



Family Medicine Residency Virtual Adaptations for Applicants During COVID-19

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BACKGROUND AND OBJECTIVES: The COVID-19 pandemic resulted in significant changes to the US residency application process for medical school graduates. Due to the lack of in-person activities, family medicine programs have utilized various social media platforms to connect with their applicants. In this paper, we describe how family medicine residency programs have adapted for the 2021 application cycle by using social media platforms.

METHODS: We evaluated all family residency programs listed on the Electronic Residency Application Service (ERAS) for the presence of departmental and residency Twitter, Instagram, and Facebook accounts. We reviewed programs' websites and social media posts for posts regarding virtual opportunities for prospective applicants. We noted family medicine virtual subinternship opportunities on the Visiting Student Application Service (VSAS). We collected data from October 17, 2020 through November 2, 2020.

RESULTS: Of 675 identified family medicine residency programs, 372 (55%) had some form of social media presence. Open house opportunities were offered by 46 (6.8%) programs on Twitter, 60 (8.9%) programs on Instagram, and 64 (9.5%) programs on Facebook. One hundred ninety-five of 578 residency-specific accounts were created after March 1, 2020; Instagram accounts (103 of 195) represented most of these; five virtual subinternships were identified on VSAS.

CONCLUSIONS: Family medicine residency programs have adapted to the challenges that came with the COVID-19 pandemic by increasing social media outreach, particularly through Instagram. This has allowed residency programs to virtually communicate with prospective applicants during an unprecedented application cycle.

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Due to the effects of the COVID-19 pandemic, the US residency application process for medical school graduates has significantly changed.¹ Traditionally, many medical students participate in visiting rotations during clinical years of medical school to improve

their chances of matching into a desired residency program.² Previous research shows that the prevalence of away rotations for fourth-year medical students is estimated to be 58.7%, and performance on these rotations is often cited by residency program directors as a significant

factor is evaluating prospective residents.³ Visiting rotations also serve the purpose of increasing a participant's interest of the specialty and chances of pursuing residency in the field.⁴ However, the pandemic has resulted in the Association of American Medical Colleges (AAMC) recommending that programs limit visiting rotations and in-person interviews.⁵ These changes may significantly reduce opportunities that students and residency programs have to evaluate one another.² As a result of the suspension of in-person activities, many programs have supplemented with virtual options. In this study, we describe how family medicine residency programs have adapted to the 2021 application cycle by using social media platforms. We evaluate the prevalence of the use of Twitter, Facebook, and Instagram social media platforms by programs as an alternative medium for interacting with prospective applicants.

Methods

We obtained an official list of accredited family medicine residency programs from the Electronic Residency

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Application Service (ERAS). We identified a total of 675 residency programs, and we reviewed all programs for the presence of department and/or residency program Facebook, Instagram, and Twitter accounts. To account for the use of acronyms, social media accounts were identified using Google search engine. We noted the date when the social media accounts were created. We found Twitter account development date on the account page. For Facebook and Instagram, we used the date of the first post. We reviewed social media accounts and residency program websites for posts regarding open house opportunities, virtual subinternships, and other virtual resources available for prospective applicants. We reviewed the Visiting Student Application Service (VSAS) for all family medicine virtual subinternship opportunities. We collected all data between October 17, 2020 and November 2, 2020.

Results

Of the 675 accredited family medicine residency training programs, 372 (55.1%) had some form of social media presence. Social media usage of the family medicine residency programs is displayed in Table 1. In terms of social media presence, 165 (31%) programs were on Twitter, 187 (28%) programs were on Instagram, and 305 (45%) programs were on Facebook. In total, we identified 722 social media accounts. Of these social media accounts, 144 (19.9%) are departmental accounts and 578 (80.1%) are residency program accounts. Of the departmental accounts across all platforms, 20 (13.9%) were created after March 1, 2020. In contrast, 195 (33.7%) of the residency programs across all platforms were created after March 1, 2020. The dates of development of social media accounts are illustrated in Figure 1. Figure 2 identifies the number of social media specific accounts created before and after 2020.

