CONNECTING THE UROLOGICAL COMMUNITY: THE #UROSOME EXPERIENCE

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ABSTRACT

Background and Objectives

There is an increasing use of social media amongst the urological community. However, it is difficult to identify urological data on various social media platforms in an efficient manner. We proposed a hashtag, #UroSoMe, to be used when posting urology-related content in the social media platforms. The objectives of this article are to describe how #UroSoMe was developed and to report the data of the first month of #UroSoMe.

Material and Methods

We formally introduced the hashtag, #UroSoMe, to the urological community through the Twitter social media platform on 14th December 2018. The #UroSoMe working group was formed, and the members actively invited and encouraged people to use the hashtag #UroSoMe when posting urology-related contents. After the #UroSoMe (@so_uro) platform on Twitter had grown to more than 300 users, the first live event of online case discussion, i.e. #LiveCaseDiscussions, was conducted. A prospective observational study

of the hashtag #UroSoMe Twitter activity during the first month of its usage from 14 December 2018 to 13 January 2019 was evaluated. Outcome measures included the number of users, number of tweets, user location, top tweeters, top hashtags used and interactions between users. Analysis was performed using NodeXL (Social Media Research Foundation; California, USA; https://www.smrfoundation.org/nodexl/), Symplur (https://www.symplur.com) and Twitonomy (https://www.twitonomy.com).

Results

The first month of #UroSoMe activity documented 1373 tweets/retweets by 1008 tweeters with 17698 mentions and 1003 replies. The #LiveCaseDiscussions was able to achieve a potential reach of 2,033,352 Twitter users. The top tweets mainly included cases presented by #UroSoMe working group members during #LiveCaseDiscussions. The twitonomy map showed participation from 214 geographical locations. The major groups of participants using the hashtag #UroSoMe were 'Researcher/Academic' and 'Doctor'. By March 2019, The Twitter account of #UroSoMe (@so_uro) had grown to more than 1000 followers.

Conclusions

Social media is an excellent platform for interaction amongst the urological community. The results demonstrated that #UroSoMe was able to achieve widespread engagement from all over the world.

Key Words: *urology, social media, Internet, Twitter, UroSoMe*

Digital engagement of user-generated content in urology via various social media networking platforms has changed dramatically over the past decade. This change can be attributed to the ease of access, added awareness among healthcare professionals,[1] increasing number of mobile device users and most importantly, the possibility of real-time two-way communication across the world. Of the many social media platforms available, Twitter stands out as the go-to network for academic and clinical urologists. This growing realization of advantages and practicality of the Twitter platform in the urologic community has led to its usage even to various urologic subspecialties.[2–5]

The utilization and penetrance of social media in urology has been truly global. It appears that the idea of a printed journal arriving in our post on a subscription basis has been tailing off in this digital era. Urology journals were quick to recognize this trend and embrace change by creating associate editor roles for social media with the *British Journal of Urology (BJUI)* leading the way.[6] This change has reciprocally contributed by increasing their peer-review ratings and citations, and consequently its impact factor.[7,8]

Twitter communication has also seen a dramatic increase at urology conferences.[9] From the earliest report of its use at the 31st World Congress of Endourology (#WCE2013, #WCE13)[10] to the 34th Annual European Association of Urology Congress (#EAU19), the vibrant exchange, reach and engagement that occurred, changed the way we interact at and experience conferences. However, there are also some challenges regarding the use of social media in urology. One of the most important problems is the unawareness of relevant and important content. Taking Twitter as an example, there were a total of 500 million tweets per day in 2014.[11] It is difficult for users to identify useful information in an efficient manner. In order to standardize and integrate urological communication, we proposed a hashtag, #UroSoMe (which stands for Urological Social Media), to be used in social media platforms. Hashtags are labels that allow filtering of data on social media, and with its usage, the content can be streamlined to the user's need. This hashtag may break traditional practices of interaction and can be a virtual urology forum for learning and interaction amongst the urological fraternity. In this article, we shall describe the inception and growth of this social media urological community. We shall also analyse and report the data during the first month of #UroSoMe.

