Tweeting the meeting: A comparative analysis of an Australian emergency medicine conference over four years

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ABSTRACT

Objective: Social media allows user-generated content and dialog between users and has also entered into the domain of healthcare. The purpose of this study was to compare the use of Twitter at the Australasian College of Emergency Medicine Annual Scientific Meeting (ACEM ASM) from 2011 to 2014 and analyze its ability to spread emergency medicine education.

Materials and Methods: Retrospectively, TweetReach was utilized to analyze relevant tweets. Each Annual Scientific Meeting (ASM) had an associated Twitter account/s from which data were collected. Duplicate tweets were excluded from the analysis. Information on the number of total tweets (regular tweets, retweets, and replies) and contributors was gathered. The potential audience, the reach, was calculated.

Results: From 2011 to 2014 the number of tweets rose from 460 to 4694, a 920% increase. Only 54 Twitter users contributed to the 2011 ASM. This rose to 252 (2012), 291 (2013) and 572 (2014). The average number of tweets per contributor ranged from 8.2 to 10.9. The reach, the potential number of Twitter users exposed to posts, rose >30 times from 2011 (15,502 users) to 2014 (471,166).

Conclusion: The use of Twitter at the ACEM ASM rose significantly from 2011 to 2014. It is a highly useful tool for the dissemination of emergency medicine education. Twitter has been harnessed by the ASM to enhance the conference experience by further generating interaction between delegates as well as those worldwide.

Key Words: Communication, conference, education, emergency medicine, social media

INTRODUCTION

The use of social media has risen dramatically since its inception early in the 21st century. Social media allows user-generated content and dialog between users. Popular social media platforms include Facebook, YouTube, and LinkedIn. Twitter is a social networking service where member post tweets of up to 140 characters. There are estimated to be 284 million monthly active Twitter users with 500 million tweets sent everyday.[1] Members
MATERIALS AND METHODS

This was a retrospective study. TweetReach (Union Metrics, San Francisco, USA), commercial online software, was utilized to analyze relevant tweets. Each ACEM ASM had an associated Twitter account/s. The search terms included #acem2011, #acem2012, #acemasm13, @preexcitation, #acem14, #acem2014, #acem2014. Using TweetReach, data were collected each year of the conference. Duplicate tweets were excluded from the analysis. Information on the number of total tweets (regular tweets, retweets, and replies) and contributors was gathered. The proportion of tweets from the top 10 contributors by number was calculated. TweetReach is also able to calculate the reach and exposure of tweets. Reach is defined as the total number of unique Twitter users that tweets about the search term were delivered to. Exposure is the numbers of times tweets were delivered to Twitter streams. Exposure is higher as a Twitter user may receive more than one tweet regarding the hashtag. Popular tweets, those retweeted the most, were analyzed to determine content. Delegate numbers were obtained from the ACEM. Statistical analysis was performed using Microsoft Excel (Microsoft Corporation, Redmond, USA). This study was approved by the St Vincent’s Hospital Melbourne Ethics Committee (LRR 162/14).

RESULTS

From 2011 to 2014 the number of tweets rose from 460 to 4694, a 920% increase [Figure 1]. There were 2,757 and 2,561 tweets in 2012 and 2013 respectively. As a percentage of total tweets, the number of regular tweets decreased (69% to 31%) and the number of retweets increased (21% to 60%) [Table 1].

There were only 54 Twitter users contributing to the 2011 ASM. This rose to 252 in 2012, 291 in 2013 and 572 in 2014 [Table 2]. As a percentage of delegates, the number of Twitter contributors rose from 8% in 2011 to 40-43% in 2012-13 and to 57% in 2014. The average number of tweets per individual contributor was quite stable, ranging from 8.2-10.9 over the 4 years. The top 10 contributors provided a variable proportion of tweets. In 2011 and 2012, the top 10 contributors posted 50% and 55% of tweets respectively. This increased significantly to 91% in 2013 and then decreased significantly to 36% in 2014.

The reach, the potential number of Twitter users, exposed to posts, rose >30 times from 2011 (15,502 users) to 2014 (471,166). Both 2012 (120,006) and 2013 (96,553) had a similar reach [Table 1]. Similarly the exposure, the potential number of times Twitter users were exposed to posts, rose >20 times from 2011 (231,984 impressions) to 2014 (4,680,361).

DISCUSSION

The use of Twitter at the ACEM ASM increased dramatically from 2011 to 2014. Compared to 2011, the 2014 ASM had >10 times the amount of both tweets and contributors. At other conferences, Logghe et al. recorded an eight-times increase from 2010 to 2012 while Robinson et al. reported a 56% rise from 2011 to 2012.10 In 2014, 572 individuals posted which made up 57% of the delegates at the conference. In 2011, there were only 54 contributors (8%). One might theorize that the increased use of Twitter at the ACEM ASM could simply be attributed to the rise of Twitter itself. However between 2011 and 2014, Twitter usage increased by over 250% which does not correlate with the larger growth of Twitter use that we observed at the ASM. Indeed, it seems that this is more likely due to the promotion of Twitter by the ASM itself and the attitudes of the delegates toward posting about the ASM. There were various initiatives at the subsequent ASMs, which encouraged more people to engage with the conference via Twitter. When delegates registered, there was a field to fill out their Twitter account. Preconference E-mails encouraged users to follow the respective Twitter account. During some plenary sessions, a continuously updating Twitter feed was displayed along the bottom of the presentation screen. In 2014, a mobile phone app was released to follow the conference, which allowed delegates to have a profile to include their Twitter account details.

