A National Survey of Pediatric Residents' Professionalism and Social Networking: Implications for Curriculum Development

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OVER THE PAST decade, social networking sites (SNS), defined as digital spaces conducive to the rapid creating and wide sharing of information, have evolved into a mainstream form of social interaction for multiple demographic groups, including physicians in training.[1–3] As physicians' use of social networking has increased, educators have raised concerns about medical professionalism in the setting of these technologies.[1,4–7]

In a previous study examining social networking and professionalism,[8] more than half of 162 pediatric program directors reported having encountered inappropriate online postings by their residents in the past year. Despite these reports, fewer than half of the program directors had at that time adopted any specific educational strategies addressing online professionalism. Development of effective curricula focused on professionalism and social networking requires both a rigorous assessment of whether trainees' perceptions and experiences on social networking align with those of their program directors and an updated understanding of current training focused on this domain of professionalism.

We surveyed a national sample of pediatric residents in 2014 with partnership from the Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network (APPD LEARN). The LEARN network is a national research collaborative composed of 123 pediatric training programs in the United States, which conducts multisite studies of educational methods, instruments, and outcomes. Our study had 3 aims: 1) to describe pediatric residents' experiences related to social networking (particularly Facebook and Twitter); 2) to compare survey results to previously reported data from pediatric program directors; and 3) to explore how these data may shape future educational interventions related to residents' use of these technologies.

METHODS

We designed a multisite, cross-sectional study of pediatric residents' perceptions of, experiences with, and training about SNS. We randomly selected a sample of up to 3 participating pediatric residency programs, which are also members of APPD LEARN, from each of the 8 geographical regions within the APPD. Within selected programs, eligible individuals included all trainees of categorical pediatric residency training programs. Trainees in combined programs, such as internal medicine–pediatrics, were excluded from this study.

The survey was minimally adapted from an instrument used in previous work in order to account for the different study population (program directors vs residents).[8] Most questions had multiple-choice or ordinal response formats. Items were grouped into 4 sections, including 1) familiarity with and use of SNS, 2) perceptions of resident professionalism on social network sites, 3) educational interventions or policies about SNS, and 4) demographic information.

The study was approved (or deemed exempt) by the institutional review board at each survey site. From October 2013 to March 2014, program directors distributed the survey electronically to eligible residents in their program. A coded identifier was created for each resident to track respondents. Residents received at least 2

reminders to complete the study within 6 weeks of the original request.

Responses were first analyzed descriptively to measure the frequency with which respondents endorsed various response options for the survey items. Next, we compared data from our previous survey of program directors to those in the current study in order to measure concordance. Wilcoxon rank-sum and chi-square tests were used to compare resident responses with previously reported program director responses.[8]

RESULTS

DEMOGRAPHICS

We received 495 surveys, representing an overall response rate of 52%. Thirteen programs participated, and the number of responses by program varied from 9 to 90 (median 39; interquartile range [IQR] 22–46). The response rate varied from 18% to 100% among participating residency programs. The full sample included 146 male (29%) and 349 female (71%) respondents, and the median age was 28 (IQR 27–30). The median total program size was 80 residents (IQR 40–112). Respondents were distributed throughout all postgraduate years with 167 (33%) first years, 170 (34%) second years, 142 (29%) third years, and 15 (3%) fourth years. Programs represented in these data do not differ significantly in geographic distribution, balance of academic versus community settings, or size compared to the full population of programs participating in APPD LEARN. Response rate was not significantly correlated with program size, although larger programs tended to have lower response rates ($r = -.49$, $P = .06$), or with academic/community setting (point-biserial $r = .12$, $P = .66$).

Before engaging in statistical analysis, we looked for clustering in our data set. We examined the sources of item, learner, program, and residual variance in the responses. The majority (94%) of the explained variance was due to survey items, with 6% due to learners and only 0.2% due to program, indicating that learners vary as much within programs as across them and could be treated as independent.

RESIDENTS' USE OF SOCIAL NETWORKING AND PERCEPTIONS OF PROFESSIONALISM

Four hundred fifty-seven respondents (92%) reported having a personal social networking page, and 284 (57%) reported using social networking web sites "daily or often." Respondents were asked to estimate how often residents as a population engage in various activities using SNS and to rate the appropriateness of such activities (Table). The activities most commonly rated as "daily" were "connecting with friends" (247, 50%), "joining a social network" (ie, logging on; 195, 39%), and "friending colleagues or peers at the same training level" (170, 34%). Over 80% gave ratings of "completely appropriate" to those same 3 online activities. The activities estimated to be happening least frequently were "friending current patients or their families" and "friending former patients

Table. Resident Estimates of Frequency of Online Engagements and Their Appropriateness

Online Activity	Frequency With Which Other Residents Engage in Various Online Behaviors*			Resident Rating of Appropriateness of Each Behavior		
	Score 5, n (%)	Scores 3–4, n (%)	Scores 1–2, n (%)	Completely Inappropriate, n (%)	n (%)†	Completely Appropriate, n (%)
Connecting with friends via social networks ("friending")	247 (50)	218 (44)	12 (2)	1 (0)	6 (1)	41 (8)	447 (90)
Joining a social network (eg, Facebook)	195 (39)	186 (38)	46 (9)	5 (1)	10 (2)	42 (9)	438 (89)
Friending colleagues or peers at the same training level	170 (34)	298 (60)	10 (2)	1 (0)	9 (2)	55 (11)	430 (87)
Posting thoughts or observations on a personal blog or Twitter	21 (4)	202 (41)	166 (34)	107 (22)	159 (32)	144 (29)	85 (17)
Posting online comments about the workplace or work-related issues	16 (3)	266 (54)	185 (37)	251 (51)	175 (35)	62 (13)	7 (1)
Friending current patients or their families	0 (0)	18 (4)	427 (86)	441 (89)	46 (9)	7 (1)	1 (0)
Friending former patients or their families	0 (0)	18 (4)	428 (87)	354 (72)	126 (25)	13 (3)	2 (0)
Posting patient information or photos	Frequency not asked			477 (96)	7 (1)	6 (1)	5 (1)

*Frequency scores were as follows: 5, daily; 3, monthly; 1, never.
†The survey instrument had a 4-point scale anchored by "completely inappropriate" and "completely appropriate," with no labels on the middle 2 options.