SKIN

ORIGINAL RESEARCH

Adaptations of Dermatology Residency Programs to Changes in Medical Education Amid the COVID-19 Pandemic: Virtual Opportunities and Social Media

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ABSTRACT

Background: The COVID-19 pandemic has caused a drastic change in the 2020-2021 residency application cycle, limiting how programs interact with applicants.

Objective: To describe how dermatology residency programs have adapted by developing social media platforms and virtual opportunities.

Methods: A list of participating programs was obtained from the Electronic Residency Application Service. Twitter, Instagram, Facebook, and websites were reviewed for virtual opportunities. The Visiting Student Application Service (VSAS) and the Dermatology Interest Group Association (DIGA) website were reviewed for virtual opportunities.

Results: Of the 133 programs, 74 social media accounts were created. Twenty-two programs have Twitter, 27 have Instagram, and 25 have Facebook accounts. Virtual open houses were advertised on 27 program webpages. Eight virtual sub-internships were on VSAS. Eighty virtual meet and greets and 27 virtual electives were advertised on the DIGA website.

Limitations: Considering the ongoing application cycle and the growth of social media usage, the numbers presented may not represent the numbers on the date of publication.

Conclusion: Dermatology residency programs have adapted to the COVID-19 pandemic by developing social media platforms and virtual opportunities. There is an underutilization of social media by programs. Programs are working with the DIGA to distribute information about virtual opportunities.

INTRODUCTION

The COVID-19 pandemic has caused a drastic change in the 2020-2021 residency application process.[1] The consensus statements released by dermatology residency program directors and the Association of American Medical Colleges (AAMC) recommend limitation of visiting medical student sub-internships (visiting rotations) and in-person interviews.[2,3] Traditionally, visiting rotations for students interested in dermatology were critical for

obtaining letters of recommendation and showing interest in specific programs. A study conducted in 2016 found that, for applicants applying to competitive specialties, greater than 50% matched at an institution where they rotated and 53% were compelled to rank programs lower based on their visiting rotation experience.[4] Many medical students interested in dermatology have limited exposure during their pre-clinical training and are not able to complete sub-internships until shortly before application deadlines.[5] Loss of in-person electives and interviews may decrease the exposure an applicant has to the field and may also impact applicants' impressions of various training programs. The American Academy of Dermatology (AAD) has encouraged programs to adapt to this changing dynamic and recommended the use of virtual didactics to engage students during this time.[6] A study in 2019 described the underutilization of social media by dermatology residencies.[7] Herein, we describe how dermatology programs have adapted for the 2020-2021 application cycle by developing social medial platforms and implementation of virtual sub-internships, virtual open houses, and other virtual opportunities.

METHODS

An official list of accredited dermatology residency programs participating in the 2020-2021 application cycle was obtained from the Electronic Residency Application Service (ERAS), identifying 133 total programs. All programs were included and reviewed for the presence of departmental and/or residency program Twitter, Instagram, and Facebook accounts. This review was done using Google search engine to account for the use of acronyms in social media usernames. Social medial platforms were reviewed for posts regarding open house/meet and greet opportunities, virtual sub-internships, virtual grand rounds, and other virtual didactics. The posts analyzed were current in 2020. Both past and future virtual opportunities were included. The date of Twitter account development was available on the account page. The date of Instagram and Facebook account development was recorded as the first post on the respective pages. The Visiting Student Application Service (VSAS) was reviewed for all dermatology virtual sub-internship opportunities. Virtual research electives were not included. Residency program websites were reviewed for virtual sub-internship and open house opportunities. This data was collected and deemed current on September 8th-11th, 2020. The Dermatology Interest Group Association (DIGA) website was reviewed for virtual meet and greets/open houses and virtual electives. This data was collected and deemed current on September 23rd, 2020.

RESULTS

Of the 133 programs, 74 social media accounts were created for dermatology departments and residency programs. Social media use of the 133 programs are profiled in Table 1. Twenty-two (16.5%) departments and/or residency programs have Twitter accounts, 27 (20.3%) have Instagram accounts, and 25 (18.8%) have Facebook accounts. All Twitter accounts were developed between 2014-2020. Three (13.6%) of the accounts were developed in 2020. All Instagram accounts were developed between 2015-2020. Fourteen (51.9%) of the Instagram accounts were developed in 2020. All Facebook accounts were developed between 2008-2020. Four (16%) Facebook accounts were developed

Table 1. Virtual Characteristics of Dermatology Departments and Residency Programs. Number and percentage of Twitter, Instagram, and Facebook accounts for dermatology departments and/or residency programs. Number of accounts created by dermatology departments and/or residency programs before and after 2020. Number of open houses, virtual grand rounds, virtual sub-I, and virtual electives/didactics opportunities on Twitter, Instagram, and Facebook.

