Surgery Goes Social: The Extent and Patterns of Social Media Utilization by Major Trauma, Acute and Critical Care Surgery Societies

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Abstract

Context and Aims: The evolving influence of social media in trauma, acute, and critical care surgery (TACCS) cannot be ignored. We sought to investigate the extent and patterns of use of social networks by major regional, national and international TACCS societies.

Materials and Methods: The two leading social networking sites, Facebook (FB) and Twitter (TW), were thoroughly examined for the presence of official accounts for each of the major TACCS societies. An official FB or TW account was defined as one which has a blue verified badge and/or is linked the society’s official website. For societies with confirmed official accounts, the extent and patterns of use of the two platforms were systematically examined over a 2-week period through: (1) manual inspection of the societies’ FB and TW pages, (2) the SQLite database containing downloaded samples of posts, and (3) the TW analytics database, symplur.com. Standardized social media metrics were calculated for each society. Posted content was categorized as being: (1) society news updates, (2) event announcements, or (3) general medical information.

Results: From a total of 64 TACCS societies, only 27 (42%) had FB and/or TW accounts. Ten out of the 12 American societies had accounts compared to 13/39 of European, 2/9 of Australasian, and 0/2 of international societies. For the societies with social media presence, the mean numbers of monthly tweets and FB posts per society were 22 and 8, respectively. We summarize the FB and TW activity of the studied TACCS societies. Most tweets/posts were society news updates and event announcements intended to the society’s constituents not the general public. A text cloud was constructed to summarize the major featured topics.

Conclusion: Less than half of the TACCS societies are currently using social media; those that do are arguably underutilizing its potential. Non-American societies in particular lag behind in their use of social networking.

Keywords: Facebook, social media, trauma surgery, Twitter

INTRODUCTION

Since their introduction, social networking sites (such as Facebook [FB], Twitter [TW], and LinkedIn) have become increasingly popular and an integral part of most people’s lives. Social network sites equip their users with the means to instantly broadcast information and propagate news to large and diverse audiences.[1,2] In so doing, rapidly expanding web-based social media platforms empower individuals to enhance their interpersonal relationships and allow organizations to expand both their virtual and real-life influence.[1,3] TW and FB, with over 300 million and 1.6 billion active users, respectively, have dominated the social networking scene over the last few years, and their adoption appears to have brought about new paradigms of public engagement and systems of social interaction.[1,2]

The medical field presents unique challenges with social media usage, with special concerns related to patient privacy.[2,6] Despite these inherent restrictions, health-care professionals, medical centers, and health-care associations are making use of the enormous reach, low cost, ease of use, and instantaneous accessibility of social media to further expand their communication with the public and to broadcast different

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types of medical information. While previous studies have pointed to the successful utilization of social media in certain surgical specialties, the extent and patterns of use of social media in the trauma and acute care surgery world remains largely unknown. In this paper, we sought to investigate the extent and patterns of use of TW and FB by major regional, national and international trauma, and acute and critical care surgery (TACCS) societies.

**Materials and Methods**

To investigate the extent and patterns of social media utilization, we opted to study the use of the two leading social media networks, FB, and TW, by the major TACCS societies.

**Twitter**

TW is a micro-blogging social network that allows people to send messages, post images, and write “tweets” (posts) composed of a maximum of 140 characters. Users can “follow” the pages of their friends, family, colleagues, and other registered users to selectively read their posted tweets in real time. In addition, a user can decide to “re-tweet” or “favorite” another person’s tweet, to convey endorsement, support of or simply discuss a certain message. A useful indicator of overall exposure a tweet receives is the “impressions” parameter, which is described as the amount of times a post has been delivered to other accounts’ TW feeds. As a general trend, the more impressions a tweet has, the more people are potentially reading/viewing the tweet. The amount of tweets, photos, followers, and interactions (favorites and re-tweets) a page has is considered a combined measure of its activity, reach, and popularity.

