

## Review

# Twitter for travel medicine providers

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## Abstract

Travel medicine practitioners, perhaps more so than medical practitioners working in other areas of medicine, require a constant flow of information to stay up-to-date, and provide best practice information and care to their patients. Many travel medicine providers are unaware of the popularity and potential of the Twitter platform. Twitter use among our travellers, as well as by physicians and health providers, is growing exponentially. There is a rapidly expanding body of published literature on this information tool. This review provides a brief overview of the ways Twitter is being used by health practitioners, the advantages that are peculiar to Twitter as a platform of social media, and how the interested practitioner can get started. Some key points about the dark side of Twitter are highlighted, as well as the potential benefits of using Twitter as a way to disseminate accurate medical information to the public. This article will help readers develop an increased understanding of Twitter as a tool for extracting useful facts and insights from the ever increasing volume of health information.

**Key words:** Twitter, social media, hashtag, tweet, social networking, healthcare providers, travel medicine

## Introduction

### Overview

Travel medicine practitioners, perhaps more so than those working in other areas of medicine, require a constant flow of information to stay up-to-date. There are many tools that help in our task: journals especially the *Journal of Travel Medicine* (JTM); bulletins from ProMed Mail, the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), International Society for Travel Medicine; conferences; email. Now there is social media (#SoMe) and in particular, Twitter.

Because social media ‘enables an immediate exchange of information and ideas around shared areas of interest, it has fostered communication and collaboration among a global network of scientific investigators, clinicians, patients and learners’.<sup>1</sup>

### Methods

We conducted a review of the published medical and general literature for Twitter use by healthcare providers. Relevant articles were identified using PubMed, Google Scholar and QxMD. English language articles between the years 2010 and 2015 on

PubMed were limited to combinations of social media, social media/utilization, social networking, social networking, attitude, physicians, General Practice, Physicians, primary care, surgeons, practice management, medical, professional role, information seeking behaviour, social support, professional development, education, medical, continuing, communication, ethics, United States, global health, internet and Internet/utilization. English language articles between 2010 and 2015 on QxMD were limited to the search term ‘Twitter’. There is so much information that it was not possible to review all articles: Using the James Cook University online library service, a search on the terms ‘Twitter’ and ‘Medicine’ yielded 314 727 results.

### Twitter Basics

Twitter is an online social networking service that enables users to send and read short 140 character messages called tweets. It was launched in 2006. As of June 2015, Twitter reports they have 316 million active users, sending 500 million tweets per day, 80% on mobile devices, in more than 35 languages.<sup>2</sup> Twitter is called a micro-blogging platform because the tweets are so short. The character limit imposed by Twitter forces the