Social Media Platform	Total Dermatology Programs (133)
Twitter	**Number of Accounts (%)**
Programs with Departmental Twitter	19 (14.3)
Established Before 2020	17 (89.4)
Established After 2020	2 (10.5)
Residency Program Twitter	3 (2.3)
Established Before 2020	2 (66.7)
Established After 2020	1 (33.3)
Programs with Both Departmental and Residency Twitter	1 (0.8)
Programs with Open House Opportunities Advertised on Twitter	10 (7.5)
Programs with Virtual Grand Rounds Advertised on Twitter	0 (0)
Programs with Virtual Sub-Is Advertised on Twitter	0 (0)
Programs with Virtual Electives/Didactics Advertised on Twitter	2 (1.5)
Instagram	
Departmental Instagram	16 (12.0)
Established Before 2020	9 (56.3)
Established After 2020	7 (43.8)
Residency Program Instagram	11 (8.3)
Established Before 2020	1 (9.1)
Established After 2020	10 (90.9)
Both Departmental and Residency Instagram	2 (1.5)
Programs with Open House Opportunities Advertised on Instagram	9 (6.8)
Programs with Virtual Grand Rounds Advertised on Instagram	2 (1.5)
Programs with Virtual Sub-Is Advertised on Instagram	0 (0)
Programs with Virtual Electives/Didactics Advertised on Instagram	1 (0.75)
Facebook	
Departmental Facebook	21 (15.8)
Established Before 2020	20 (95.2)
Established After 2020	1 (4.8)
Residency Facebook	4 (3.0)
Established Before 2020	1 (25)
Established After 2020	3 (75)
Both Departmental and Residency Facebook	0 (0.0)
Programs with Open house Opportunities Advertised on Facebook	7 (5.3)
Programs with Virtual Grand Rounds Advertised on Facebook	1 (0.75)
Programs with Virtual Sub-Is Advertised on Facebook	0 (0)
Programs with Virtual Electives/Didactics Advertised on Facebook	2 (1.5)

in 2020. The dates of development of social medial accounts are illustrated in Figure 1.

Virtual open houses were advertised on 27 (20.3%) residency program webpages. Of those 27 programs, 10 programs also advertised virtual open house opportunities on social media. Only 1 program offered virtual opportunities on all 3 social media platforms. Seven programs offered a total of 8 virtual sub-internship opportunities on VSAS. These opportunities ranged from 2-4 weeks, with the mean (SD) length per program being 3.125 (±0.99) weeks. The number of virtual sub-internship periods listed per program ranged from 1 to 2. The mean number of virtual sub-internship