METHODS

The Development of #UroSoMe

In Early 2018, one of the authors (@jteoh_hk, JYC Teoh) came across a hashtag #SoMe4surgery on social media platform Twitter. While it brought the surgical community together, many of the topics discussed were not entirely relevant or specific to a urologist. He felt the need for a hashtag specific to Urology, and he quickly started building up the #UroSoMe community. The #UroSoMe Twitter account (@so_uro) was officially registered in August 2018 with an aim to connect, integrate and expand urological engagement which can transcend borders. After some careful planning, the first invitation to engage in #UroSoMe was sent out on 14th December 2018. This represents the beginning of the #UroSoMe community.

The #UroSoMe Working Group

Following the invitation on 14th December 2018, positive responses were received from all around the world. We believe that every social media community should start with a group of devoted personnel who are willing to work together, and the #UroSoMe working group was established shortly. It consists of a diverse group of urologists from various countries who communicate regularly and organize activities of this platform such as journal clubs and case discussions. The working group was initially formed with some Twitter users subscribing to @So_Uro and has expanded to include 19 members in total (Table 1).

TABLE 1 The #UroSoMe Working Group

Name	Twitter Handle	Country
Jeremy Teoh	@jteoh_hk	Hong Kong
Marcela Pelayo	@MarcelaPelayo	Mexico
Leonardo Tortolero	@DrTortolero	Spain
Edgar Linden	@EdgarLindenMD	Mexico
Jon Mikel Inarritu	@JontxuM	Mexico
Zainal Adwin	@zainaladwin	Malaysia
Kalyan Gudaru	@gudaruk	India
Adel Mesbah	@adelmesbah2	Algeria
Mateus Consentino Bellote	@BelloteMateus	Brazil
Vineet Gauhar	@DocGauhar	Singapore
Edgar Ivan Bravo	@EivanBravoC	Mexico
Marcelo Langer Wroclawski	@wroclawski_uro	Brazil
Rodrigo Donalisio da Silva	@RdonalisioMD	USA
Nariman Gadzhiev	@Urologeman	Russia
Daniele Castellani	@D_Castellani	Italy
Hegel Trujillo Santamaria	@HegeltS	Mexico
Mary Pia Pavia	@paviapia	Italy
Heman Prasad	@hemanprasad	India
Jeffrey Leow	@jleow	Singapore

The First Month of #UroSoMe

We have actively invited and encouraged people to use this common hashtag, and the #UroSoMe community has continued to grow. The #UroSoMe working group regularly posted tweets in order to increase the momentum of #UroSoMe. Every day these members work with a central principle of connecting and amplifying urological activities. After the @So_Uro platform on Twitter had grown to more than 300 users, the first live event of online case discussion, i.e. #LiveCaseDiscussions, was conducted. The working group has decided to conduct a focused discussion on one particular topic. The topics shortlisted for the session included 'Prostate Cancer', 'Bladder Cancer', 'BPH' and 'Stone'. In order to find a suitable topic and to gauge the interest of participants, a 24-hour time limited online poll was conducted on Twitter one week prior to the event. 312 Twitter users participated in the same, with 'Stone having the highest vote percentage of 32%.

The #LiveCaseDiscussions on 'Stone' was conducted at 4 pm (CET) on 5th January 2019.[12] A total of 9 complex cases were presented and discussed. One of the members of our working group (@jteoh_hk, JYC Teoh) acted as the presenter and moderator. All members of the working group actively participated in the discussions and encouraged their Twitter followers to use the hashtags #UroSoMe and #LiveCaseDiscussions during the whole event. It took nearly 2 hours to formally complete the online event, but conversations extended into the following week.

Monitoring of Activity

A prospective observational study of the Twitter activity during the first month of #UroSoMe was conducted. Two of the authors (JYC Teoh & K Gudaru) collected the data through different available software. Data on Twitter activity was collected using NodeXL (Social Media Research Foundation; California, USA; https://www.smrfoundation.org/nodexl/). Additional supplemental data was also collected from Symplur (https://www.symplur.com) and Twitonomy (https://www.twitonomy.com) after the #LiveCaseDiscussions event. As NodeXL gives a comprehensive analysis including records of individual mentions, this tool was used for the main

The study was time restricted and all tweets were counted, irrespective of the content and source.

