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## Usage and engagement with Instagram by dermatology residency programs during the COVID-19 pandemic compared with Twitter and Facebook



*To the Editor:* We applaud Schwartzman et al<sup>1</sup> for studying Instagram as an effective avenue for dermatology residency program promotion during COVID-19. On May 11, 2020, the Coalition for Physician Accountability<sup>2</sup> discouraged away rotations, while recommending virtual interviews and transparent communication in the residency selection process.<sup>3</sup> Social media can bolster

transparency while enhancing organizational accountability and audience relationships.<sup>4</sup> To extend prior analysis,<sup>1</sup> we examined dermatology program engagement on Instagram, Facebook, and Twitter and highlight opportunities for interaction with prospective applicants.

Social media accounts of accredited dermatology residency programs were searched in February 2021. Emulating Schwartzman,<sup>1</sup> account creation dates were noted. To assess relative page popularity, account follower numbers (Instagram, Twitter) or profile likes (Facebook) were recorded and ranked. Total user engagement (likes, comments, and shares) for the latest 3 residency-focused posts of

Instagram Total Accounts = 73 ; Created Before May 11 2020 = 18 (24.7%) ; Created After May 11 2020 = 55 (75.3%)											
Instagram Top 10 Rank	Program	Instagram Followers	Account Creation Date	Instagram Page Link	2019 Post Likes	2020 Post Likes	2019 Post Comments	2020 Post Comments	2019 Post Shares	2020 Post Shares	Engagement* % Change
1	University of Miami/Jackson Health System Program	2223	8/25/17	<a href="https://www.instagram.com/umfrostdermatology/">instagram.com/umfrostdermatology/</a>	211	176	1	6			-14%
2	Washington University/B-JH/SLCH Consortium Program	1033	5/18/20	<a href="https://www.instagram.com/washuiderm/">instagram.com/washuiderm/</a>	N/A	115	N/A	2			100%
3	University of Nebraska Medical Center College of Medicine Program	1025	7/30/18	<a href="https://www.instagram.com/unmcdermatology/">instagram.com/unmcdermatology/</a>	59	103	1	0			72%
4	Stanford Health Care-Sponsored Stanford University Program	880	6/25/20	<a href="https://www.instagram.com/stanforddermatology/">instagram.com/stanforddermatology/</a>	N/A	217	N/A	3			100%
5	Mayo Clinic College of Medicine and Science (Rochester) Program	874	9/8/20	<a href="https://www.instagram.com/mayoclinicdermresidency/">instagram.com/mayoclinicdermresidency/</a>	N/A	206	N/A	2			100%
6	University of Texas Southwestern Medical Center Program	848	12/19/19	<a href="https://www.instagram.com/utswarderm/">instagram.com/utswarderm/</a>	92	254	3	9			177%
7	University of Pennsylvania Health System Program	834	8/28/18	<a href="https://www.instagram.com/penniderm/">instagram.com/penniderm/</a>	130	262	0	0			102%
8	University of Wisconsin Hospitals and Clinics Program	831	8/29/19	<a href="https://www.instagram.com/uwderm/">instagram.com/uwderm/</a>	73	160	3	4			116%
9	Case Western Reserve University/University Hospitals Cleveland Medical Center Program	806	5/19/16	<a href="https://www.instagram.com/uhderm/">instagram.com/uhderm/</a>	89	170	2	9			97%
10	McGaw Medical Center of Northwestern University Program	802	12/12/19	<a href="https://www.instagram.com/northwesternderm/">instagram.com/northwesternderm/</a>	71	196	1	10			186%
Facebook Total Accounts = 30 ; Created Before May 11 2020 = 27 (90.0%) ; Created After May 11 2020 = 3 (10.0%)											
Facebook Top 10 Rank	Program	Facebook Page Likes	Account Creation Date	Facebook Page Link	2019 Post Likes	2020 Post Likes	2019 Post Comments	2020 Post Comments	2019 Post Shares	2020 Post Shares	Engagement† % Change