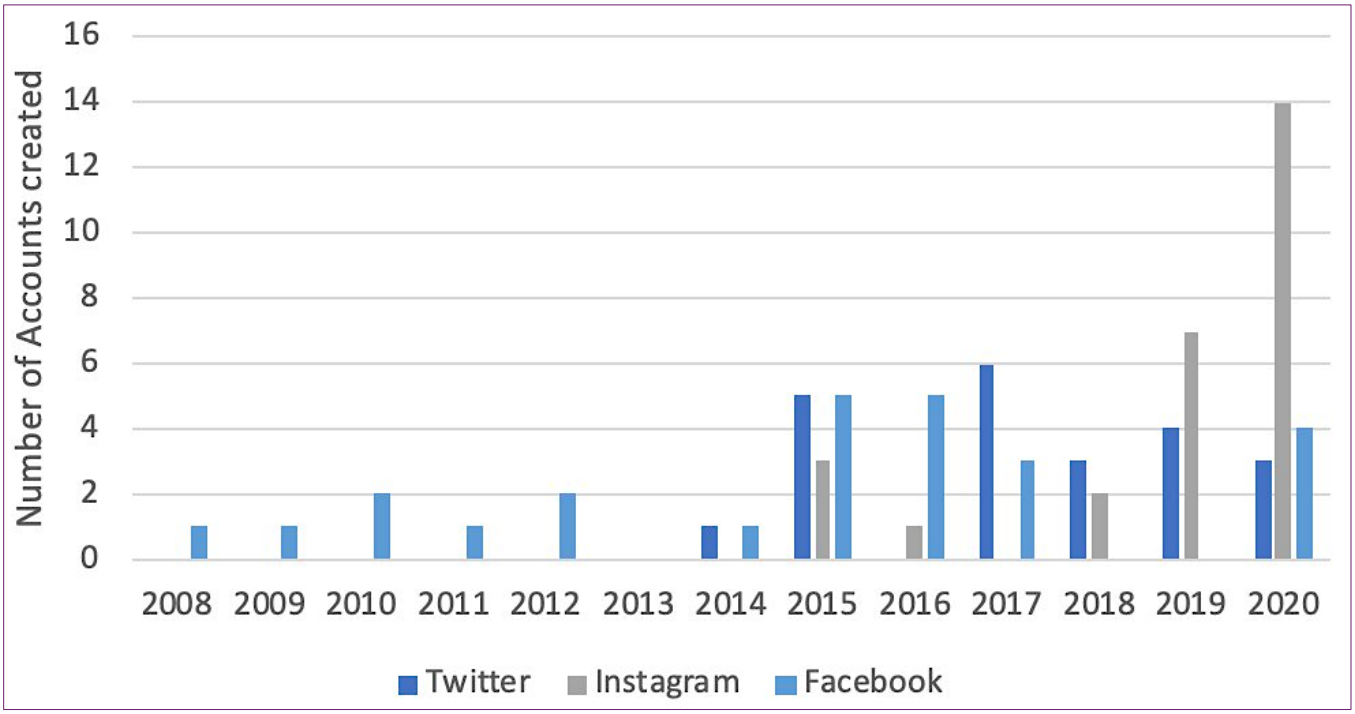

Figure 1. Dermatology program Twitter, Instagram, and Facebook accounts added each year 2008-2009.

Table 2. DIGA virtual opportunities: details and characteristics.

DIGA Virtual Opportunities and Characteristics	
Number of Virtual Meet and Greets on DIGA, *n*	80
Mean Number of Virtual Meet and Greets per Program, *mean ± SD*	2.1±1.16
Number of Virtual Electives on DIGA, *n (%)*	27 (20%)
Mean Length of Virtual Elective, *mean ± SD*	2.7±1.64 weeks
Number of Virtual Electives with Course Credit, *n (%)*	11 (40%)
Number of Virtual Electives that Guarantee and Interview, *n (%)*	2 (7%)
Opportunity to meet with Program Leadership through Virtual Elective, *n (%)*	21 (78%)
Opportunity to Meet with Faculty through Virtual Elective, *n (%)*	17 (63%)
Opportunity to Meet with Residents through Virtual Elective, *n (%)*	20 (74%)

opportunities on VSAS was 1.12±0.35 per program. There were 80 virtual meet and greets advertised on the DIGA website. Of the 38 programs offering virtual meet and greets, the number offered per program ranged from 0 to 5. Eighty-four institutions are members of DIGA. Fifty-six (42%) of the 133 participating programs have Dermatology Interest Group chapters at their institutions. Twenty-seven programs advertised virtual electives on DIGA. Contact information and application deadlines for the programs were included. Two programs had rolling deadlines, while 18 programs had no deadline for application. One program had a deadline in July. Three programs had application deadlines in August. Three programs had deadlines in September, and one program had a deadline in October. Students can also find

information about telemedicine and educational opportunities during the virtual electives offered. Some virtual electives count as course credit, include an interview, and provide an opportunity to meet residency leadership, faculty, and residents (Table 2).

DISCUSSION

The development of social media accounts by dermatology programs has been trending upward since 2008, with the earliest accounts created on Facebook. Before 2019, more programs appeared to have developed Facebook and Twitter accounts rather than Instagram accounts. The increase in creation of Instagram accounts by dermatology departments and residency programs reflects the overall rise in popularity of Instagram in recent years.[8] A 2019 study analyzing 126 dermatology residency programs identified 29 (23%) active on Facebook, 14 (11%) on Twitter, and 9 (7%) on Instagram.[7] This supports the notion that the COVID-19 pandemic has stimulated social media development in 2020. Despite the popularity of social media, only 74 social media accounts have been created by dermatology departments and residency programs, and fewer than 10% of those programs advertised virtual open houses, virtual sub-internships, virtual electives/didactics, or virtual grand rounds (Table 2). Specialties such as urology and emergency medicine have demonstrated a benefit in learning, feedback, and collaboration from increased engagement over Twitter.[9,10] This suggests that dermatology may be underutilizing this resource, and that residency training programs continue to have large potentials for growth. Due to the visual nature of dermatology, social media may provide an even greater learning opportunity for those interested in the field.