RESULTS

Between 14 December 2018 and 13 January 2019, Node XL documented 1373 tweets/retweets by 1008 tweeters with 17698 mentions and 1003 replies. The Node XL graph illustrated a total of 14 distinct groups among the #UroSoMe community, but the interactions occurred mainly within and between 5 groups, namely G1, G2, G3, G4 and G5 (Figure 1). The #UroSoMe community represents a 'tight crowd', in which discussions occurred between highly interconnected people. Top 10 tweeters were ranked by betweenness centrality and include the following: @jteoh_hk, @juliomayol, @so_uro, @wroclawski_uro, @rdonalisiomd, @tweeturo, @aap_urology, @chrisharding123, @ezebecher, @vicentiniuro. The top tweets mainly included cases presented by the #UroSoMe working group members during the #LiveCaseDiscussions. In addition, a tweet by @DrMStiegler on how to cite a tweet, Instagram post, or YouTube video in academic work stands as one of the top five tweets (https://twitter.com/DrMStiegler/status/ 971148944880349186) in our analysis. The top hashtags being used were as follows, with the representative number of mentions in parenthesis: #urosome (2862), #urosomebrasil (172), #some4surgery (136), #livecasediscussions (127), #urology (123), #prostatecancer (84), #urologosjovenes (64), #savethedate (61), #bladdercancer (58), #some (58). The top mentioned and replied to Twitter account user is @jteoh_hk who acted as the presenter and moderator of the #LiveCaseDiscussions

On analysis of the Twitter activity and engagement of the #UroSoMe hashtag, maximum activity was noted a week prior to and after the #LiveCaseDiscussions. The timeline of engagement is shown in Figure 2 with a peak incidence of tweets on the day of the event (i.e. 5th January 2019). The #UroSoMe hashtag had a potential reach of 2,033,352 Twitter users. The majority of stakeholders consisted of 'Researcher/Academic' and 'Doctor'. The activity was also mapped based on country of origin. The twitonomy map showed that the participants come from 214 geographical locations in total (Figure 3). Although the participation
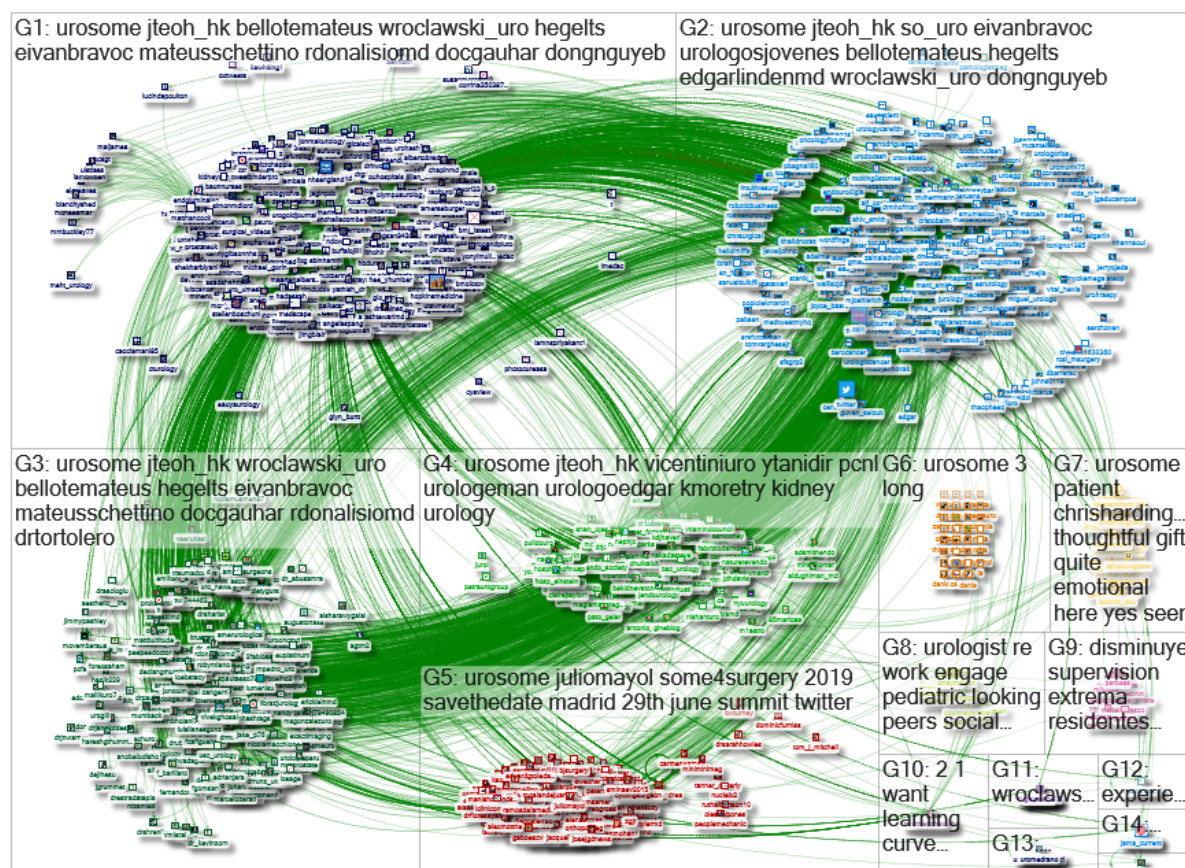
FIG. 1 Node XL graph showing the interactions among the #UroSoMe community.

