Social media: Useful or useless in Infection Prevention and Control?

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Purpose of today’s teleclass

What is (are?) social media?

- Internet sites and applications that allow users to create, share, edit, and interact with online content
- Contain information generated by users, for users
- Any online platform where groups of people can communicate with each other in real time, and other users can find them

The stats
(as of last week...)

Global Digital Snapshot

<table>
<thead>
<tr>
<th>Platform</th>
<th>Total Population</th>
<th>Internet Users</th>
<th>Active Social Media Users</th>
<th>Unique Mobile Social Media Users</th>
<th>Active Mobile Social Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2017</td>
<td>7.624 billion</td>
<td>3.819 billion</td>
<td>3.028 billion</td>
<td>5.062 billion</td>
<td>2.780 billion</td>
</tr>
<tr>
<td>Unreachable</td>
<td>54%</td>
<td>51%</td>
<td>40%</td>
<td>67%</td>
<td>37%</td>
</tr>
</tbody>
</table>

By platform

Active Users of Key Global Social Platforms

Source: WeAreSocial.com
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Number of users is not the only metric

### The top 10 sites on the web

<table>
<thead>
<tr>
<th>Website</th>
<th>Daily Pageviews (per person)</th>
<th>Daily Time on Site (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google.com</td>
<td>8.6</td>
<td>8.45</td>
</tr>
<tr>
<td>YouTube.com</td>
<td>5.38</td>
<td>9.21</td>
</tr>
<tr>
<td>Facebook.com</td>
<td>5.17</td>
<td>13.25</td>
</tr>
<tr>
<td>BlaBla.com</td>
<td>6.63</td>
<td>7.44</td>
</tr>
<tr>
<td>Wikipedia.org</td>
<td>3.31</td>
<td>4.26</td>
</tr>
<tr>
<td>Yahoo.com</td>
<td>3.85</td>
<td>4.27</td>
</tr>
<tr>
<td>Google.co.in</td>
<td>7.12</td>
<td>8.24</td>
</tr>
<tr>
<td>Reddit.com</td>
<td>9.53</td>
<td>14.05</td>
</tr>
<tr>
<td>Qiku.com</td>
<td>4.58</td>
<td>5.03</td>
</tr>
<tr>
<td>Taobao.com</td>
<td>4.48</td>
<td>8.33</td>
</tr>
</tbody>
</table>

Source: Alexa.com

A few more stats

- 32% of US users post about their friends and family’s health experiences on social media. (Source: PwC)
- 29% of patients viewing health information through social media are viewing other patients’ experiences with their disease. (Source: PwC)
- 27% of patients comment or post status updates based on health-related experiences. (Source: MDDI)
- 43% of baby boomers are starting to leverage social media for healthcare related information. (Source: Mature Marketing Matters)
- Out of the 5,624 hospitals in the United States, 1,501 are using a form of social media, (26%). (Source: OXZ IN)
- There are at least 967 hospitals on Twitter and around 3,000 hospitals have a company page on LinkedIn. (Source: Becker’s Spine Review)
- There are 695 hospitals on YouTube. (Source: Becker’s Spine Review) YouTube traffic to hospital sites has increased 119% year-over-year. (Source: Google’s Think Insights)
- 88% of physicians use the internet and social media to research pharmaceutical, biotech and medical devices. (Source: Master of Health Administration)
- More than 10 million tweets mentioning the word “Ebola” were sent between September 16 and October 6, 2014 from 170 countries. (Source: Master of Health Administration)

Healthcare professionals

Do you use any of the following social media sites regularly for professional use? Select any that apply

- Facebook
- Twitter
- YouTube
- Blogs
- Forums
- LinkedIn
- Other

In which continent do you reside?

- Asia
- North America
- Europe
- Middle East
- Australia
- South America
- Africa
- Other

Source: Ian Ellis, 2015

The HCP “Big 6”

- **Facebook**: most adults already use (2bn!)
- **Twitter**: easier to find people/organizations
- **YouTube**: under-utilized in healthcare
- **Blogs**: credible source of information
- **Forums**: the original social media!
- **LinkedIn**: the jury is out…²

Social media is a two-way street

- Or is it?
  - Information disseminators
  - Information consumers

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Who is using social media in healthcare, and why?