Eight virtual sub-internships were available on VSAS and 27 virtual electives were advertised on webpages and the DIGA website. This can be compared to the 80 virtual meet and greets that were included on the DIGA website. This suggests that programs are more likely to use virtual open houses and meet and greets to reach applicants rather than develop a virtual internship experience. This method of outreach has both benefits and drawbacks. Though the AAD developed a standardized online curriculum, open houses and informal didactics may be easier to convert to a virtual format and may be an easier way to reach a larger number of applicants.[11] Residency programs may face extra restrictions when developing virtual sub-internships that they would not face when offering virtual didactics and electives that are not for course credit. Despite this, 40% of the virtual electives offered on DIGA will count as course credit. Traditionally, many students who did away rotations were granted interviews at those institutions. Only 2 of the virtual electives on DIGA included an interview even though over 60% of these electives provide an opportunity for students to interact with program leadership, faculty, and residents (Table 2). This greatly increases networking opportunities for students but may not be enough interaction to gain an interview. The quality of virtual interactions may be lesser than that of in-person interactions due to difficulty assessing body language, subtle expressions, and changes in tone of voice via video. Virtual open houses may not allow for efficient networking compared to in-person interactions, but virtual interviews or “breakout rooms” on virtual platforms do allow for personal connections to be made amongst a smaller number of people. Virtual

grand rounds are also being offered by various programs as a way for students to interact with faculty and learn more about dermatology. All of these virtual opportunities may provide applicants an opportunity to become familiar with programs that they would not have considered during a typical application cycle due to limited visiting rotations and interview spots. Although students may be familiar with a wider variety of programs through virtual interviews, they are not able to assess the hospital environment, surrounding city, or see interactions among faculty members and residents. The current predicament for students is double edged. In this case, quantity may not equal quality. Dermatology residency programs are using methods other than social media to communicate with applicants. The information on the DIGA website was supplied by dermatology residency programs and sent to applicants via email. Eighty-four US medical schools are members of the DIGA and 16 dermatology faculty from various institutions sit on the Faculty Advisory Panel. This information is easily accessed on the DIGA website and is included on a calendar for easy use by applicants. The DIGA also has Twitter, Instagram, and Facebook accounts. Information about these virtual opportunities can be found there as well. When looking at only social media and websites, it would seem as if dermatology residencies were not reaching out to students. For this reason, it is important for applicants to be involved with the DIGA and the Dermatology Interest Group at their home institution. Students should also become more involved at their home institutions, as letters of recommendation and program director communication may become more important. Students without access to a clinical experience in dermatology at their home institution may participate in rotations at other institutions during this time. Often, larger institutions within the same state or geographic area are allowing these students to continue to participate in visiting rotations.[12,13,14]

LIMITATIONS

Considering the ongoing application cycle and the increasing growth of social media platforms by dermatology residency programs, the numbers presented in this study will most likely not represents the actual numbers on the date of publication. It is possible that not all programs with social media accounts were found due to the use of acronyms in usernames and browsing limitations on the internet. Google searches may not display social media platforms with less activity. Also, video tours and introductions were not included in this study. Virtual grand rounds and didactic videos present on websites were not included in this study.

CONCLUSION

Dermatology residency programs have adapted to the COVID-19 pandemic through the development of social media platforms, virtual sub-internships, and virtual open houses for applicants. Instagram was the most popular platform among residency programs, and Facebook was the most popular platform among dermatology departments. Overall, there has been an underutilization of these resources by academic dermatology programs. Dermatology residency programs are working together through the DIGA to distribute information about virtual meet and greets and virtual electives to applicants. Each medical specialty may have different avenues of communication with applicants,

all of which must be assessed for a comprehensive analysis of the 2020-2012 application cycle. This data is subject to evolve as the application cycle progresses.

Conflict of Interest Disclosures: None

Funding: None

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