media platforms because it is more multimedia-centric than Twitter. Posts and Stories revolve around photos and video content. This multimedia focus incentivizes users to explore creative ways to capture visual information for dissemination to attract followers and likes.²

The Mayo Clinic Anesthesiology Residency program in Rochester, Minnesota, launched an Instagram account in 2017 with the initiative to disseminate information about anesthesiology and resident experiences. However, the account was sparsely used with only 24 posts between its inception in mid-2017 and May 2019. This changed in the advent of the Coronavirus Disease 2019 (COVID-19) pandemic.

The COVID-19 pandemic dramatically challenged traditional medical education, medical student recruitment, and outreach.⁵ With a limited ability to house visiting

students and attend live national meetings, and in anticipation for virtual residency recruitment plans, our program sought to explore sources of untapped potential to reach medical students. We present social media experience and strategies from June to October 2020. We aim to describe the least and most successful posts and strategies that earned our first 1000 followers. We provide a methodological guide for residency programs and educational agencies to gain new followers and consumers of educational products.

METHODS

In April 2017, a free public business account was created in Instagram with a name that represented the Mayo Clinic Department of Anesthesiology and Perioperative Medicine Residency Program in Rochester, @mayoanesthesia. In June 2020, a new program initiative that aimed to use Instagram on a more frequent and intentional basis began. Before this time, there were 24 total posts on the account with 458 followers. By October 5, 2020, the account had 1000 followers, a milestone we defined to mark more or less engaging anesthesiology residency accounts. We studied the number of followers, likes, comments, shares, bookmarks, and total interactions over this period in accordance with posts to identify the most successful posts. This study was deemed exempt from institutional review board review by the Mayo Clinic Institutional Review Board.

Three different strategies were implemented at different times during the pandemic:

1. Mirroring Twitter posts: Between June 1 and August 3, 2020, the account served as a repository for content posted on Twitter that was intended for a different target audience. We utilized Sprinklr, a social media management platform, to post the same content to Twitter and Instagram simultaneously. Posts were categorized by theme into graduation-related posts, departmental award posts, education-related posts, “Meet the Program Director” posts, and “Meet the Residents” posts (Table 1).
2. Promoting increased multimedia: On August 4, 2020, we started a new initiative to separate the Twitter and Instagram posting strategies. New strategy focused on posts featuring images and social interaction and less on announcements and posts containing blocks of text. We defined “blocks of text” posts as posts that contained graphic design elements of typed words (Figure 1). Posts were categorized by theme: life outside the hospital posts, away rotation posts, nature/outdoor/visual posts, program announcement posts, education-related posts, and research-related posts.
3. Leveraging Instagram Stories: On September 24, 2020, Instagram Stories was used to disseminate information that may benefit those applying to residency

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in the Electronic Residency Application System 2020-2021 residency application cycle with informational interview-style videos depicting residents interviewing other residents about their experience in the residency application process as well as experience in the residency program.

Content was created by residents in the program, using photos relevant to an anesthesiology residency experience while supplementing with photos showing social gatherings in the pre-COVID era. Topics range from residents' daily clinical life, educational activities including lectures and simulation sessions, away rotation experiences, research symposium experiences, and life outside the hospital in our community.

The outcomes of interest included number of followers and engagement on posts (total interactions including likes, comments, shares, and bookmarks, see Figure 1). The interactions of every post during the study period of June 1 to October 5, 2020, were recorded on October 26, 2020. Number of followers was used as a gauge for overall success, comparing this account with other popular anesthesia- and education-related Instagram accounts. Interactions from Instagram Stories are stored only temporarily by Instagram, so these interactions were not included.

Continuous data were compared using the Student *t* test. *P* values were reported with a significance level of $<.05$.

RESULTS

The @mayoanesthesia account took 127 days after June 1, 2020, to achieve 1000 followers, an average of 4.26 new followers each day. Before June 1, there were 24 total posts over 3.3 years with a total of 458 followers.