All Twitter accounts were created between 2008-2020. Of these accounts, 45 (24.2%) were developed

after March 1, 2020. Twitter contained 47 departmental accounts and 139 residency program accounts. Of all the training programs on Twitter, 21 (12.4%) programs were shown to contain both a departmental and residency Twitter accounts. Open house opportunities were offered by 46 (6.8%) programs on Twitter.

All Instagram accounts were created between 2012 and 2020. Of these accounts, 105 (53.6%) were developed after March 1, 2020. Instagram contained 19 departmental accounts and 177 residency program accounts. Of all the training programs on Instagram, nine (4.6%) programs were shown to contain both a departmental and residency Instagram accounts. Open house opportunities were offered by 60 (8.9%) programs on Instagram.

All Facebook accounts were created between 2008 and 2020. Of these accounts, 65 (19.1%) were developed after March 1, 2020. Facebook contained 78 departmental accounts and 262 residency program accounts. Of all the training programs on Facebook, 35 (10.3%) programs were shown to contain both a departmental and residency Facebook accounts. Open house opportunities were offered by 64 (9.5%) programs on Facebook.

A total of 170 open houses were offered by programs. Subinternships were offered by two (0.3%) programs on Twitter, two (0.3%) programs on Instagram, and three (0.4%) programs on Facebook. Virtual opportunities were updated on 13 (2%) residency specific websites. Traditionally, VSAS offered 189 in-person subinternships. Currently, VSAS identified five virtual subinternships.

Discussion

In an attempt to reduce viral spread of COVID-19, the Association of American Medical Colleges (AAMC) has recommended programs limit visiting rotations and in-person interviews,⁵ resulting in suspension of in-person activities. Students in prior application cycles relied on visiting rotations for insight into the

program and networking opportunities. Loss of these opportunities is a unique situation that requires residency programs to adapt. Our findings demonstrate that family medicine residency training programs responded to the novel COVID-19 pandemic by increasing their social media presence. Accounts created on Twitter, Instagram, and Facebook after March 1, 2020 represented 30% of all program social media accounts. Of the social media accounts created after March 1, 2020, 91% were residency program accounts. This shows that compared to family medicine departments, residency programs are increasing their social media presence more during the pandemic. Most (49%) social media accounts created after March 1, 2020 utilize Instagram. This suggests that many residency programs are primarily using Instagram to communicate with their applicants during the pandemic. Similar results were observed by DeAtkine et al in a 2020 analysis of social media use among otolaryngology residency programs, suggesting a universal shift towards virtual engagement for the 2020-2021 application cycle.⁶

Family medicine residency programs have consistently relied on social media efforts to recruit applicants, in fact 70% of the social media accounts were created before March 1, 2020. During this time, most (54%) social media accounts utilized Facebook. Before the pandemic, a majority of the accounts created on each platform were residency program accounts. This reinforces the notion that, even before the pandemic, residency programs had more social media presence than family medicine departments. The use of social media to communicate with applicants isn't a new concept in family medicine, however the pandemic did accelerate programs' use of social media. Family medicine residency training programs may have used existing program websites to advertise their newer social media accounts. This specific avenue of marketing will likely further the

Table 1: Number and Percentages of Twitter, Instagram, and Facebook Accounts for Family Medicine Departments and/or Residency Programs