**Facebook**

FB is a highly influential social networking website that allows its users to privately or publicly share and exchange user-generated content including messages, status updates, photos, and videos in a virtual community. An organization’s FB page or “profile,” is composed of sequentially ordered photos, videos, and written posts. The amount of followers and posts a page has and the amount of “likes” and “shares” its posts receive are positive indicators of the page’s activity, influence, and popularity.

**Identification of trauma and critical care surgery societies social media accounts**

An initial list of all known and/or internet-searchable trauma and critical care societies was compiled [Table 1]. These societies were categorized a priori as belonging to one of the following regions: Americas, Africa, Australasia, Europe, or International. A three-step English-language search was then performed: (1) primary search through TW and FB for the phrase “trauma surgery,” (2) secondary targeted search for the remainder of the Trauma Surgery Associations in the compiled list, and (3) verification of account authenticity. An organization was considered “present” on FB or TW if it had an officially verifiable page. This means that the page must be verified by the social network’s administration to establish the authenticity of identity (i.e., that the page’s claim to belong to an organization is true). When official verification was not available, we went to the organization’s website and looked for a link that directed us to their legitimate social networking page. For further validation, many associations also stated that the account is “official” in their respective TW or FB page’s description section.

**Evaluation of the extent and patterns of social media utilization**

Social media utilization was measured along three dimensions: presence, volume, and dialogue. Collectively, these parameters give a measure of whether or not, and to what extent, trauma surgery societies use social media, specifically FB and TW, to engage the public.

A comprehensive and systematic search on search engines (e.g., Google), FB, TW, and organizational websites was performed to identify societies concerned with trauma surgery and/or critical care medicine. Searches were performed in English. Once the official pages were located and confirmed, the following FB variables were evaluated: date joined, amount of posts, the range of number of likes and shares per post (interactions), and the type of content. For TW accounts, we checked: the date joined, total number of tweets, number of photos and videos, the range number of re-tweets and favorites (interactions), and nature of posted content.

For FB and TW, respectively, all 200 of the last posts published by each of the societies’ social media accounts were downloaded in an SQLite relational database through the FB and TW application programing interfaces, using Python code written for a previous similar study. Random subset from the various accounts was chosen for analysis, such that the final database consisted of 2420 tweets and 3700 FB updates. As part of the content analysis, a word cloud was constructed from the contents of our database, using the freely available software on wordclouds.com, to provide a crude level of insight into the relative frequency of usage and prominence of keywords and terms by the corresponding social media accounts. Moreover, tweets were classified as being promotional/informative, if they signal an intent to inform or update, or interactive, insofar as they signal an intent to directly converse or dialogue, and build relationships with other users (via re-tweets and mentions).

An additional search through “symplur” (symplur.com), a freely available TW health-care analytics database, for the phrase “trauma surgery” was conducted. Results of this search show details on the current trending topics in trauma surgery, the users who are most active in the discussions of those topics, and the overall reach of the corresponding conversations on TW.