During the first period of strategic expansion, 66 posts were made that mirrored Twitter posts (ie, Twitter echoing), which resulted in 80 new followers. During this period, the mean number of interactions (including likes, comments, shares, and bookmarks) per post was 14.5 (Table 1). During the

second phase after separating the Twitter and Instagram strategy with a multimedia focus in the latter, there have been 17 posts and 462 new followers up to October 5, 2020. The mean number of interactions per post increased to 57.8. In addition, 5 new Instagram Stories were posted between September 24 and October 5, 2020; one of which was a resident-to-resident interview that spanned multiple clips. No Instagram Stories were posted before September 2020. This resident-to-resident interview was then "highlighted," allowing it to stay on the profile in perpetuity, passing the 24-hour expiration that normally accompanies the publishing of an Instagram Story.

The number of followers and interactions corresponded to the type of content produced (Figure 2). The most total interactions for an Instagram post was 93. That post depicted multiple residents in the simulation center learning cardiopulmonary bypass acting as a perfusionist (Figure 3). Posts that contained a hashtag in the description demonstrated a statistically significant increase in engagement from posts that did not contain a hashtag (mean value of 45.67 vs 16.95, $P < .0001$). Multiple different hashtags were used in different posts, the most common ones being #anesthesia and #residency. Likewise, posts that contained a block of text in the photo also demonstrated a statistically significant decrease in engagement from posts that did not contain text in the photo (mean value of 15.42 vs 51.28, $P < .0001$).

DISCUSSION

In this descriptive retrospective study of our program's Instagram experience, we outline successes of and areas for growth for academic Instagram posts during the COVID-19 pandemic. Posts that garnered the most attention showed residents actively involved in educational activities or showcasing the residents' lifestyles and interests outside of medicine. Posts without any block of text in the photo and posts that contained a hashtag in the description were more successful. By leveraging simple strategies, we were able to gain nearly 500 followers over a 4-month span.

Millennials interested in medicine, including fourth-year medical students applying to anesthesiology, are well

represented on social media, which provides a commitment-free strategy for applicants to learn more about a program.⁶ We agree with others that programs should consider leveraging social media accounts as recruitment or public outreach tools.⁷ In addition, Renew et al⁸ reported anesthesiology residency interviewees thought that interpersonal relationships was the most important feature of a residency social media account, followed by communication in the department, research efforts, social events, and education initiatives. Our study confirmed these results as engagement soared after a deliberate change in strategy to focus on showcasing resident life in education and the community (Figure 2). Top-performing posts measured by total interactions have portrayed residents involved in education, simulation, hospital duties, and research presentation trips.

Over the past decade, image-based social media platforms such as Instagram have become increasingly popular.⁹ Unlike Twitter or Facebook, Instagram operates mainly through image sharing and the use of hashtags.⁹ In our study, image-based posts with no block of text had higher engagement from posts that did have a block of text in the photo. This finding correlates with prior studies that highlight the importance of image-based content and greater engagement in social media platforms.¹⁰ We hypothesized that prospective residents may be using Instagram to get a visual "feel" for a program, an attempt to replace the experience of physically walking around an institution to see if one could imagine oneself actually training there: a "goodness-of-fit" test.

The hashtag feature of Instagram allows social media accounts to target a particular audience with similar interests.¹¹ This allows the creation of social media networks that enables content of interest to be searched for easily.¹¹ The use of a hashtag in our social media posts led to a significant increase in engagement when compared with those that did not have one. Hashtags incorporated into posts were short, common, general search terms like #anesthesia, #anesthesiology, and #residency. This highlights the potential value of this tool while using Instagram

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as a recruitment strategy by residency programs.

Although social media use can improve the transparency of a program, there remain concerns surrounding the engagement of residents and faculty as representatives of their institution on social media. A joint statement on social media use by physicians put forth by the American College of Physicians and the Federation of State Medical Boards provided recommendations including protecting the physician doctor relationship by upholding the highest moral standards, maintaining patient confidentiality, having separate personal and professional personas for online posts, and assuming everything posted online is in perpetuity, therefore “pause before posting.”¹²