was global, predominant activity came from Europe and North America. Twitonomy data also revealed the most influential, active and engaging users in Figure 4.

DISCUSSION

In this modern digital era, Twitter for professional use has been increasingly explored by surgeons through hashtags (#) for various surgical disciplines.[13,14] This has simplified the way we interact with other colleagues online, follow academic content and forums on topics of interest.[15] Many of these hashtags including #SoMe4Surgery, #ILookLikeASurgeon had "gone viral" and had an enormous impact on the surgical community. The urological community is no exception to this, and hashtag usage among them is currently experiencing considerable growth. Professional bodies including the European Association of Urology has

also published recommendations on the appropriate use of social media.[16,17]

Many novel urologic hashtags are being used for communication currently, foremost among them that made a quantum leap in online participation was #urojc.[18] During the first 12 months, 189 participants from 19 countries contributed to the discussion with a mean of 195 tweets per month. This was the first Twitter journal club that showed participation from urologists around the globe. Building on the success of #urojc and considering the fact that 73% of articles had at least one Twitter mention, the authors Loeb et al.[19] started a Twitter-based journal club #ProstateJC in 2017, with core discussions specific to prostate cancer. Monthly participation ranged from 33 to 88 participants, with 114–267 tweets. In comparison, #UroSoMe #LiveCaseDiscussions on core topic of
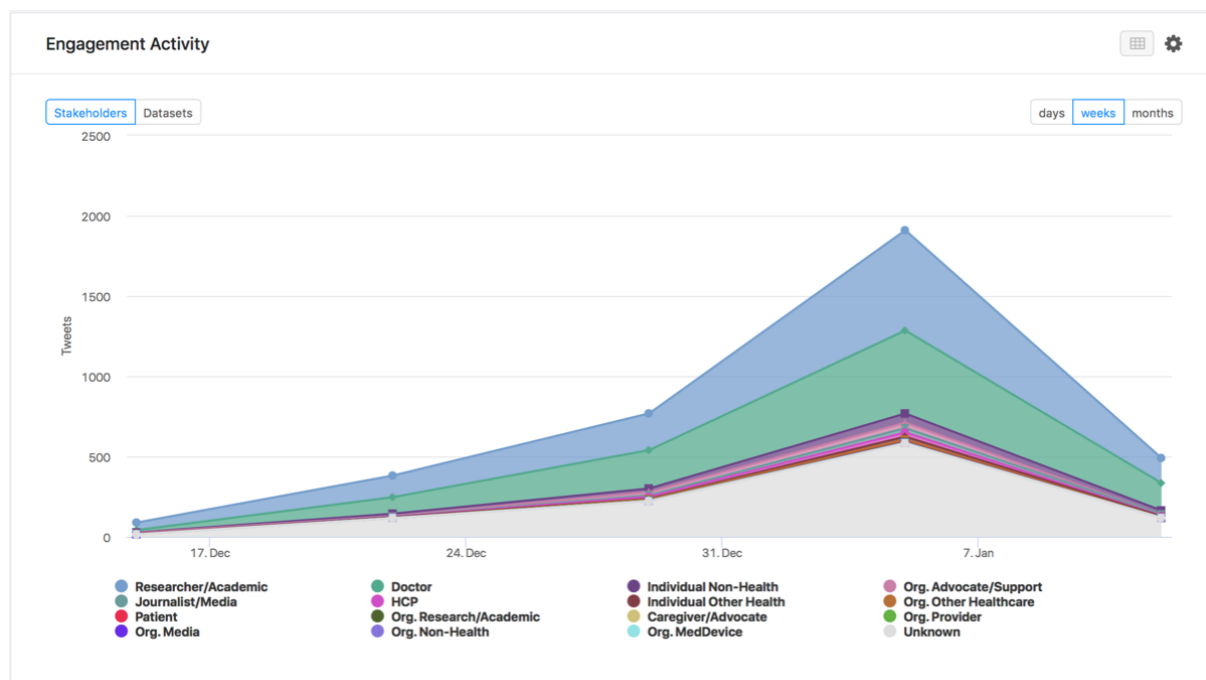
FIG. 2 Engagement activity of the #LiveCaseDiscussions event.