# How to start a Twitter account

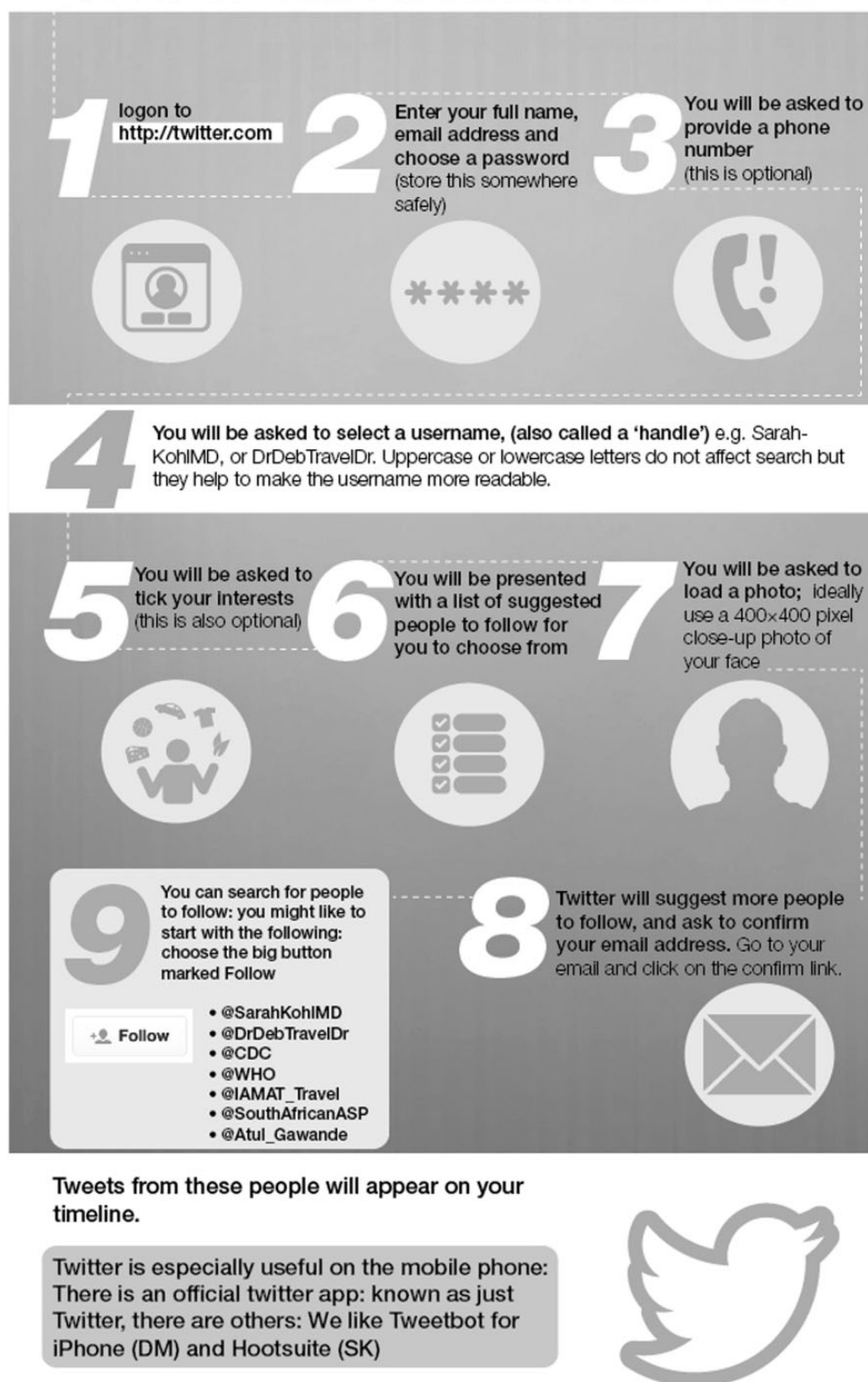


Figure 1. How to start a Twitter account

writer to be succinct: pictures and links allow further information to be included.

Twitter is like a personalized news service: users can read the messages of people or organizations that they follow. As with all social media, users choose whether it is the latest news about Ebola Virus Disease (EVD), or what a celebrity had for breakfast.

<ul style="list-style-type: none"> <li>• @SarahKohlMD</li> <li>• @DrDebTravelDr</li> <li>• @CDCtravel</li> <li>• @WHO</li> <li>• @IAMAT_Travel</li> <li>• @SouthAfricanASP</li> <li>• @gateshealth</li> <li>• @EndPolioNow</li> <li>• @Promed_mail</li> <li>• @bbchealth</li> <li>• @HarvardChanSPH</li> </ul>	<ul style="list-style-type: none"> <li>• @JohnsHopkinsSPH</li> <li>• @FightTheFakes</li> <li>• @RtAVM</li> <li>• @Voices4Vaccines</li> <li>• @Vaccinestoday</li> <li>• @sabinvaccine</li> <li>• @PeterHotez</li> <li>• @OrinLevine</li> <li>• @bactiman63</li> <li>• @RollBackMalaria</li> <li>• @Atul_Gawande</li> </ul>
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Figure 2. Suggestions for people to follow on Twitter

The first step in joining Twitter is to go online to twitter.com and register (Figure 1).

Once registered, password recorded securely, and some terminology understood, you are ready to proceed (Figure 3).

## How Can Travel Medicine Providers Use Twitter?

Twitter, like other social media platforms, has a unique social ecosystem: users are encouraged to provide commentary and insight into issues (Figure 4: The Pyramid of possible Twitter use in Travel Medicine).