**Statistical analyses**

Descriptive statistics were used to characterize the presence of trauma (and critical care) surgery societies on social networking platforms and their corresponding patterns of social media use. Statistical analyses were performed using Microsoft Excel spreadsheets.
| Trauma Surgery Society | Region                | Website                                      | Social media account(s)                  |
|------------------------|-----------------------|----------------------------------------------|------------------------------------------|
| American Association for the Surgery of Trauma (AAST) | Pan-American          | aast.org/Default.aspx                         | twitter.com/traumadoctors; facebook.com/AASTTrauma surgeons |
| American College of Surgeons Committee on Trauma (ACST) | Pan-American          | facebook.com/ACSTrauma; facebook.com/ACSTrauma |
| American Trauma Society (ATS) | Pan-American      | canadiancriticalcare.org                    | twitter.com/ATSTrauma; facebook.com/atstrauma |
| Asociación Colombiana de Trauma (ACT) | Pan-American        | asocoltrauma.org                             | N/A                                       |
| Brazilian Trauma Society (SBAIT) | Pan-American     | sbait.org.br                                | twitter.com/sbaitbrasil; facebook.com/sbaitbrasil |
| Canadian Critical Care Society (CCCS) | Pan-American        | canadiancriticalcare.org                    | facebook.com/pages/CCCS‑Canadian‑Critical‑Care‑Society/109992257014 |
| Eastern Association for the Surgery of Trauma (EAST) | Pan-American         | east.org                                    | twitter.com/east_trauma; facebook.com/pages/Eastern‑Association‑for‑the‑Surgery‑of‑Trauma/25110099969 |
| Midwest Trauma Society (MTS) | Pan-American           | midwesttraumasociety.org                    | facebook.com/midwesttraumasociety         |
| Pan-American Trauma Society (SPT) | Pan-American        | panamtrauma.org                             | twitter.com/Sociedad‑Panamericana‑de‑Trauma; facebook.com/Sociedad‑Panamericana‑de‑Trauma |
| Society of Critical Care Medicine (SCCM) | Pan-American         | sccm.org/Pages/default.aspx                 | twitter.com/SCCM; facebook.com/SCCM1     |
| Trauma Association of Canada (TAC) | Pan-American        | traumaassociation.ca                      | twitter.com/TraumaCanada                 |
| Western Trauma Association (WTA) | Pan-American        | westerntrauma.org                           | facebook.com/pages/Western‑Trauma‑Association/105385033674 emotionally | twitter.com/ATMSurg |
| Spanish Association for Trauma Surgery (SPEAT) | Pan-American        | speat.org                                  | twitter.com/Sociedad Españo‑Americana de Traumatología       |
| Belgian Trauma Society (BOV) | International          | belgiumtrauma.org                           | twitter.com/Belgische‑Vereniging‑van‑Traumachirurgen         |
| International Trauma Anesthesia and Critical Care Society (ITACS) | International        | itacs.org                                   | N/A                                       |
| International Trauma Association of Asia and Pacific (ITAAP) | International        | itaap.org                                   | twitter.com/ITAAP; facebook.com/ITAAP      |
| International Orthopaedic Trauma Society (IOT) | International        | iot.org                                     | twitter.com/International‑Orthopaedic‑Trauma‑Society; facebook.com/International‑Orthopaedic‑Trauma‑Society     |
| International Society for Trauma and Orthopedic Surgery (ISCTO) | International        | iscto.org                                   | twitter.com/ISCTO; facebook.com/ISCTO       |
| International Society for Trauma and Orthopedic Surgery (ISCTO) | International        | iscto.org                                   | twitter.com/International‑Orthopaedic‑Trauma‑Society; facebook.com/International‑Orthopaedic‑Trauma‑Society     |
| International Society for Trauma and Orthopedic Surgery (ISCTO) | International        | iscto.org                                   | twitter.com/ISCTO; facebook.com/ISCTO       |
| International Society for Trauma and Orthopedic Surgery (ISCTO) | International        | iscto.org                                   | twitter.com/International‑Orthopaedic‑Trauma‑Society; facebook.com/International‑Orthopaedic‑Trauma‑Society     |