Limitations of this study include an inability to distinguish followers’ backgrounds (ie, medical student vs resident vs nonmedical). Therefore, the total interactions may not accurately reflect the target audience. Furthermore, institutional reputation may have a greater influence on followers and engagements regardless of the quality of social media activity. In addition, data gathering in Sprinklr and Instagram provides little flexibility for guided data extraction to answer a specific question, as the programs are set up to collect and present data the same way for all account types. A single user can “like” multiple photos, so it is possible that examining post success merely on interactions is faulty, as it may not portray the true number of unique accounts that were reached over a period of time. To this point, the Instagram Insight data called “Reach” is better to determine how many unique accounts are reached by a single post. We did not have access to Reach data at the time of analysis

for all posts due to Instagram’s temporary storage of these data. Another limitation arises from the inability to determine if a user engaging with the content is already affiliated with the institution and therefore does not represent “reach” to a new unique user. A possible confounding factor is that our implementation of new strategies likely paralleled the timing of prospective residents researching and applying to residency programs, so it is possible an increase of traffic could have been related to the residency application timeline. Last, due to the temporary nature of Instagram Stories, few to no data are saved on the Instagram report for account insights. Therefore, we could not elaborate on the inclusion of Instagram Stories on our recruitment efforts. Future efforts should focus on the surveillance of prospective residents and matriculated residents to ascertain which mediums positively and negatively affected their search for a residency program, including social media and Instagram specifically. Moreover, further studies are needed to elucidate what type of social media content attracts medical students and medical professionals in anesthesiology.

CONCLUSIONS

In summary, residency programs can strategically leverage Instagram as part of their strategy for resident recruitment during the COVID-19 pandemic and beyond. Programs should develop an Instagram-specific strategy and create posts that use hashtags and minimize the use of text in the photo. Finally, as with all social media, programs should post content cautiously with the highest degree of professionalism.

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Abstract

Background: Social media remains a growing platform for physicians to facilitate learning, network, and disseminate information. The Coronavirus Disease 2019 (COVID-19) pandemic has challenged traditional medical student recruitment and outreach. Instagram is a platform that can be used by residency programs to increase engagement and as a potential recruitment tool. The authors present social

media failed and successful strategies used to increase engagement and gain new followers.

Methods: In June 2020, an initiative began to use Instagram on a more frequent and intentional basis. Three different strategies were implemented during the pandemic: mirroring Twitter posts, increasing multimedia, and leveraging Instagram Stories. The outcomes of interest included number of followers and engagement on posts. Data were collected October 2020.

Results: After June 1, 2020, the @mayoanesthesia account gained 1000 followers through 127 days, an average of 4.26 new followers each day. Before June 1, there were 24 total posts over 3.3 years with a total of 458 followers. Three different strategies were implemented at different times during the pandemic. During the mirroring Twitter posts period, the mean number of interactions per post was 14.5. During the second phase after separating the Twitter and Instagram strategy, the mean number of interactions per post increased to 57.8.

Conclusion: Residency programs can creatively, yet methodically, use Instagram posts to increase social media engagement during resident recruitment season during the COVID-19 pandemic and likely beyond.

Keywords: Residency recruitment, social media

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Figures

Figure 1. A labeled example screenshot from the @mayoanesthesia Instagram account during the Twitter mirroring period depicting on-screen icons representing likes, comments, shares, and bookmarks, as well as an example of a block of text within a photo.