FIG. 3 Twitonomy map showing the location of global participants.

Most influential users

@GlopesMd
gilberto lopes

@juliomayol
Julio Mayol

@sminaev2015
Sergey Minaev

@CyclingSurgeon
Prof Chris Oliver

@Surgical_Videos
Surgery

@zainaladwin
Dr. Zainal Adwin

@docandrewmurray
Andrew Murray

@gmacscotland
Dr Graham Mackenzie□□□□

@SWexner
StevenDWexner MD,PhD,FACS,F
RCS,FRCSEd,FRCSI(Hon)

@healthhashtags
Symplur Hashtags

Most active users

@jteoh_hk
Jeremy Teoh

@so_uro
UroSoMe

@HegeltS
Hegel T. Santamaria

@TweetUro
URO_Tweet

@BelloteMateus
Dr. Mateus Cosentino Bellote
MD, MSc, MBA

@wroclawski_uro
Marcelo Wroclawski

@RdonalisioMD
Rodrigo Donalisio

@ElvanBravoC
Edgar Ivan Bravo □□□□

@AUSTEG1
AUSTEG

@DocGauhar
DrG

Most engaging users

@jteoh_hk
Jeremy Teoh

@wroclawski_uro
Marcelo Wroclawski

@ElvanBravoC
Edgar Ivan Bravo □□□□

@RdonalisioMD
Rodrigo Donalisio

@BelloteMateus
Dr. Mateus Cosentino Bellote □□□□,
MD, MSc, MBA

@HegeltS
Hegel T. Santamaria

@DocGauhar
DrG

@FCAFigueiredo
Felipe Figueiredo

@thiagocferr
Thiago Ferreira□□□□

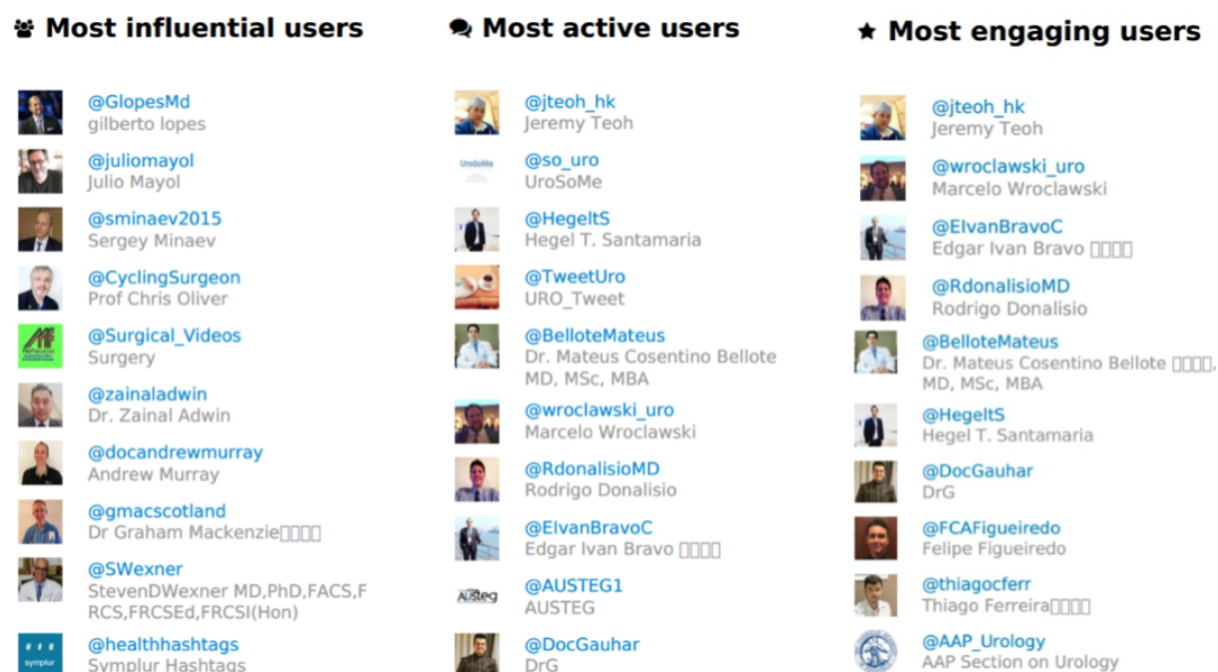@AAP_Urology
AAP Section on Urology

FIG. 4 Most influential, active and engaging users.

'Stone' was able to achieve a participation of over 1000 tweeters in its first month. The reach was of great magnitude, with potential impressions in the millions.[20] This enhanced reach of peer-to-peer interaction can be attributed not only to the digital revolution but also the changing mindset among urologists in understanding and realizing the advantages of using Twitter.

Interaction on Twitter has also been utilized to gauge public opinion on health policy. One of the prime examples was the Twitter response to 2018 US Preventive Services Task Force (USPSTF) recommendations on prostate cancer.[21] Quantitatively speaking, 32,537 prostate cancer community users generated 110,971 tweets on #ProstateCancer hashtag during a one-year period.[22] It was noted during the first month of #UroSoMe that there was low participation from patients, patient groups and healthcare organizations. The authors believe that #UroSoMe working group members should start advocating patients and organizations to get on social media and enhance discussions using the #UroSoMe hashtag.