Contd...
| Trauma Surgery Society                                      | Region    | Website                        | Social media account(s)                                                                 |
|------------------------------------------------------------|-----------|-------------------------------|--------------------------------------------------------------------------------------------|
| Hungarian Trauma Society (MTT)                             | Europe    | mtrauma.hu                     | N/A                                                                                       |
| Italian Trauma and Emergency Surgery Society (SICUT)       | Europe    | sicut.org                      | N/A                                                                                       |
| Lusitania (Portuguese) Association of Trauma and Emergency Surgery (ALTEC/LATES) | Europe | altec-lates.pt/en | twitter.com/AltecLates; facebook.com/AltecLates?_rdr                                    |
| Norwegian Trauma Competency Service                        | Europe    | N/A                           | N/A                                                                                       |
| Pan-Ukrainian Association of Traumatology and Osteosynthesis (UATO) | Europe | uato.com.ua                        | N/A                                                                                       |
| Romanian Trauma and Emergency Surgery Society (SRCUT)      | Europe    | srcut.ro                       | N/A                                                                                       |
| Scottish Intensive Care Society (SICS)                     | Europe    | scottishintensivecare.org.uk   | twitter.com/sicsmembers; facebook.com/groups/sicstrainees/?fref=ts (private group)       |
| Serbian Trauma Society                                     | Europe    | N/A                           | N/A                                                                                       |
| Slovakian Trauma Society                                   | Europe    | N/A                           | N/A                                                                                       |
| Slovenian Society of Trauma Surgeons                       | Europe    | N/A                           | N/A                                                                                       |
| Spanish Surgeons Association (SSA)                         | Europe    | N/A                           | N/A                                                                                       |
| Swedish Trauma Association                                 | Europe    | swedishtrauma.se              | N/A                                                                                       |
| Swiss Society of Trauma and Emergency Surgery (SGAUC)      | Europe    | sgauc.ch                       | N/A                                                                                       |
| Swiss Trauma Society (SGTV)                                | Europe    | sgtv.org                       | N/A                                                                                       |
| The Intensive Care Society (ICS)                           | Europe    | ics.ac.uk                      | twitter.com/ICSmeetings; facebook.com/intensivecaresociety?fref=ts                        |
| The Northern Ireland Intensive Care Society (NIICS)        | Europe    | niics.com                      | N/A                                                                                       |
| The Welsh Intensive Care Society (WICS)                    | Europe    | welshintensivecaresociety.org | twitter.com/WelshICS; facebook.com/groups/12871758737480/(private group)                |
| The World Society of Emergency Surgery (WSES)              | Europe    | wses.org.uk                    | N/A                                                                                       |
| Trauma Care UK                                             | Europe    | traumaCare.org.uk             | twitter.com/traumacareuk                                                                  |
| Turkish Society for Trauma and Emergency Surgery (TSTES)   | Europe    | trava.org.tr                   | twitter.com/UTACD; facebook.com/pages/Ulasal-Travma-ve-Acil-Cerrahi-Derne%C4%9Fi289480081218347?ref=br_rs |
| Wessex Intensive Care Society (WICS)                       | Europe    | wessexics.com                  | twitter.com/WessexICS                                                                     |
| Australasian Trauma Society (ATS)                          | Australasia | traumasociety.com.au               | N/A                                                                                       |
| Chinese Society of Critical Care Medicine (CSCCM)          | Australasia | cscm.org/en                    | N/A                                                                                       |
| Hong Kong Society of Critical Care Medicine (HKSCCM)       | Australasia | hksccm.org                     | N/A                                                                                       |
| Indian Society of Critical Care Medicine (ISCCM)           | Australasia | isccm.org                      | N/A                                                                                       |
| Japanese Association for the Surgery of Trauma (JAST)      | Australasia | just-hp.org                    | N/A                                                                                       |
| Japanese Society for Acute Care Surgery (JSACS)            | Australasia | jsacs.org/information/        | N/A                                                                                       |
| Korean Society of Acute Care Surgery (KSACS)               | Australasia | surgicalcriticalcare.org      | N/A                                                                                       |
| Philippine Society of Critical Care Medicine (PSCCM)       | Australasia | pscm.org.ph                    | twitter.com/pscm_phils; facebook.com/pscm.criticalcaremedicine?fref=ts                   |
| Taiwan Society of Critical Care Medicine (TSCCM)           | Australasia | tscm.org.tw                    | N/A                                                                                       |
| Egyptian Society of Intensive Care and Trauma (ESICT)      | Africa     | esiet.org                      | facebook.com/EgyptianSocietyOfIntensiveCareAndTraumaesict                                |
| Trauma Society of South Africa (TSSA)                      | Africa     | traumasa.co.za                 | twitter.com/TraumaSocietySA; facebook.com/pages/Trauma-Society-of-South-Africa/154138767974688 |

Data retrieved November 2015. N/A: Not available
RESULTS

Overview

Table 1 contains a compiled list of all known and/or internet-searchable TACCS societies. From a total of 64 major trauma (and critical care) societies, 58 (91%) regularly maintain websites, of which 27 (42%) have official FB and/or TW accounts [Figure 1 and Table 1]. Out of the 27 societies with social media presence, 19 had adopted both FB and TW, while four used only FB, and four used only TW. When evaluating for the presence of any regional differences, it was notable that 83% (10/12) of the American-based trauma societies are active on social media, compared to only 33% (13/39) of the European organizations, and 22% (2/9) of the Australasian organizations. There were only two African trauma societies, and both had active FB and/or TW accounts. Surprisingly, none of the two major international trauma societies had FB or TW accounts [Table 1].