### News—Both Medical and General

Twitter is most commonly used as an online news service; however, users have access to more than just the big players like the CDC and WHO. Twitter allows healthcare practitioners to connect directly with peers to engage in conversations that build relationships and foster a deeper understanding of subject matter. Additionally, healthcare workers can connect with remote communities in real time, to get an accurate view of local conditions.

tweeting	The act of sending a tweet
hashtag (#)	The Hash symbol is included with a word eg #ebola. This makes it easy to sort through the vast amount of information in twitter to find particular topics. Hashtags are analogous to medical subject headings (MeSH) in PubMed, providing a convenient way to follow topics.
retweet	A re-posting of someone else's tweet. This helps share the tweet from your feed to all those who follow you across more networks. Retweets look like normal Tweets but are distinguished by the Retweet icon and the name of the user who retweeted the tweet at the beginning. Eg RT:@DrDebTravelDr
favoriting	Favorites, represented by a small star icon in a Tweet, are most commonly used when users like a tweet. Favoriting a Tweet can let the original poster know that you liked their tweet, or some programs allow you to can save the tweet for later review.
Home	Home: your real-time stream of tweets from those you follow, also called a timeline
@tweet	You start your message with @username e.g. '@RichardTaylor_ impressive turnout at today's open day.' The message only appears in <i>that</i> user's timeline. However, followers of you and @RichardTaylor_ will see it and can reply. So in the example, followers of you and Richard will see the conversation.
@mention	Including someone's handle in a tweet <b>but not at the very beginning</b> . If you put the @username anywhere else in the tweet other than the start, all your followers will see it.
Twitter lists	A list is group of Twitter users, usually organized around a particular topic. You can create your own lists or subscribe to lists created by others. Viewing a <b>list</b> timeline will show you a stream of tweets from only the users on that <b>list</b> . Note: Lists are used for reading tweets only.
Twitter chat	A Twitter chat or tweet chat is a live Twitter event, usually moderated and focused around a general topic. To filter all the chatter on Twitter into a single conversation, a hashtag is used. A set time is established so the moderator, guest or host is available to participate in the conversation.
Twitter engagement	Engaging with users of twitter means people will @mention you, favorite your tweets, and follow you. Interaction with people across broad networks on Twitter increases when users post a mix of content: opinions, comments, links to relevant articles, and pictures.
Twittersphere	Postings made on the social media website, Twitter considered collectively.

Figure 3. Twitter terminology



**Figure 4.** Possible uses of Twitter for travel medicine providers

Twitter may be especially helpful in the event of a natural disaster or outbreak, where news may be slow to travel by the older established channels, e.g. during the EVD outbreak researchers found that tweets about EVD started to rise in Nigeria 3–7 days prior to the official announcement of the first probable EVD case.<sup>3</sup>

In the context of world news, although worldwide availability of Twitter is growing, it is not uniformly available; some countries, such as China, North Korea and Iran, systematically block Twitter while others intermittently block access to the entire service or censor certain accounts.

### Research an Area of Interest

One of the most powerful features of Twitter is the ability to research topics of interest via the use of searchable hashtags (Figure 3), e.g. #tvlmed or #yellowfever, which will deliver to the user all tweets that have contained this hashtag.

If one just searches for the words ‘yellow fever’, the result will contain many irrelevant results, e.g. as well as persons who mention yellow fever in their tweets, there will be those who have yellow fever in their name, including information about football supporters in New Zealand who use the term. If you use the hashtag #yellowfever, you get a more targeted search with only tweets where users have specifically included this subject heading.

There is even a website to help healthcare professionals to find health-related hashtags. ‘By lowering the learning curve of Twitter with a database of relevant hashtags we hope to help new and existing users alike find the conversations that are of interest and importance’<sup>4</sup> #Tvlmed is the travel medicine hashtag registered with this service.

Tweets have inherent properties that can be useful for epidemiologic intelligence when studying the spread of disease. Knowing the location of a person tweeting, and following their movements over time, allows scientists to capture data about human mobility ranging from mass gatherings to mass migrations. Jurdak *et al.*<sup>5</sup> demonstrated that geo-tagged tweets provide a large publicly available data set that can be used to study human mobility patterns. Twitter is able to capture rich data about the

diversity of movement within a large population, such as distances travelled and connectivity patterns within defined groups.

### Twitter Chats and Journal Clubs

Our surgical colleagues have embraced Twitter for online, worldwide, journal clubs.<sup>6</sup> Through the use of a specified hashtag (#urojc) an asynchronous 48-h, monthly journal club ‘convenes’ to review and discuss medical articles published within the previous 4 weeks. A designated moderator supervises the account; authors of recently published articles are encouraged to participate. The articles discussed are freely available to all the participants. Membership of the journal club is reported to be over 1000.