1	HCA Healthcare/USF Morsani College of Medicine GME/Largo Medical Center Program	2294	7/23/12	<a href="https://www.facebook.com/USFdermatology">facebook.com/USFdermatology</a>	2	0	0	0	0	0	-100%
2	Tulane University Program	1573	4/30/15	<a href="https://www.facebook.com/tulandermatology">facebook.com/tulandermatology</a>	47	19	0	0	4	2	-59%
3	University of Miami/Jackson Health System Program	969	8/22/14	<a href="https://www.facebook.com/UMFrostDermatology">facebook.com/UMFrostDermatology</a>	48	44	0	1	0	2	-2%
4	Oregon Health & Science University Program	723	8/18/11	<a href="https://www.facebook.com/OHSU.Dermatology">facebook.com/OHSU.Dermatology</a>	87	59	6	6	13	6	-33%
5	University of Utah Health Program	636	7/23/12	<a href="https://www.facebook.com/UofUDermatology">facebook.com/UofUDermatology</a>	44	17	9	0	10	2	-70%
6	University of Mississippi School of Medicine Program	557	1/23/12	<a href="https://www.facebook.com/UMMC-Dermatology-1758861901059608">facebook.com/UMMC-Dermatology-1758861901059608</a>	0	52	0	0	0	1	100%
7	University of Florida Program	484	2/13/14	<a href="https://www.facebook.com/UHealthDerm">facebook.com/UHealthDerm</a>	5	2	0	0	0	0	-60%
8	Duke University Hospital Program	402	9/2/09	<a href="https://www.facebook.com/DukeDermatology">facebook.com/DukeDermatology</a>	26	38	3	0	0	2	38%
9	University of Minnesota Program	397	11/13/15	<a href="https://www.facebook.com/umnderm">facebook.com/umnderm</a>	33	21	0	0	0	0	-36%
10	New York Presbyterian Hospital (Columbia Campus) Program	324	6/8/15	<a href="https://www.facebook.com/ColumbiaDermatology">facebook.com/ColumbiaDermatology</a>	0	7	0	0	0	0	100%
Twitter Total Accounts = 24 ; Created Before May 11 2020 = 18 (75.0%) ; Created After May 11 2020 = 6 (25.0%)											
Twitter Top 10 Rank	Program	Twitter Followers	Account Creation Date	Twitter Page Link	2019 Post Likes	2020 Post Likes	2019 Post Comments	2020 Post Comments	2019 Post Shares	2020 Post Shares	Engagement† % Change
1	Washington University/B-JH/SLCH Consortium Program	1162	4/20/17	<a href="https://twitter.com/washuiderm">twitter.com/washuiderm</a>	20	53	2	1	3	14	172%
2	University of Southern California/LAC+USC Medical Center Program	988	4/1/15	<a href="https://twitter.com/USCDermatology">twitter.com/USCDermatology</a>	0	566	0	125	0	384	100%
3	University of Texas Southwestern Medical Center Program	967	12/19/19	<a href="https://twitter.com/utswarderm">twitter.com/utswarderm</a>	31	42	1	2	8	7	28%
4	Emory University School of Medicine Program	881	8/7/19	<a href="https://twitter.com/EmoryDerm">twitter.com/EmoryDerm</a>	14	14	1	0	2	3	0%
5	University of Arkansas for Medical Sciences (UAMS) College of Medicine Program	728	9/5/14	<a href="https://twitter.com/uamsdermatology">twitter.com/uamsdermatology</a>	108	31	1	2	53	4	-77%
6	Yale-New Haven Medical Center Program	596	1/1/15	<a href="https://twitter.com/yalederm">twitter.com/yalederm</a>	0	80	0	0	0	9	100%
7	Howard University Program	566	6/19/20	<a href="https://twitter.com/HowardDerm">twitter.com/HowardDerm</a>	N/A	38	N/A	6	N/A	1	100%
8	Massachusetts General Hospital/Beth Israel Deaconess Medical Center/Brigham and Women's Hospital Program	530	11/1/19	<a href="https://twitter.com/bwhdermatology">twitter.com/bwhdermatology</a>	0	60	0	4	0	5	100%
9	Case Western Reserve University/University Hospitals Cleveland Medical Center Program	491	4/1/14	<a href="https://twitter.com/uhcmcderm">twitter.com/uhcmcderm</a>	30	12	2	0	18	14	-48%
10	Duke University Hospital Program	391	10/10/19	<a href="https://twitter.com/DukeDermatology">twitter.com/DukeDermatology</a>	40	27	1	0	18	4	-47%
Total Social Media Accounts = 127 ; Created Before May 11 2020 = 63 (49.6%) ; Created After May 11 2020 = 64 (50.4%)											