Facebook

Overall, there are 23 verified FB accounts belonging to major trauma surgery societies [Table 2]. The median FB join date is 2011 (range: 2009–2014). The means for the total number of followers, overall posts, and monthly number of posts, per FB page are 4266 ± 2197 followers (mean ± standard error), 415 ± 106 posts, and 7 ± 2 posts per month, respectively. The average range number of interactions (such as comments and shares) is 47 ± 15 interactions per post per FB page, and the average number of uploaded photos and/or videos per FB page is 335 ± 106 photos and/or videos [Table 2].

Twitter

As for the use of TW, our search revealed 23 verified accounts belonging to major trauma surgery societies [Table 3]. The median TW join date is May 2012 (range: May 2008–February 2015). The average number of “followers” per account is 1587 ± 445 followers and the means for overall and monthly number of tweets per account is 1031 ± 300 tweets and 22 ± 7 tweets per month, respectively. Each account was following an average of 196 ± 78 users and posted an overall average of 43 ± 11 photos and/or videos. The mean range number of interactions (re-tweets and favorites) is 10 ± 2 interactions per tweet per TW account [Table 3].

Notably, the Western Trauma Association, the European Society for Trauma and Emergency Surgery, and the International Association for Trauma Surgery and Intensive Care, among others are relatively large regional and global trauma surgery organizations that did not, to the best of our knowledge and at the time of writing this manuscript, manage any FB or TW pages [Table 1]. Furthermore, of note, the Society for Critical Care Medicine’s (SCCM) social media accounts were significantly more popular than the rest. At 8095 TW followers and 46,291 FB followers, SCCM garners a significantly larger audience and social network following, compared to the average trauma surgery society – most probably attributed to its large scope of focus, which encompasses the whole field of critical care medicine.

Content analyses

Most of the Trauma Surgery Associations’ pages have self-identified as belonging to the “Medical and Health – Community and Government” category. Most tweets/posts were intended to the society’s constituents rather than the general public. The audiences and followers of the associations’ pages not only include trauma surgeons, nurses, society members, and surgical residents but also nontrauma experts and diverse healthcare enthusiasts.

Based on the content analysis of our sample database consisting of 2420 tweets of various trauma surgery societies, we found that 14.5% of tweets contained some form of visual media (photos/videos), and 50.8% were interactive in nature (i.e., promoted other societies’ posts through re-tweets or engaged in direct public conversations with communicating users, through direct “mentions”). Moreover, 41.2% of the posts were re-tweets, while the remaining were original material. More than half (52.8%) of tweets contained at least one hashtag, for a total of 1757 “hashtag-ed” words in our 2420-tweet sample. The construction of a 150-word text cloud from the stored tweets, and an additional random sample of 3700 FB updates posted by the different trauma societies revealed, as indicated by their relative font size, that the most commonly recurring words (excluding common English words), in social media posts, are “trauma,” “care,” “critical,” “the American Association for the Surgery of Trauma (AAST),” and “the Eastern Association for the Surgery of Trauma (EAST)” [Figure 2].

DISCUSSION

To the best of our knowledge, this is the first study attempting to evaluate the extent and nature of use of social media by the major trauma, emergency surgery, and surgical critical care associations. We have found that less than half of these associations are using FB and/or TW, and that those that do are most likely underusing the potential of the two platforms. A thorough examination of the posted content reveals the
major current uses to be: (1) providing general information about the society, (2) posting links to trauma surgery journal articles, (3) acknowledgement of current and local events, (4) thanking/recognizing specific groups or individuals, and (5) promoting news and updates on the associations’ activities. Occasionally, societies shared posts regarding upcoming lectures, conferences, symposia, meetings, less frequently, scholarships, and volunteering opportunities.

