

Clinical Communications

Trends in Twitter use during the Annual Meeting of the Spanish Society of Allergy and Clinical Immunology (2013-2016)

Alberto Alvarez-Perea, MD, PhD^{a,b},

Pedro Ojeda, MD, MPH^c, and

José M. Zubeldia, MD, PhD^{a,b,d}

Clinical Implications

- Allergists and immunologists are increasingly adopting Twitter as an effective broadcasting tool during scientific meetings. Its use should be encouraged by societies to further disseminate key messages to professionals and public.

TO THE EDITOR:

Twitter (Twitter Inc, San Francisco, Calif) is a platform that enables users to publish a 140-character message known as tweet.¹ The use of social media at medical conferences has been documented. Studies have demonstrated that Twitter can increase the influence of conferences.²⁻⁶ In the case of Allergy, English-speaking allergists' use of Twitter increased by 470% between 2011 and 2012,⁷ whereas the American Academy of Allergy, Asthma and Immunology annual meetings tweets increased by 790% from 2012 to 2015.⁵ There is no information available on Twitter activity during other Allergy conferences. The objective of this study was to describe whether this phenomenon is taking place in a European country such as Spain.

We performed a prospective, observational study including all the tweets published under the official hashtags for the 2013 to 2016 Spanish Society of Allergy and Clinical Immunology (SEAIC) annual meetings (Table I). Advertisements inserted in the Web site, program, and screens encouraged attendees to use the hashtags.

Total tweets during the congress dates, transcripts, number of participating users, and impressions (tweets × number of followers) were recovered from the Symplur Healthcare Hashtag database. Data were collected by A.A.P. 7 days after each congress.

Tweets, excluding retweets, were categorized by 1 investigator (A.A.P.) into (1) "Scientific" if they concerned a meeting topic; (2) "Social" if they contained informal comments; (3) "Administrative" if they involved practical information; (4) "Commercial" if published by industry representatives, or publicity; and (5) "Other" if they did not fit into any of the previous, including press publications.

Users were identified as physicians, nurses, general public, industry, organizations (including scientific and patient associations), or other. Physicians and nurses were cross-referenced with SEAIC members listing. Their attendance to each congress, sex, and location were extracted from their Twitter profile. The number of congress delegates was provided by the

organizers (Table I). Statistical analysis was performed with IBM SPSS Statistics 20 (IBM Corporation, Armonk, NY) and Microsoft Excel 2013 (Microsoft Corporation, Redmond, Wash).

Twitter activity increased during the past 4 congresses, including the number of tweets, retweets, participants, impressions, tweets per day, and impressions per participant (Table I). Tweets, excluding retweets, were mostly administrative in 2013 and 2014, whereas scientific tweets were the most common in 2015 and 2016 (Figure 1).

Personal accounts activity, as opposed to other entities, increased along the observation period. Most participants were located in Spain. Non-Spanish accounts represented 19% in 2016, accounting for 4.4% of the activity. Up to 37.5% of the participants were SEAIC members, with a number of tweets that peaked at 87.3%. Congress delegates never accounted over 37.5%, but their activity in 2015 reached 84.5% (Table I).

The participants were mostly physicians, up to 48.1% in 2015. Their activity totaled almost 90% of all tweets in the last 2 congresses. Nurses' activity was low. Involvement of public has been low until 2016, when they represented 12.3% of participants and 3.1% of activity (Table I).

When looking at the number of congresses that each user tweeted at, most participants took part in 1 congress (n = 401), while 47 participated in 2 congresses, 18 in 3, and 10 were active during all the 4 congresses.

In this study, we have examined the use of social media during a European Allergy conference for the first time. The use of Twitter during the last 4 SEAIC annual meetings grew exponentially from 2013 to 2016. This growth cannot be explained by the length of the congress, the increase in Twitter users (36%),¹ or congress delegates (70%) during the same period. Not only the number of participants but also the rate of tweets and impressions per participants grew every year. In our opinion, the perception of Twitter as a useful tool during previous congresses might be one of the reasons behind the growth.

Two other studies have reported the Twitter activity of a congress for multiple years. Attai et al⁶ followed the American Society of Breast Surgeons Annual Meeting from 2013 to 2016. The growth rate was higher for the Spanish congresses, with a lower number of participants.⁶ In the field of Allergy, Stukus⁵ published a follow-up of the American Academy of Allergy, Asthma and Immunology Annual Meeting from 2012 to 2015. In this case, all the metrics were higher than SEAIC's, probably due to a higher attendance, but the growth rate was again lower.⁵

The design of our study gives an insight into how the use of social media by Spanish allergists evolved along the years. It is worth noting that the role of physicians grew exponentially, in contrast to the experience of the American Society of Breast Surgeons, which showed a steadier number of physicians, probably due to an earlier adoption of Twitter by American doctors.⁶

Each tweet published during the SEAIC meetings reached around 1,000 additional users, many of them nonattendants, as