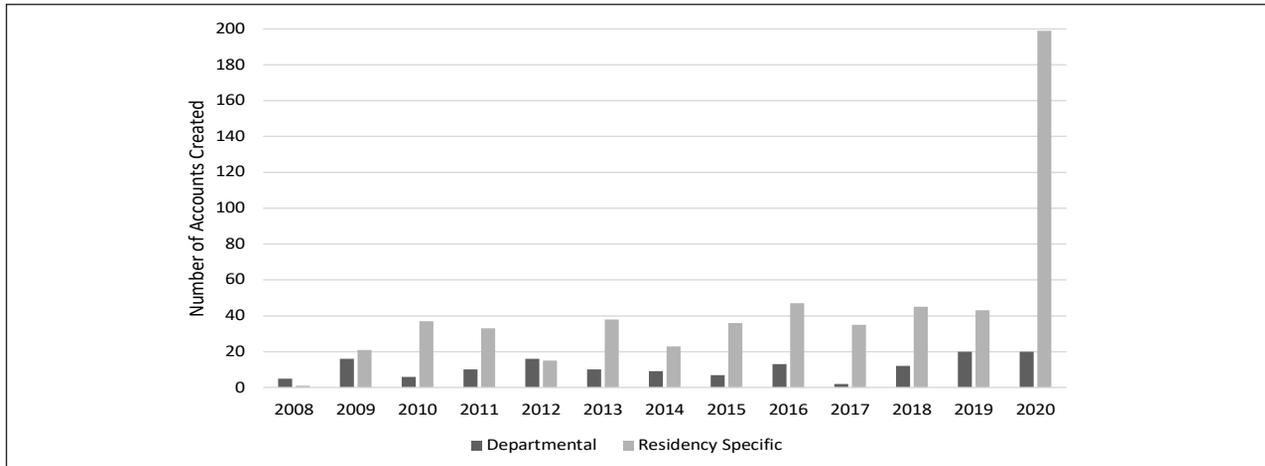
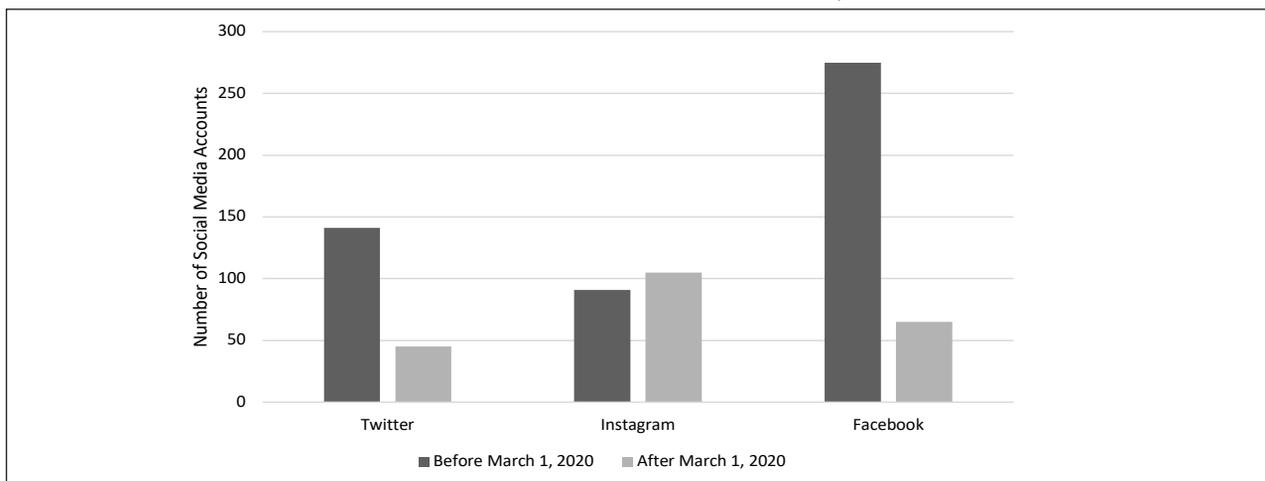
Virtual Characteristics of Family Medicine Departments and Residency Programs	
Total Family Medicine Programs (675)	
Twitter	
	Number of Accounts (%)
Programs with departmental Twitter	47 (7)
Established before March 1, 2020	46 (98)
Established after March 1, 2020	1 (2)
Residency program Twitter	139 (21)
Established before March 1, 2020	95 (68)
Established after March 1, 2020	44 (32)
Programs with both departmental and residency Twitter	21 (3)
Programs with open house opportunities advertised on Twitter	46 (7)
Programs with virtual sub-I's advertised on Twitter	2 (0.3)
Instagram	
	Number of Accounts (%)
Departmental Instagram	19 (3)
Established before March 1, 2020	17 (89)
Established after March 1, 2020	2 (11)
Residency program Instagram	177 (26)
Established before March 1, 2020	74 (42)
Established after March 1, 2020	103 (58)
Programs with both departmental and residency Instagram	9 (1)
Programs with open house opportunities advertised on Instagram	60 (9)
Programs with virtual sub-I's advertised on Instagram	2 (0.3)
Facebook	
	Number of Accounts (%)
Departmental Facebook	78 (12)
Established before March 1, 2020	61 (78)
Established after March 1, 2020	17 (22)
Residency Facebook	262 (39)
Established before March 1, 2020	214 (82)
Established after March 1, 2020	48 (18)
Programs with both departmental and residency Facebook	38 (6)
Programs with open house opportunities advertised on Facebook	64 (9)
Programs with virtual sub-I's advertised on Facebook	3 (0.4)