**Regional differences**

USA-based societies were among the first to establish presence on FB and TW (median FB and TW join dates of 2010 and October 2010, compared to the overall median time for joining in 2011 and 2012, respectively [Tables 2 and 3]). More recently, European societies have been getting more and more socially active and are having considerable success and popularity. The other TACCS societies in the rest of the world are arguably still lagging behind in this domain and are either not or under-utilizing the power of social media and its potential reach.

**Healthcare hashtags: The model for exponential reach**

The search for “trauma surgery” on symplur.com brought up several results corresponding to healthcare TW chats and/or healthcare conferences. We opted to sample a subset of the health-care hashtags used in TACCS conferences: EAST 28th Annual Scientific Assembly, 72nd and 74th Annual Meetings of the AAST and Clinical Congress of Acute Care Surgery, 33rd and 34th Point/Counterpoint Acute Care Surgery

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### Table 2: Screen name, date joined, followers, posts, and interactions of trauma, acute and critical care surgery societies on Facebook

| Screen name                                                                 | Joined | Followers | Posts/updates | Interactions per post (range) | Photos/videos |
|----------------------------------------------------------------------------|--------|-----------|---------------|-------------------------------|---------------|
| American Association for the Surgery of Trauma (AAST)                      | 2009   | 3059      | 1042          | 0-20                          | 393           |
| Eastern Association for the Surgery of Trauma (EAST)                       | 2010   | 1155      | 695           | 0-40                          | 401           |
| American Trauma Society (ATS)                                              | 2010   | 1435      | 584           | 0-70                          | 304           |
| American College of Surgeons Committee on Trauma (ACS COT)                | 2011   | 5802      | 556           | 0-80                          | 293           |
| Midwest Trauma Society (MTS)                                               | 2011   | 234       | 54            | 0-10                          | 32            |
| Brazilian Trauma Society (SBAIT)                                           | 2013   | 1773      | 1084          | 0-25                          | 837           |
| Pan-American Trauma Society (SPT)                                          | 2011   | 898       | 141           | 0-5                           | 200           |
| Society of Critical Care Medicine (SCCM)                                   | 2009   | 46,291    | 1390          | 0-200                         | 1859          |
| Canadian Critical Care Society (CCCS)                                       | 2011   | 3178      | 60            | 0-8                           | 10            |
| Egyptian Society of Intensive Care and Trauma (ESICT)                      | 2012   | 2796      | 638           | 0-10                          | 6             |
| AO Foundation/AO Trauma                                                   | 2011   | 8027      | 389           | 0-150                         | 413           |
| Trauma Society of South Africa (TSSA)                                      | 2011   | 52        | 59            | 0-5                           | 4             |
| European Society of Intensive Care Medicine (ESICM)                        | 2011   | 11,445    | 1536          | 0-250                         | 1029          |
| The Intensive Care Society (ICS)                                           | 2011   | 1763      | 195           | 0-12                          | 45            |
| Indian Society of Critical Care Medicine (ISCCM)                           | 2014   | 389       | 55            | 0-2                           | 2             |
| Albanian Trauma Association (ATA)                                          | 2014   | 276       | 5             | 0-25                          | 12            |
| Traumachirurgie - Dutch Trauma Society (NVT)                               | 2014   | 440       | 140           | 0-40                          | 71            |
| Suomen Traumatologiyhdistys - Finnish Trauma Association (STY)             | 2013   | 69        | 32            | 0-6                           | 29            |
| Lusitania (Portuguese) Association of Trauma and Emergency Surgery (ALTEC/LATES) | 2013   | 66        | 7             | 0-2                           | 4             |
| Ulusal Travma ve Acil Cerrahi Dernegi - Turkish Society for Trauma and Emergency Surgery (TSTES) | 2014   | 80        | 3             | 0-2                           | 22            |
| Philippine Society of Critical Care Medicine (PSCCM)                       | 2010   | 365       | 57            | 0-20                          | 1078          |
| Scottish Intensive Care Society (SICS)                                     | Private group |
| The Welsh Intensive Care Society (WICS)                                     | Private group |

