

Improve Dx

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Using Social Media to Improve Diagnosis

By Susan Carr
Newsletter Editor

When the patient safety movement began in the early 1990s,^{1,2,3} the internet was a novelty. In 1995, only 15% of adults in the United States used it on a regular basis.⁴ By 2014, that percentage had flipped: 14% of adults were *not* using the internet, while 86% were.⁴ Now it's common to spend hours online accomplishing tasks that previously required making a phone call, going to the library, driving to the store, or licking a postage stamp.

In contrast to the experience of other sectors of the economy, healthcare's adoption of the internet and digital tools has been slow and frustrating, especially for clinicians. While consumers track fitness data, research health topics, and monitor their medical conditions easily online, many clinicians and health systems wrestle with poorly implemented, imperfect digital information systems and distrust the sometimes chaotic environment enabled by social media.

Despite these challenges, healthcare organizations and professionals are beginning to use the internet to improve care. For diagnostic error and other patient safety communities, use of the internet can counteract the silos and hierarchies recognized as impediments to safe care. Online, more people have access to evidence, information, and knowledge. Communities develop larger networks, and organizations can disseminate their messages broadly and get real-time feedback about performance. Beyond marketing and public relations, the internet and social media offer real opportunities for improvement.

A role for social media

With increased use of smartphones and other mobile devices, social media and networking have begun to dominate online activity. In 2015, 76% of adult internet users in the US used social networking sites; among them, 72% used Facebook.⁵ John Glaser, senior vice president of population health and global strategy at Cerner, observes that social

media are “transforming the nature of health care interactions.”⁶

That transformation has come slowly, sometimes for good reason. Ease of use and enthusiasm for sharing can overwhelm common sense and professional boundaries. The risk of violating patient and professional privacy is real. The steady infiltration, however, of social media into all other aspects of daily life is gradually working its way into medicine.

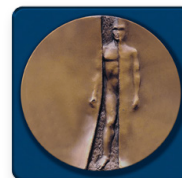
Online resources and communication present opportunities to improve population health, collegial and patient communication, health literacy, and support for patients and their caregivers. Social media tools offer researchers new sources of data and offer organizations—including the Society to Improve Diagnosis in Medicine (SIDM)—efficient ways to reach and interact with members. In addition to SIDM's official social media channels (see SIDM News, p 4), many social media resources relevant to diagnosis are available, including:

- The Human Diagnosis Project's Global Morning Report (www.humandx.org/gmr/about) is a daily email that shares a case to

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Also in This Issue ...

Coalition to Improve Diagnosis.....	3
SIDM Corporate and Organizational Members.....	4
SIDM News: Social Media Channels for All: An Invitation	4



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Social Media and Social Networking

Social media are websites and online communication channels—eg, blogs, podcasts, and video sharing sites—used to distribute user-generated content. Social networking platforms may also feature user-generated content, but are designed primarily for engaging with an audience or community.⁷ Networking platforms and applications, such as LinkedIn, Twitter, Facebook, and the SIDM Listserv, are characterized by shared interests and interaction.

be solved on a mobile device or computer. Participants may also share cases. Each new case comes with answers and insights from the prior day's case. The Human Diagnosis Project is using a virtual global medical community to build an "open diagnostic system."

- ResearchGate (www.researchgate.net) is an online community whose mission is "to connect researchers and make it easy for them to share and access scientific output, knowledge, and expertise." Started in 2008, ResearchGate currently has 9 million members.
- IMreasoning (<http://imreasoning.com>) is a podcast created by physicians Art Nahil and Nic Szecket "to inspire critical thinking in clinical medicine and education." They recently created an [IMreasoning Facebook page](#) to better accommodate the lively comments section of the podcast's website.

Go where the patients are

The open nature of the internet, especially social media, creates tension as well as opportunity. Delighted to find answers to their questions on the Web, patients may find their physicians skeptical or offended when asked to review the results of those online searches.

Describing the importance of engaging patients in diagnosis, the Institute of Medicine acknowledges that online access to information and resources holds tremendous value for patients. But it also questions their ability to assess the quality of what they find.⁸ As trained providers and content experts, including librarians, participate in online conversations and point toward resources of value, the quality of discussions will improve.