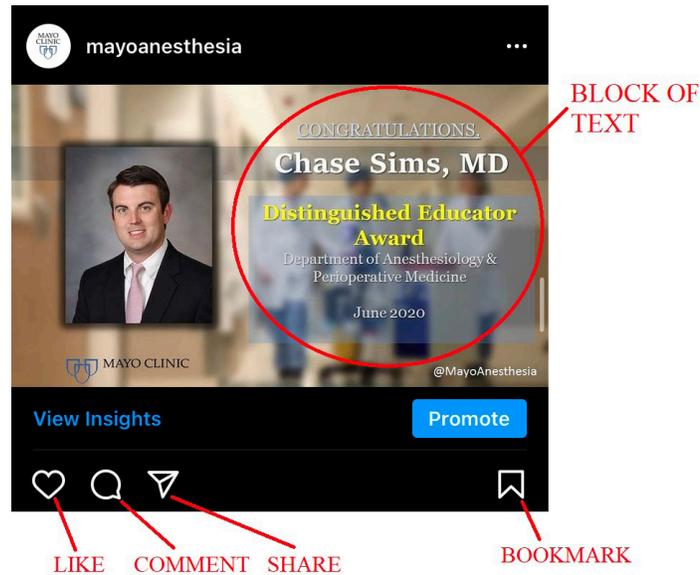
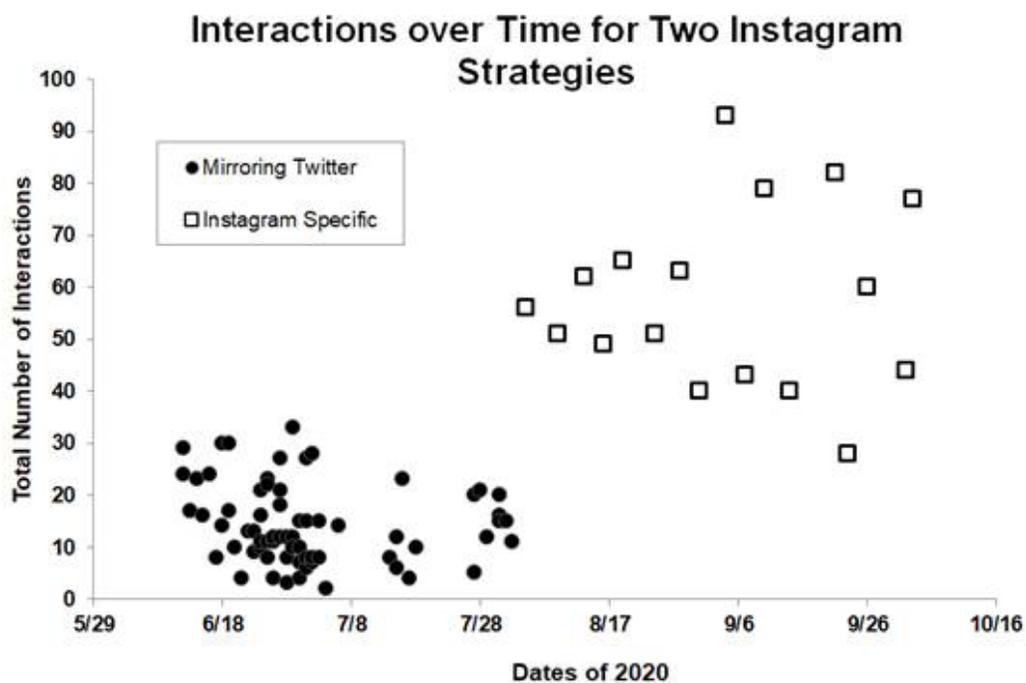


Figure 2. Scatter plot of interactions over time for 2 different strategies: Mirroring Twitter posts and promoting increased multimedia.



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Figures continued

Figure 3. A screenshot from the @mayoanesthesia Instagram account depicting a group of residents learning about the perfusionist's role in cardiopulmonary bypass in the simulation center.



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Table

Table 1. Interactions for Every Instagram Post Were Recorded and Tabulated During the Study Period of June 1, 2020, to October 5, 2020: Posts Were Organized by Strategy (Twitter Instagram Posts vs Visual Posts) and by Theme (eg, Graduation, Away Rotations)

Posts	Total No. Posts	Comments	Shares	Bookmarks	Likes	Total Interactions	Interactions per Post
Twitter / Instagram							
Graduation	16	1	0	2	207	210	13.1
Awards	25	5	0	5	326	336	13.4
Research	2	1	0	3	28	32	16
Education	15	5	0	5	251	261	17.4
“Meet the Program Director”	2	0	0	0	24	24	12
“Meet the Residents”	6	1	0	3	91	95	15.8
Total	66	13	0	18	927	958	14.5
Visual							
Outside the hospital	2	0	1	0	91	92	46
Away rotations	1	1	1	0	38	40	40
Nature/Outdoor/Visual	3	6	2	2	160	170	56.6
Announcement	4	1	2	14	155	172	43
Education	6	6	12	14	400	432	72
Research	1	0	1	0	76	77	77
Total	17	14	19	30	920	983	57.8