Data retrieved November 2015. N/A: Not available

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**Figure 2:** Text cloud constructed from a sample of 2420 tweets and 3700 Facebook updates by major trauma, acute and critical care surgery organizations. The relative font size is indicative of the relative frequency of usage of a particular word. Word cloud was constructed using freely available software on wordclouds.com, and excludes common English words (data retrieved May 2015)
Table 3: Username, date joined, tweets, interactions, photos/videos, following, and followers of trauma, acute and critical care surgery societies on Twitter

| Trauma Surgery Association | Username | Joined   | Tweets | Interactions per tweet (range) | Photos/videos | Following | Followers |
|----------------------------|----------|---------|--------|--------------------------------|---------------|-----------|-----------|
| American Association for the Surgery of Trauma (AAST) | @traumadoctors | June 09 | 1673   | 0-10                           | 82            | 117       | 3793      |
| Eastern Association for the Surgery of Trauma (EAST) | @EAST_TRAUMA | April 09 | 751    | 0-10                           | 123           | 16        | 2001      |
| American Trauma Society (ATS) | @ATSTrauma | May 12  | 296    | 0-15                           | 58            | 208       | 628       |
| American College of Surgeons Committee on Trauma (ACS COT) | @ACSTrauma | February 12 | 435   | 0-10                           | 20            | 152       | 2955      |
| Trauma Association of Canada (TAC) | @TraumaCanada | August 11 | 360    | 0-10                           | 2             | 27        | 561       |
| Brazilian Trauma Society (SBAT) | @sbatrbrasil | April 13 | 668    | 0-5                            | 19            | 91        | 44        |
| Society of Critical Care Medicine (SCCM) | @SCCM | May 08  | 2465   | 0-20                           | 128           | 58        | 8095      |
| Trauma Society of South Africa (TSSA) | @TraumaSocietySA | December 12 | 154   | 0-10                           | 33            | 101       | 365       |
| AO Foundation/AO Trauma | @AOTrauma | October 11 | 380   | 0-5                            | 1             | 8         | 1709      |
| Trauma Care UK | @TraumaCareUK | October 10 | 902   | 0-30                           | 59            | 1,827     | 3526      |
| Association of Trauma and Military Surgery (ATMS) | @ATMSurg | August 14 | 335   | 0-15                           | 14            | 233       | 265       |
| European Society of Intensive Care Medicine (ESICM) | @ESICM | November 11 | 2195  | 0-10                           | 4             | 172       | 4611      |
| The Intensive Care Society (ICS) | @ICSmeetings | November 10 | 2716  | 0-20                           | 92            | 179       | 4997      |
| Scottish Intensive Care Society (SICS) | @sicsmembers | May 14  | 1022   | 0-10                           | 47            | 328       | 489       |
| Wessex Intensive Care Society (WICS) | @WessexICS | June 12 | 5891   | 0-17                           | 190           | 507       | 1538      |
| Indian Society of Critical Care Medicine (ISCCM) | @ISCCM_Org | November 14 | 3    | 0-0                            | 0             | 38        | 15        |
| The Welsh Intensive Care Society (WICS) | @WelshICS | June 11 | 3280   | 0-10                           | 86            | 29        | 698       |
| Albanian Trauma Association (ATA) | @Trauma_Albania | February 15 | 6    | 0-0                            | 5             | 40        | 2         |
| Traumachirurgie - Dutch Trauma Society (NVT) | @NedVerTrau | January 13 | 114   | 0-5                            | 1             | 240       | 93        |
| Suomen Traumatologiylhdistys - Finnish Trauma Association (STY) | @finnishtrauma | January 15 | 27    | 0-3                            | 7             | 67        | 21        |
| Lusitianian (Portuguese) Association of Trauma and Emergency Surgery (ALTEC/LATES) | @AltecLates | N/A | 0    | 0-0                            | 0             | 15        | 0         |
| Turkish Society for Trauma and Emergency Surgery (TSTES) | @UTACD | September 14 | 34    | 0-4                            | 11            | 41        | 70        |
| Philippine Society of Critical Care Medicine (PSCCM) | @psccm_phils | August 12 | 4    | 0-0                            | 1             | 15        | 16        |