It was interesting that while the number of contributors rose markedly [Figure 1], the average number of tweets per contributor did not. There was little difference across the 4 years (8.2-10.9 tweets/user). It seems that Twitter users at the ACEM conference do not individually alter their social media activity regardless of the increased number of others contributing. Others have reported an average of 4.9-10.0 tweets/user.[4,5,12,13]

The number of regular tweets stayed fairly constant form 2012-2014 [Figure 2]. Across the 3 years, there were 1446, 1297 and 1464 regular tweets respectively. As a proportion, regular tweets actually decreased somewhat. However in 2014 there was a significant increase in the number of retweets with users actively engaged with others’ tweets by sharing with their followers. Robinson et al. also noted a similar rise in retweet volume over subsequent years of a conference.[10] In regards to replies, there
was little disparity with the proportion over the 4 years ranging from 9% to 13%. Due to this, direct dialogue between users may appear to be somewhat limited when looking at the overall picture. This is not necessarily true though due to the broadcast nature of Twitter usage and may even be a general reflection of social media as a whole.

Following on from this, passive Twitter engagement is an extremely important element to be considered. When users post regular tweets, retweets or replies, they are actively engaging with the conference. Yet, a Twitter user can still interact with a conference by receiving tweets on their newsfeed. The exact number of users reading these is unable to be accurately ascertained however the reach and exposure are able to provide somewhat of an indication. The reach, or potential number of users exposed to related tweets, was 471,166 in 2014 [Figure 3]. This rise from 15,502 in 2011 displays the rapid growth of Twitter usage at the ACEM ASM. While there were <1000 delegates at the 2014 ASM, there was the potential for over 450,000 individuals to interact with the ASM. This further highlights the benefits and opportunities for emergency medicine education.

The most popular tweets, those with the highest exposure, were identified. In 2014, the most popular tweet had an exposure of nearly 200,000. This further demonstrates the many individuals that can possibly be involved in the ASM, an amount that would have been inconceivable even 10 years ago. A previous article has separated tweets into categories such as session related, social, logistic or advertising[8]. The vast majority of popular tweets were session related to a small minority to do with social or logistical aspects.

The most popular tweets of the 2011 ASM focused on bedside teaching, professionalism and the introduction of a burns image service. For 2012, the topic of free open access medicine was at the forefront along with a subtle jibe at the obstructive surgical registrar. Many were also exclamations on the use of twitter at the ASM. The significant increase in Twitter use from 2011 to 2012 can explain the presence of these posts. Leadership roles in a trauma setting, cardiac arrest management, and work-life balance were common themes in 2013. Further, presentations on the effect of new oral anticoagulants on coagulation profiles and whether adrenaline should be given in digital nerve blocks were notable. In 2014, prominent posts revolved around talks regarding electrocardiograms in coronary artery occlusion, early signs of stroke and a new approach to pulmonary embolism. Others included a national alcohol strategy and the future direction of emergency medicine. Simwars, a patient simulation competition between states that occurs at every ASM, also featured throughout the ASMs, furthering confirming its popularity.

From these few examples, it is clear that the most popular tweets detail a variety of topics, including clinical management, teaching, leadership as well as life outside of medicine. These tweets should be considered as points that are most practice-changing or educational to delegates at the ASM. A constantly updated summary of most popular tweets throughout the ASM would be a highly worthwhile initiative by the organizers. This would be of great value to those passionate about and involved in emergency medicine, whether they are attending the ASM or not.

As with any social media, there are a few cautionary comments to make regarding Twitter use at the ACEM ASM. While there was a very large jump from 2011 to 2012 and 2013-2014, the use of Twitter in 2012 and 2013 was quite similar. The number of tweets decreased slightly, and the number of contributors increased slightly. This occurrence is intriguing as it was expected that there would be
an obvious increase with each subsequent year. There were even 139 more delegates in 2013. The 2012 ASM may have been more actively promoted. There may have been a greater encouragement by organizers to use Twitter or perhaps the delegates registered may not have been as active Twitter users as the previous year. Further, at the 2013 ASM, the top 10 contributors accounted for 91% of the activity. With a small majority of individuals posting a large amount of tweets, other users may have been discouraged from posting themselves. It was encouraging to see that the top 10 contributors in 2014 posted only 36% of total tweets.

Delegates also always need to remember that all of their Twitter followers, whether medical or nonmedical, receive their posts. Social media etiquette mandates professional, legal and ethical considerations. In addition, the ASM organizers need to be active in filtering any inappropriate content appearing on their Twitter feed. Due to the immediacy of social media, it is understandably not a simple task to ensure unsuitable posts are quickly removed. Yet, however onerous it may be, this is important as Twitter accounts are now almost seen as the homepage of a conference. To combat this, some conferences have a social media officer continuously monitoring posts.

CONCLUSION

The use of Twitter at the ACEM ASM rose significantly from 2011 to 2014. It is a highly useful tool for the dissemination of emergency medicine education. Twitter has been harnessed by the ACEM ASM to enhance the conference experience by further generating interaction between delegates as well as those worldwide.

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