**Fig 1.** Social media account creation dates and summary of top 10 dermatology residency programs by platform as of February 2021, showing total likes, comments, and shares from 3 comparable posts (December 2019 vs December 2020). One hundred forty-two Accreditation Council for Graduate Medical Education (ACGME)-accredited dermatology residency programs were searched for social media accounts. May 11, 2020 is the date of the announcement by the Coalition for Physician Accountability, which included Association of American Medical Colleges (AAMC) and ACGME representatives, recommending transparent residency selection communication. For Instagram, Account Creation Date (unavailable) was listed as date of first post. *B-JH*, Barnes-Jewish Hospital; *N/A*, social media account did not exist on that platform during time period; *SLCH*, St. Louis Children's Hospital. \* Post Engagement on Instagram = Likes + Comments; † Post Engagement on Facebook and Twitter = Likes + Comments + Shares.

**Table I.** Content categories of dermatology residency program Instagram posts ranked by engagement: Likes and comments from December 2019 to December 2020

Instagram post content	No. of posts	% of total posts	Total no. of likes	Total no. of comments	Total no. of likes and comments	Engagement* (%)
Resident group photo	22	8.7	1110	29	1139	51.8
Faculty spotlight	13	5.2	627	34	661	50.8
Resident life: social at work	47	18.7	2288	58	2346	49.9
Announcement: program	26	10.3	1170	66	1236	47.5
Resident spotlight	29	11.5	1272	71	1343	46.3
Resident life: social outside of work	16	6.3	670	24	694	43.4
Announcement: social	12	4.8	354	9	363	30.3
Location highlight	12	4.8	274	8	282	23.5
Resident life: work	67	26.6	1364	41	1405	21.0
Educational	8	3.2	90	12	102	12.8
Total posts analyzed	252		9219	352	9571	

\*Engagement =  $100 \times (\text{Likes} + \text{Comments}) / (\text{Number of Posts})$ .

2019 and 2020, excluding general patient- or department-oriented posts, were compared for each program by platform (Fig 1).

Prior to the May 11, 2020 coalition recommendation, 63 official dermatology residency program social media accounts existed: 18 (29%) were Instagram accounts, 27 (43%) were Facebook accounts, and 18 (29%) were Twitter accounts. After that date, 64 new social media accounts were created, predominantly Instagram (55; 86%), followed by Twitter (6; 9%) and Facebook (3; 5%) (Fig 1). Instagram demonstrated the greatest popularity, reaching a maximum of 2223 followers (University of Miami). Average account followings were highest on Instagram (>1000 followers for the top 10 most-followed programs), compared to the published findings for 2019, where Facebook was most popular.<sup>5</sup> The University of South Florida remained the most-liked (2294 likes) program on Facebook, but overall Facebook engagement largely fell (−2% to −100% for 7 of the top 10 programs) from 2019 to 2020. Program Facebook accounts were also much older than Instagram or Twitter accounts. Top Twitter account followings moderately grew (top account +66%; top 10 average, +230%) relative to 2019. Except for the University of Southern California (1075 likes plus comments and shares for 2020 Twitter posts), 2020 engagement was highest on Instagram, with the most consistent growth from 2019 (change, −14% to +186%).

Due to Instagram's notable expansion, post engagement was also assessed by content category (Table I). Group photos, faculty spotlights, posts about residents socializing at work (gift exchanges, holiday parties), and program application cycle announcements showed the highest engagement. Posts

with the least engagement were those on educational dermatology-related topics and posts highlighting the resident workday, including didactic sessions.

COVID-19 complicated the residency selection process, which typically allows for applicants to familiarize themselves with programs. Allowances for away rotations in the near future remain unclear and dermatology residency programs should consider emphasizing social media, such as Instagram, Facebook, and Twitter, to interact with applicants. Instagram may currently be the most promising platform, as it accumulates the highest engagement metrics and reaches the largest audience. Because most existing residency social media accounts were created after the coalition recommendation, future investigation of a wider selection of posts and platforms is necessary to determine the true impact of this potential paradigm shift in communication. Further investigation of the level of engagement of different post types could also provide helpful information to augment the social media involvement of residency programs.

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