### Conferences

Twitter is particularly useful at conferences. Attendees may tweet information that catches their attention, using the conference hashtag. Insights and debates are enhanced when more participants engage with the subject. Even those unable to attend a meeting can access and contribute to the conversation from afar. Some conference organizers have raised concerns that this will lower the number of delegates who need to attend the meeting in person. Whether this will occur remains to be seen.

Speakers themselves can access valuable information about their presentations. There is benefit in ‘tweeting the meeting’.<sup>16</sup> Speaker engagement with the Twitter stream adds clarity to the subject by answering questions or adding clarifying comments soon after the presentation is given. Additionally the speaker can receive valuable feedback about general understanding of their subject matter.

Twitter savvy speakers will remind their audience about their preferred hashtag and Twitter handle at the beginning of a presentation. This increases engagement and makes it easier for people tweeting about the talk to find each other in the twitter-sphere. Speakers can tweet links to explanatory material during or after the presentation.

The Asia Pacific Travel Health Conference (APTHC) in Vietnam in 2014 was the first travel medicine meeting to have a focus on Twitter with the hashtag #APTHC. The prior APTHC generated only a handful of tweets, compared with the 2014 meeting where over 600 tweets were sent. Providing a visual Twitter feed through audio-visual equipment in the tea area encouraged participation by attendees, thus adding to the richness of the information shared (Graph 1).

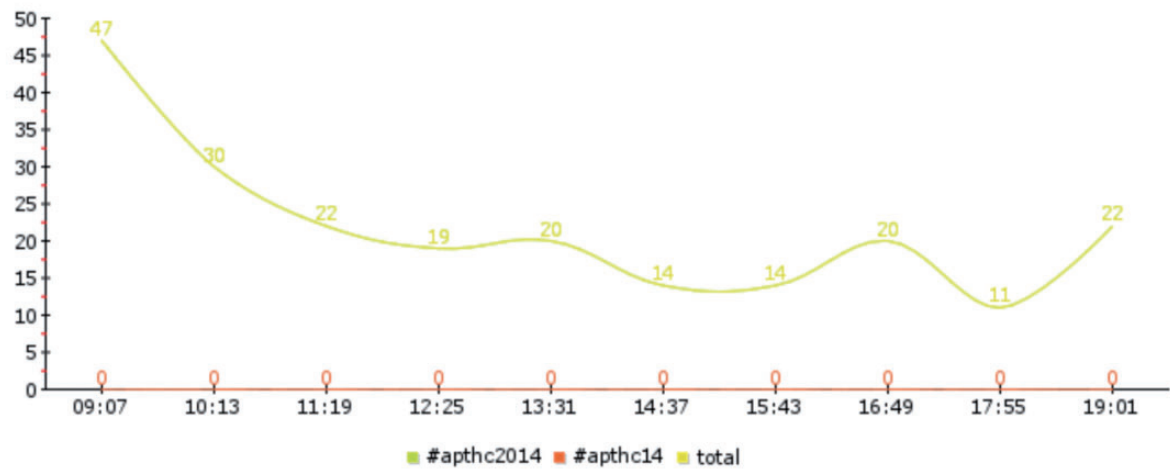
### Reach Out To the Public

Twitter offers the ability to add to the body of credible medical information, dispel myths and promote thoughts or ideas to general public as well as peers. This can be intermittent, when a practitioner tweets a topic of personal interest, or it can be part of a curated education program designed to promote a particular body of information. Either way, sharing the information contributes to increased understanding of the subject. Engagement with the subject matter often increases when practitioners offer a mix of opinions, comments, photos and links to relevant articles. Retweeting and favouriting of the comments of others increases information dissemination across broad networks.



Session report - Day2 Thurs

Session timeline



Session summary

Duration : 11 hours  
Started on : 08/05/2014 08:01 (UTC)  
Ended on : 08/05/2014 19:01 (UTC)  
Tweets per minute :  
Tweets per hour :20  
Total Tweets :219  
Total users :36  
Total reach :4 277

Sources

Type	Source	Number of tweets
Twitter	#apthc2014	219
Twitter	#apthc14	0

Graph 1. Tweets on Day 2 of APTHC 2014

During the 2009 Influenza A(H1N1)pdm09 ‘Swine Flu’ pandemic, Twitter provided both epidemiologic intelligence and a platform to disseminate accurate public health messaging.<sup>7</sup> Mathematical modelling has since confirmed the usefulness of Twitter for reduction of the spread of disease through public service messaging.<sup>8</sup>

A recent review article demonstrated practical techniques to use Twitter to educate healthcare providers about antimicrobial resistance and antibiotic stewardship.<sup>9</sup> Goff and van den Bergh<sup>9</sup> demonstrated how the use of timely and repeated educational efforts via curated tweets, and Twitter chats would allow accurate and efficient education of frontline healthcare workers to promote antimicrobial stewardship.