Twitter has been a platform for supplementing conference interaction, and the urologic community has led the way when compared to any other surgical specialty.[23] Although there is progress made in developed countries with plenty of participation reported from conferences in Europe, North America and Australia,[24] there are few studies reporting data from developing countries and participation remains low.[25] An interesting phenomenon that took place during #LiveCase-Discussions was the birth of #UroSoMe unfoldings, including #UroSoMeBrasil and #UroSoMeMexico. These extensions enabled regional urological communities to discuss in their own native language on singular aspects of their practice, including regulatory issues, governmental decisions and material supply with regards to their local needs. Also, some clinical cases were translated to the native language of that specific group, reaching an even greater number of people throughout the discussions. This has contributed to increased participation from Latin American countries and has demonstrated that country-specific extensions are helpful.

The limitation of this study is the possible incomplete data extraction by third-party Twitter analysis tools and some data could have gone undocumented if the user posting content did not tweet with the hashtag #UroSoMe. The working group also acknowledges

the drawback of using social media networking tools as metrics are not well defined,[26] but would also like to inform the reader about the transparency and reproducibility of the utilized platforms.[27]

Lastly, the Urology Tag ontology project needs a special mention as it was the first attempt to standardize urological communication.[28] The authors had compiled a list of key hashtags as part of the project. It would be constructive to explore the utility of these hashtags within the #UroSoMe community. The #UroSoMe community has only just started and shall continue to evolve. It is time we endorse and expand the use of this urology-specific hashtag, #UroSoMe, in our future social media interactions. We believe that online events are worthwhile to conduct on a regular basis, and we hope to further increase the momentum of the #UroSoMe community. We find the initial results promising and we believe #UroSoMe has a great potential to be of value for all key stakeholders in the urological community.

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