TABLE I. Characteristics of participants and activity per year

Characteristic	Year							
	2013		2014		2015		2016	
Official hashtag	#granada2013		#seaic2014		#seaic2015		#seaic2016	
Congress dates	October 24-26		October 22-25		October 22-24		October 19-22	
Congress delegates	805		1239		1302		1364	
Characteristic	Participants (n = 32)	Tweets (n = 198)	Participants (n = 105)	Tweets (n = 741)	Participants (n = 108)	Tweets (n = 3,016)	Participants (n = 342)	Tweets (n = 7,623)
Retweets	—	92 (46.5%)	—	390 (52.6%)	—	2,147 (71.2%)	—	5,393 (70.7%)
Tweets/d	—	66	—	185.3	—	715.7	—	1,905.75
Impressions	—	148,429	—	579,274	—	1,415,830	—	6,863,119
Impressions/participant	4,638.4		5,516.9		13,109.5		20,067.6	
Sex								
Female	15 (46.9%)	39 (19.7%)	45 (42.9%)	198 (26.7%)	35 (32.4%)	1,788 (59.3%)	149 (43.6%)	3,409 (44.7%)
Male	4 (12.5%)	17 (8.6%)	30 (28.6%)	232 (31.3%)	35 (32.4%)	950 (31.5%)	107 (31.3%)	3,691 (48.4%)
Not applicable	13 (40.6%)	142 (71.2%)	30 (28.6%)	311 (42%)	38 (35.1%)	278 (9.21%)	86 (25.1%)	523 (6.9%)
Type								
Physicians	12 (37.5%)	35 (17.7%)	40 (38.1%)	325 (43.9%)	52 (48.1%)	2,693 (89.3%)	130 (38%)	6,607 (86.7%)
Nurses	0	0	10 (9.5%)	36 (4.6%)	1 (0.9%)	1 (0.03%)	19 (5.6%)	76 (1%)
General public	0	0	9 (8.6%)	14 (1.9%)	9 (8.3%)	9 (0.3%)	42 (12.3%)	235 (3.1%)
Industry	4 (12.5%)	31 (15.7%)	13 (12.4%)	100 (13.5%)	17 (15.7%)	68 (2.3%)	38 (11.1%)	138 (1.8%)
Organizations	4 (12.5%)	100 (50.5%)	7 (6.7%)	188 (25.4%)	9 (8.3%)	193 (6.4%)	24 (7%)	328 (4.3%)
Other	12 (37.5%)	32 (16.2%)	26 (24.8%)	78 (10.5%)	20 (18.5%)	52 (1.7%)	88 (25.7%)	239 (3.1%)
Location								
Spain	28 (87.5%)	198 (100%)	88 (83.8%)	695 (93.8%)	92 (85.2%)	2,913 (96.6%)	271 (79.2%)	7,264 (95.3%)
European Union	0	0	3 (2.9%)	5 (0.7%)	7 (6.5%)	78 (2.6%)	23 (6.7%)	194 (2.5%)
Rest of the world	0	0	14 (13.3%)	41 (5.5%)	9 (8.4%)	25 (0.83%)	48 (14%)	165 (2.2%)
SEAIC members	12 (37.5%)	35 (17.7%)	27 (25.7%)	350 (47.2%)	38 (35.2%)	2,633 (87.3%)	70 (20.5%)	6,251 (82%)
Congress delegates	12 (37.5%)	47 (23.7%)	27 (25.7%)	328 (44.3%)	33 (30.6%)	2,548 (84.5%)	70 (20.5%)	4,913 (64.4%)

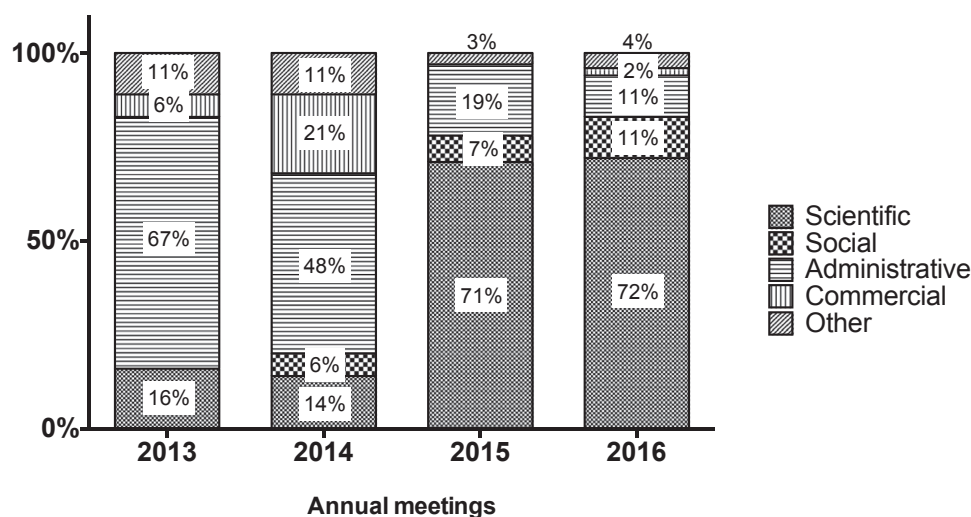


FIGURE 1. Type of tweets per year (retweets excluded).

previously described.^{5,8} Retweets play an important role in recruiting new participants and impressions.

Only 10 users remained active during all 4 meetings. In fact, more than 80% tweeted just once. In our opinion, this may be

due to the irruption of physicians in 2015. Probably, a longer observation period would reveal a lower dropout rate.

Regarding the present study limitations, it only included tweets under the official hashtag of the congress. However, this

would only underestimate dissemination. In addition, the demographical data were recovered from participants' Twitter profiles, which, in some cases, could be incorrect.

In conclusion, Twitter use during Allergy conferences is growing in and outside the United States. Even a small number of participants can publish a number of tweets enough to reach a much wider audience. Further investigations should be led to know whether the usefulness of social media in the Allergy field extends to patients, because Allergy-related information available in social media is not always reliable.⁹

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^aAllergy Service, Gregorio Marañón University General Hospital, Madrid, Spain

^bGregorio Marañón Health Research Institute, Madrid, Spain

^cOjeda Clinic, Madrid, Spain

^dBiomedical Research Network on Rare Diseases (CIBERER)-U761, Madrid, Spain
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Corresponding author: Alberto Alvarez-Perea, MD, Allergy Department, Hospital General Universitario Gregorio Marañón, Doctor Esquerdo, 46, 28007 Madrid, Spain. E-mail: alberto@alvarezperea.com.

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