impact of outreach from social media accounts by enhancing their discoverability. Additionally, providing links to a program's social media account(s) on a residency program website validates said accounts and enhances their credibility.

During the pandemic, virtual open houses appear to be a preferred

method of outreach by programs to connect with prospective residents. Twitter (7%), Instagram (9%), and Facebook (9%) were used by programs to advertise these opportunities. These opportunities are beneficial for both applicants and program representatives, as they offer informal interaction and serve

as a substitute for the current lack of in-person evaluations. Our findings suggest that virtual open house opportunities are advertised largely through Facebook with Instagram and Twitter contributing smaller amounts. Few residency programs have implemented virtual subinternship, and the current offerings

Figure 1: Family Medicine Program Twitter, Instagram, and Facebook Accounts Added Each Year 2008-2020**Figure 2: Family Medicine Program Twitter, Instagram, and Facebook Accounts Created Before and After March 1, 2020**

represent only a fraction of the traditionally offered in-person subinternships. This may be due to the difficulty of replicating the hands-on experience students traditionally received during in-person subinternships.

With 675 residency programs identified on ERAS and nearly 4,900 first-year positions offered, family medicine is the specialty that offers the most positions.⁷ This gives prospective residents a large number of residency programs to learn about and choose from. Social media accounts can allow prospective residents a quick glimpse into a residency program. Virtual experiences are not only a safe way to interact during the pandemic but are also cost effective.⁸ A study conducted in 2014

found that the average amount spent by fourth-year medical students for the residency application process is \$4,300.9 The virtual format will cut down on travel for residency interviews and accommodations, decreasing the financial burden of the match process.⁸ A 2020 commentary by Huddart and colleagues suggested that social media may be supportive to current medical students.¹⁰ Similar ideas were disseminated by Alexandra et al, where social media is discussed as having a large potential for networking and education.¹¹ In a study of 103 medical students in Taiwan, Hsieh et al found a positive response to social media from medical students. The authors even suggest that communication of essential physician qualities such as compassion

and competence may be possible through social media.¹² We believe it is paramount that applicants seek out and engage with residency programs' social media accounts. In the present situation, virtual opportunities are one of the options applicants have to connect with program representatives, and social media appears to be engaging to medical students. We also recommend that students be involved at their home institution, as letters of recommendation and program director communication may become more important for this year's application cycle.

This study has limitations. Due to the evolving nature of social media platforms, the data collected in this study is dynamic and may differ from the actual numbers on the

date of ultimate publication of this study. To help limit the degree of potential data acquisition bias, the entire data collection was limited to a short interval of time as reported in the methodology of our investigation. Although Google search engine was used to account for acronyms, it is possible that some social media accounts may have inadvertently been overlooked and hence have not been included in the collected data.

The COVID-19 pandemic had a contentious effect on medical education. The suspension of in-person activities resulted in many family medicine residency training programs communicating virtually with applicants through social media accounts. The majority of family medicine social media accounts were created before the COVID-19 pandemic, demonstrating a history of outreach from these residency training programs. These accounts advertised virtual open houses and shared information about respective residency programs. Instagram appears to be a preferred platform among residency programs. Virtual

subinternships do not appear to play a significant role in this application cycle. We recommend applicants seek out and utilize social media for the 2021 match.

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