Data retrieved November 2015. N/A: Not available

Table 4: Trauma, Acute and Critical Care Surgery Healthcare Conferences’ hashtags, and their corresponding number of tweets, impressions, and participating users on Twitter

| Healthcare Conference | Date of the event | Hashtags | Tweets | Impressions | Participants |
|-----------------------|-------------------|----------|--------|-------------|--------------|
| 74th Annual Meeting of American Association for the Surgery of Trauma (AAST) and Clinical Congress of Acute Care Surgery | September 9, 2015-September 12, 2015 | #AAST2015 | 1399 | 1,455,306  | 677          |
| 72nd Annual Meeting of the American Association for the Surgery of Trauma and Clinical Congress of Acute Care Surgery | September 18, 2013-September 21, 2013 | #AASTAnnualMeeting | 383  | 7277        | 81           |
| 34th Annual Point/Counterpoint Acute Care Surgery Conference | June 7, 2015-June 10, 2015 | #pcpacs15 | 302  | 295,793    | 42           |
| 33rd Annual Point/Counterpoint Acute Care Surgery Conference | June 1, 2014-June 4, 2014 | #acscp | 584  | 522,688    | 50           |
| Eastern Association for the Surgery of Trauma (EAST) 28th Annual Scientific Assembly | January 13, 2015-January 17, 2015 | #east2015 | 294  | 201,108    | 83           |
| 2nd Annual Excellence in Trauma and Critical Care Conference | September 24, 2015-September 26, 2015 | #ETCC15 | 81   | 121,791    | 23           |

Data retrieved from the freely available healthcare database, symplur.com, on November 2015
Conference, and the 2nd Annual Excellence in Trauma and Critical Care Conference [Table 4]. EAST and AAST were the only trauma surgery organizations that majorly influenced the discussion and social media broadcasting of these conferences, engaging their constituents, and other users in a global exchange of ideas and information. These societies are transforming the way health-care assemblies are broadcast, adding a whole new dimension to the way conferences are presented, and essentially redefining our understanding of “event attendance.” The use of an event-specific hashtag allows its organizers to involve exponentially larger online audiences and increase the event’s potential overall exposure beyond its attendees. For example, during the 74th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery, 677 actively tweeting participants using the “#AAST2015” hashtag had their total of 1399 tweets delivered to the timelines of 1,455,306 users, a several orders of magnitude larger audience than the 2000 + members who attended the conference. As such, both EAST, the American College of Surgeons Committee on Trauma (ACS COT), and AAST have started to unlock the powers of social media and its ability to make even specialized content potentially and exponentially reach hundreds of thousands of people that are physically not in their meeting venues. Other associations interested in expanding their social media thumbprint and overall message reach ought to observe the pattern of use and constituents’ engagement with ACS-COT, EAST, and AAST as they continue to be pioneers in this domain.

Limitations

Our study has a few limitations. First, the search strategy was performed in the English language, and we thus acknowledge that we may have missed societies whose websites, FB or TW accounts are exclusively in different languages. Second, we performed the data collection and postcounts manually rather than in an automated fashion, which could have led to minor nonsystematic human error.

Conclusion

We have thus explored qualitatively and quantitatively the extent and patterns of use of social media by the major regional, national and international trauma, emergency surgery and surgical critical care associations. We have found that: (1) Less than half the associations have adopted any major social media presence, (2) most of those that are present on social media still underuse its incredible potential, and (3) American associations, especially AAST, ACS-COT, EAST, and SCCM are leading the way in this domain compared to their European, Australasian, and international counterparts. In a world that is becoming more and more instantaneously connected, trauma surgery societies need to continue optimizing their use of social media as it has the potential to connect the different silos of the trauma world as well as elevate the relevance of trauma and its health burden in the eyes of the average person across the world.

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Conflicts of interest

There are no conflicts of interest.

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