The live streaming video service on Twitter called Periscope (twitter.com/periscope) offers a new opportunity to provide educational content and interact with an audience in real time. The created video remains available for viewing for 24 h after

the original broadcast. The length of the video is determined by the specifications of your equipment. There are platforms that can capture Periscope videos and save them for later use. (e.g. Katch.me)

Periscope may be used in many ways: presenters at meetings can provide additional content; question and answer sessions can be broadcast; subject matter experts can be interviewed, how-to videos for procedures can be shared. Surgeons have broadcast surgery live as part of a medical education program, with questions posted via Twitter chat being answered on camera by a surgeon during the procedure.<sup>10</sup>

Sorting Information

The major challenge of the modern information age is sifting what is personally relevant from the deluge of available information. This is possible on Twitter by following hashtags on topics



of interest or subject matter experts (both individuals or organizations). It is possible to create Twitter lists of relevant Twitter users, which makes reading aggregated tweets much easier. It is also possible to follow the lists that other users have published.

Several Twitter monitoring services such as Hootsuite and Tweetdeck allow users to easily follow the Twitter stream and engage when time and interest allow.

### The Fine Print

A survey<sup>11</sup> found the top concerns preventing physicians from using social media for professional reasons were, in order of concern from most to least: I am concerned with patient privacy, I don't have time, I have concerns about liability, I believe social medical brings little value to me professionally and I am not familiar with using social media networks.

There have been concerns raised regarding the need to have safeguards to limit third party, i.e. pharmaceutical 'detailing' via Twitter 'backchannels' at conferences.<sup>12</sup>

In Sweden, a survey of 237 Twitter accounts established as held by physicians and medical students and a total of 13 780 tweets were analysed by content. In all, 1.9% of the tweets were labelled as 'unprofessional'. Among these, 0.2% tweets included information that could violate patient privacy. No information on the personal identification number or names was disclosed but parts of the patient documentation or otherwise specific indicative information on patients were found. Unprofessional tweets were more common among users writing under a pseudonym and among medical students.<sup>13</sup>

As medical professionals, we are held to a higher standard of behaviour than the general public. This should not discourage us from sharing our insights or making healthcare information more accessible to the general public. All tweets are searchable and long lasting, so care must be taken, as the senders name and @handle is forever attached. Of course comments must be truthful and professional. Twitter is not the place for disparaging comments about peers or healthcare organizations. (Some users have separate Twitter accounts for private and more political tweets.)

There are Twitter specific traps to be aware of are: Care must be taken to ensure the 140 character tweets are not misleading, confusing or contain embarrassing typos. Be sure to read a linked article before forwarding (retweeting) or endorsing (favouriting). As with all #SoMe, practitioners must be vigilant to avoid inadvertently revealing personal information about a patient, e.g. be mindful of what is in the background of an image or video. Personal medical questions should, of course, never be answered online. Sharing of confidential information such as results of ongoing trials would also be unwise.

Numerous organizations have provided guidelines for medical practitioners on the use of #SoMe and Twitter.<sup>14</sup> These guidelines, not surprisingly, change over time. A review of 26 guidelines<sup>15</sup> gave medical practitioners advice that was fundamentally around issues of confidentiality, accuracy and good taste.

### Summary

Sharing general medical knowledge is a powerful way to inform the general public and establish thought leadership. Twitter is a two-way sharing platform; engagement with others is highly desirable. Think of it as a conversation: provide insights, opinions

and comments about subjects of interest to you. Using layman's language where relevant promotes more general understanding of medical information.

Many practitioners were unfamiliar and even wary of email when it emerged in the early 1990s. Equally, practitioners may be understandably unfamiliar with Twitter. However, like the use of email, Twitter offers travel medicine providers a powerful tool. The immediacy of the tweets and the wide distribution make Twitter an ideal platform for travel medicine providers to share information, connect and even conduct research.

Like most tools, it may take a little time and practice before healthcare providers feel comfortable with the platform. Nonetheless, Twitter has great potential if used wisely. We encourage readers of the *JTM* to join the conversation.

**Conflict of interest:** None declared.

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