- General public / patients
  - find information
  - discuss with others
  - form communities
- Healthcare professionals
  - Public health educators: post information, reminders, PSA; online interventions
  - Researchers: share results; search for topics that need further research, recruit volunteers
  - Professional groups
  - Educational facilities (inc teaching hospitals): publish news/research results, recruit staff/students, promote learning tools

Who is using social media in healthcare: ICPs

(Impact Control Peeps)
- Keep up to date with news, developments, outbreaks, new guidelines/recommendations, etc.
- Know the answer before your staff ask you
- Networking
  - Keep in touch with your current/former colleagues
  - virtual communities, or follow specific people
- Learn about educational opportunities
  - conferences, webinars, online courses
- Find/share ideas (e.g. teaching) and resources
- Journal articles, research findings
- Educate patients/public

Monitoring

- New infections (or old ones making a comeback)
  - MERS-CoV, Zika, West Nile, Ebola, avian flu, measles, pertussis, mumps
- Outbreaks ↔ travel

Social media data mining

John Brownstein, director of the computational epidemiology group at Children’s Hospital Boston and an associate professor of pediatrics at Harvard Medical School

Outbreak reporting in real time

HealthMap filter categories

Trending now:
using social media to predict and track disease outbreaks (Schmidt, 2012)

http://ehp.niehs.nih.gov/120-a30/

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Professional Education

- Journal articles, education opportunities
  - Get your colleagues’ opinion on these
  - Can you share them with all colleagues? (access)
- Journal clubs
- Conferences
  - Can follow in real time
  - Be alerted to slides/videos posted online

Using Twitter to learn from conferences (even when you’re not there):
#EPHVienna (European Public Health)

If you’re going to disseminate

- The popular opinion: build up a following, build up trust
  - Versus
- Drive-by broadcasting
  Or is this fake news?
- Have a plan
- Understandability: know your audience
  - Language level, preferred format
- Even if you wrote it: can you share?
- Summary of paper
- Monitor for questions

Disseminating via social media

- Whenever you can, link back to one central place
  Central site/platform
  Website, blog, etc.
  - Searchable (within site)
  - Findable (by search engines)
  - Include bio, other articles/papers, slide decks, videos, contact info
  - Make it as findable as possible (your name, keywords, metadata)
  - Workplace?

The public debate

Jump on in, or play it safe?
- Legal issues
- Ranting? Arguments?
  Tangents? Non-listeners?

The rules of (public) engagement

- No clinical advice
- Disclaimer etc. on your website/blog
- Know your facility’s social media policy!
  - Is it unclear? Get them to clarify!

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The rules of (dis)engagement

- How to engage/disengage
  - Learn from the pros
  - Forums, public health colleagues
- Point them to the science
  - In their language
  - Lots of format choices (websites, photos, infographics, videos)

The public debate:

Who, how, what, when, why, where?

- Which “public”?
- When and why:
  - Regularly?
  - In response to outbreak/news?
  - Awareness week / event?
  - General knowledge?
  - Behaviour change?
- How: which platform?
  - Participate in a forum
  - Can (co-)write a blog
- What messages, what information?
- What medium?
  - Written, video, photos, cartoons, infographics
- Whom do you want to collaborate with?
  - You don’t have to do it all on your own!

“Patient” education

- Who are the public, who are patients?
  - Inpatients vs outpatients
  - Length of stay, readmission
  - “Experienced” patients, e.g. dialysis
- The public: potential patients
  - Use all the means we can to prevent them from becoming patients!

1 Almost 20 percent who are discharged from a hospital are readmitted within 30 days US Medicare patients, https://www.uptodate.com/contents/hospital-discharge-and-readmission

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Social Media: Pros and Cons

- **Pros**
  - Fast
  - Easy
    - (+ apps to make even easier)
  - Short
    - (depending on platform)
  - Free
  - Potentially huge audience
  - Multiple audiences at once
  - Cross-pollination
  - Analytics

- **Cons**
  - Additional tasks = additional time
  - Text limits = 140
  - Potentially huge n questions/comments
  - How do you speak/translate to all?

Cross-pollination = the one time ICPs want something to go viral!

Which platforms should you use?

Factors to consider:
1. Audience
2. Type of information
3. Interaction
4. Monitoring
5. Does your facility allow?