Farris Timimi, MD, medical director of the Mayo Clinic for Social Media, encourages physicians to join patients online and to view social media as effective tools for achieving foundational goals in medicine, especially the goal of good patient/provider relationships. He observes that the time available for direct patient care has shrunk,

while the amount of time patients spend online looking for medical information has exploded: "We know where our patients are. They are online, and they are awaiting our participation."⁹

Timimi urges physicians to use social media to

... engage learners, patients, and peers in an asynchronous fashion so we're not dependent or limited by geography or by time. ... For patients, value is communication and understanding: Is knowledge [being exchanged]? Are you listening to me effectively? Are you hearing my concerns and acting upon them? The digital platform transformation into the digital domain allows us to expand that kind of interactive conversation to a profound extent.¹⁰

All users of social media must remain curious and discerning about what they see online. Neither should they take for granted the integrity of traditional sources of evidence and information: peer-reviewed journals, newsletters, conference proceedings and reports published by established organizations.¹¹

Early research into the effects of social media

The use of social media in healthcare is drawing the interest of researchers. Recently published studies, such as those summarized below, represent only the beginning of investigations needed to help discern the best use of these new tools:

- One academic medical center explored the feasibility and utility of linking the content of patients' social media accounts to data in their electronic medical records (EMRs).¹² Adult patients presenting to the emergency department were asked to participate by granting researchers access to their Facebook and Twitter accounts. When available, that content was added to data from the patients' EMR in a separate database. More than 1,400 patients participated. Results from the study include demographics, characteristics related to healthcare (such as diagnosis and insurance status), and social media habits. The researchers report initial thoughts about

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how such information might inform medical care in the future.

- Researchers compared the quality of care in US hospitals as measured by two established measures—the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey and readmission rates as reported on Hospital Compare—versus as reported by patients on Twitter.¹³ Researchers gained experience with methods for gathering data from Twitter and surveyed hospitals directly to learn if they monitored Twitter for patient comments. Acknowledging significant limitations, researchers recommend that hospitals monitor Twitter for patient comments to supplement other data.
- Investigators at Johns Hopkins explored the feasibility of using Twitter as a source of patient-generated reports of errors and adverse events.¹⁴ They developed a list of words and phrases that might indicate a patient safety problem (eg, “the doctor screwed up”) and used them to search for relevant tweets. Researchers sorted the resulting 1,006 tweets into four categories: source of tweet, source of error, type of error, and emotional response to the error. The most frequently reported types of errors were procedural (26%). Diagnostic error tied with incorrect medication or prescription for second (23% each). In addition to finding that errors and incidents reported on Twitter may provide information missed by existing satisfaction surveys and reporting systems, researchers observe that Twitter may “offer a less reserved patient perspective.”^{14(p3)}

An editorial commenting on two of these studies points out that current research represents only early findings.¹⁵ The data are messy, concerns for privacy are real, and interpretation is challenging.

Today’s patient safety movement started at the dawn of the internet age, and efforts to improve diagnosis gained momentum as social networking became a dominant activity online. Similar to most tools, social media offer opportunities and hazards, successes, and disappointments. As it moves forward, the diagnostic improvement community will find that social media allow rapid education and communication among its widely distributed, diverse members, as well as the general public. The dangers are real, but as Farris Timimi points out, managing social networking should be well within a clinician’s capabilities: “We trust you as a provider with scalpels and lives. And we trust you with Twitter and Facebook.”⁹

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Social Media Channels for All: An Invitation

By Susan Munter
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The Society to Improve Diagnosis in Medicine (SIDM) offers several social media platforms, all of which will improve with increased participation. Each platform is different, so members of the community can choose which ones best fit their interests and contributions. The Society's strength has always come from convening divergent voices among its constituents; these channels are no different.

Facebook. In April, SIDM created a Facebook page, "The Society to Improve Diagnosis." The purpose of this page is to bring together people who have experienced a diagnostic error and provide a place for them to tell their stories. Although the page started as a place to gather stories from patients, SIDM is aware that the experience of diagnostic error affects everyone

involved. The SIDM community includes people from many walks of life, all of whom are invited to tell their stories. Please "like" us today and share your experience.

LinkedIn: SIDM manages a LinkedIn group, "Diagnostic Error in Medicine," that now includes over 1,500 people. This group shares information and publications for discussion on a variety of issues relevant to improving diagnosis, from the implications of antibiotic overuse, to different approaches to root cause analysis, relevant meetings, and other educational opportunities. Join the group to learn more.

SIDM also has a LinkedIn page with information about the organization's latest activities.

Twitter. Follow SIDM on Twitter—@ImproveDx—to stay on top of current events, publications, and topics. In addition to SIDM's official account, the diagnostic error community on Twitter includes many SIDM members and Board members. The community often use hashtags to focus attention on topics of interest, including #dxError, #ImproveDx, and #ptsafety.

ListServ. SIDM's ListServ features lively discussion of topics of wide interest in the SIDM community, including lab testing, communications, diagnostic trigger tools, and big data.

Keynote Presenters



**Sunday,
November 6**
**Brian Goldman,
MD**



**Monday,
November 7**
**Catherine
Lucey, MD**

Working Together to Reduce Diagnostic Error

Healthcare professionals and patients are invited to gather together for meaningful discussions driving potential solutions.

Program details will be announced in spring 2016, and registration will open in June 2016.

The Diagnostic Error in Medicine Conference CME credits are pending.



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