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1. Audience

How to find “your people”
- Browse online
  - keywords
- Ask them
  - Email
  - Survey/poll
  - (Literally) talk to them

Which platforms? (cont’d)

2. Type of information
   - Can it be condensed?
   - How permanent?
3. Interaction
   - Amount, ease
4. Monitoring for comments, questions
   - Time
   - Ease
   - Apps to help/notify
5. Allowed?
   - Some facilities block Facebook, some block Twitter

Use the communications channels that work for your audience(s)

- Consider their time/needs
- Email and websites are here to stay!

Your favourite things

- What sites/apps do you like?
- Learning curve

The social media rabbit hole

- Decide your purpose
- Plan your time

Still not sure?

- Asks colleagues who use social media for the same purposes as you

Inundated? It’s all getting a bit weird? You can just ghost...

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But before you g(h)o(st)...

- Tips and tricks

The story of a health communicator’s life...

- Article focus
  - The use of social media in healthcare has been widely advocated, but there is little research describing the current state of the science and whether or not these tools can be used to benefit patient populations.
  - We explored the state of the existing literature evaluating the use of social media in patient and caregiver populations.
  - Key messages
    - There is an extensive and rapidly growing body of literature available investigating the use of social media in patient and caregiver populations.
    - Most studies have been descriptive, however, without sophisticated analysis, evaluations of effectiveness are limited.
    - In studies that have examined effectiveness, social media interventions are often reported, despite the non-significant findings.
  - Conclusions
    - Social media is certainly changing the way health care is being delivered.
    - A one-to-one analysis is needed on specific topics, conditions and populations.
  - Importance and potential impact of social media applications.

Social media use among patients and caregivers: a scoping review (Hamm et al., 2013)

- A research librarian searched 11 databases in January 2012: Medline, CENTRAL, ERIC, PubMed, CINAHL Plus Full Text, Academic Search Complete, Alt Health Watch, Health Source, Communication and Mass Media Complete, Web of Knowledge and ProQuest. Dates were restricted to 2000 or later, corresponding to the advent of Web 2.0.
- Results: Two hundred eighty-four studies were included.
  - Discussion forums were highly prevalent and constitute 66.6% of the sample.
  - Social networking sites (14.8%) and blogs/microblogs (14.1%) were the next most commonly used tools.
- Conclusions: There is an extensive body of literature examining the use of social media in patient and caregiver populations. Much of this work is descriptive; however, with such widespread use, evaluations of effectiveness are required. In studies that have examined effectiveness, positive conclusions are often reported, despite non-significant findings.

Venci et al., Inclusion of social media-based strategies in a health care worker influenza immunization campaign

- Common misconceptions reported among HCWs include the belief that one can develop influenza from the vaccine, the belief that one is not at risk for influenza, and skepticism about vaccine effectiveness and safety.
- Primary motivators for HCWs receiving vaccination during 2010-2011 but who did not in 2009-2010 (n=172) were assessed in the point-of-vaccination questionnaire:
  - “Friends or co-workers” (28%) and the “hospital intranet” reminders (25%) were cited the most as motivators.
  - Only 1% of this group responded as having used the social media campaign pages directly.
- Unfortunately, due to institution firewal issues, the program was not able to solicit followers for Facebook and Twitter by employee e-mail.
  - This could have reduced the direct influence of the social media sites.
  - Therefore, it is difficult to assess the specific influence of social media on the slight increase in employee vaccination rates.
- The social media outlets may have influenced HCWs indirectly.
  - Almost one-third of vaccine recipients were motivated by their friends/coworkers, some of whom may have been influenced by the social media.

Social media as a tool for antimicrobial stewardship (Pisano et al., 2016)

- Aim: to improve internal medicine residents’ (IRM) knowledge of correct antimicrobial use and increase their uptake of clinical pathways and order sets through the use of social media.
- Methodology: The investigators enrolled 55 IMRs, and asked them to follow the hospital’s antimicrobial stewardship program (ASP) on Facebook or Twitter for 6 months.
  - posted statements on the social media sites promoting the hospital’s ASP website and clinical pathways, focusing on the pathway for community-acquired pneumonia.
  - posted and tweeted questions about antimicrobial prescribing.
  - residents were encouraged to respond, and answers were posted and tweeted by the research team the next business day.
- Pretest and post-test surveys were completed by 39 IMRs
  - median scores for ABR knowledge increased from 12 (interquartile range, 8-13) to 17 (interquartile range, 12-15) F < 0.04)
  - IMRs knowing how to access the ASP website increased from 70% to 94%
  - More IMRs indicated that they used the clinical pathways “sometimes, frequently, or always” after the intervention (20% vs 64%, P < 0.04)
- Conclusions: Social media is a valuable tool to reinforce ASP initiatives while encouraging the use of ASP resources to promote antimicrobial mindfulness.

American Journal of Infection Control, 43(8), 902–905. https://doi.org/10.1016/j.ajic.2015.04.185

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Journal club: Social media as an antimicrobial stewardship tool (Conway & Knighton, 2017)

- These positive results are notable; however, it is possible they were the result of maturation rather than the social media intervention. Without a control group, it is difficult to sort out maturation effects from intervention effects.
- Despite the threat of maturation bias, this study is important because it suggests a relatively simple and inexpensive method for raising awareness of appropriate antimicrobial prescribing. As the authors point out, it is difficult to draw healthcare providers’ attention to the prescribing tools that are available to them. Because social media platforms such as Facebook and Twitter exist to draw attention to issues, it would seem neglectful not to use them to educate and engage providers about antimicrobial stewardship.
- There is no conclusive evidence that social media is effective for improving medical students’ clinical performance. Similarly, there is no solid evidence that social media sites are more or less effective than traditional educational platforms.
- However, research has shown that medical students find Twitter and Facebook useful as supplements to traditional educational strategies.
- Practicing physicians and nurse practitioners also find social media acceptable for continuing education.

Review of Twitter for ID clinicians: Useful or a waste of time? (Goff, Kullar, & Newland, 2015)

- Twitter… is the only platform that allows one to connect, engage, learn, and educate oneself and others in real time on a global scale.
- HCPs are using social media tools to communicate, educate, and engage with their peers worldwide.
- Twitter allows HCPs to deliver easily accessible “real-time” clinical information on a global scale.
  - During an ID outbreak, acquiring information in real time is critical.
  - MERS-CoV, enterovirus D68, Ebola
- Twitter has become a daily part of many HCPs’ lives, allowing them to communicate real-time healthcare information and medical alerts to a large global audience, including those who are considered experts or thought leaders in a particular field, and to solicit feedback.
- The “always-on” culture of today is accustomed to bite-sized, on-demand learning. This type of learning transitions to medical trainees who have grown up with computers, smartphones, iPads, and Wi-Fi.
- Many HCPs outside the United States do not have free access to journals, so a tweet that provides a link to a compelling new article is a great way to educate peers and share information.

The throw-down

- Prevention and control of infectious diseases suffer from deficient compliance with preventive measures or guidelines of both professionals and general audience.
- This poses a threat to public health.
- Current approaches to prevent risk behavior are in need of innovation. Fresh approaches to education, information and communication are needed.


The visual generation

- Reminders vs Nagging
- The components of an effective visual abstract
- Impact of surgery on dietary adherence before major abdominal surgery
- JIFC Journal of Interventions & Critical Care Research
- Evidence: Quality of Life/Life Expectancy
- Evidence: Safety/Efficacy
- Evidence: Cost
- Evidence: Impact on Adverse Events
- Evidence: Risk for Return to the OR
- Evidence: Impact on Morbidity Mortality
- Evidence: Impact on Other Outcomes
- Evidence: Impact on Economic Outcomes
- Evidence: Impact on Satisfaction
In summary

- Social Media users: they’re there already (3bn!)
- Have a plan:
  - Decide your purpose
  - Try it out, see what works (+ tools/apps to help)
  - Time management #TheRabbitHoleIsReal
- Cross-pollination
  - Possibility, potential, power!
  - Consider multiple audiences (now and later)
  - Make use of your #SoMe hotshots
- Point back to one central place
  - Blinked, they missed it? Find it!
- Policy/disclaimers

Questions, contact

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Homework

- Didn’t complete the poll? Please (still) do!
  http://fluidsurveys.com/surveys/picnet/social-media-poll/
- Do check this out: NHS Behind the Headlines
  - http://www.nhs.uk/News/Pages/NewsArticles.aspx and
  http://www.nhs.uk/News/Pages/about-behind-the-headlines.aspx
- If you haven’t yet heard of #VisualAbstracts:
  - A Primer on How to Create a Visual Abstract
    https://人人.com/r/BW8c68c4/c938b9320405fe1b320a9z9f/Ssaf
- Article of interest

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