Turning the page on hospital communications slowly

Robert Wu

Correspondence to
Dr Robert Wu, Division of General Internal Medicine, University Health Network, 200 Elizabeth St - 14EN222, Toronto, Ontario, M5G 2C4, Canada;
robert.wu@uhn.ca

Accepted 3 February 2016
Published Online First 23 February 2016

In hospitals, breakdowns in communication has been found to be a major source of errors.[1] Communication between clinicians can occur at scheduled times or rounds, through face-to-face meetings or may be facilitated through the use of communication tools such as pagers. For the latter, often urgent communication between clinicians about a patient is required. Problems in communication can result in a failure to rescue or result in poor coordination of care.[2]

In this issue of the journal, two articles describe the communication process within hospitals from different perspectives. Carlile *et al*[3] looked at paging from the physician's perspective and analysed 1252 pages sent to internal medicine residents within an academic medical centre. They found that paging still occurs frequently, with residents receiving an average of 22 times per day at an average rate of 2.2 pages per hour. Approximately 75% of pages were both clinically relevant and important to patient care (as judged by the investigators). Most communications required a response, especially those from nurses (82%) and from consultants (also 82%). Of note, regionalised services—services which were located on a single ward—had approximately half the number of pages per day than services located on multiple wards (19 vs 37 pages per day; $p \leq 0.00001$).

In the second article, Kummerow Broman looked at communication from the nursing perspective and compared communication processes in wards where nurses carried mobile phones to wards without them.[4] They compared whether the response to the communication occurred, whether the response interrupted patient care, and if a repeat page was required. Nurses paged providers on average 2.9 times per shift. There was no difference in acknowledgement of messaging (89% vs 74%), repeat paging (14% vs 19%), time to provider acknowledgement (7 min vs 12 min), or patient care interruptions to respond to communications (14% vs 23%). There was a difference in perceived communication loop closure (100% vs 81%) between units with mobile and those without. There was also significant variation in communication patterns.

These articles are useful in identifying the challenges with our current communication processes and suggest several components that may help. A main current challenge includes the frequent use of paging. Inherent to paging is a lack of closed-loop communication—the sender often does not know if the message was received. This lack of acknowledgement of messaging results in delays and the need for repeat paging. Other challenges include a high level of interruptions to both nurses and physicians with paging and high variability in communication practices. A potential component that may help is regionalising services to a single ward. It appears that having physicians and nurses located on a single ward reduces paging. Providing mobile phones for nurses appears to help close the communication loop as perceived by the nurses. These articles also highlight the different perspectives in communication between the typical senders of communications (in these papers, nurses), who want responses to their communications, and the receivers (in these papers, physicians), who want important communications but less interruptions.

While the authors should be applauded for assessing and trying to improve communication, these papers highlight the poor state of communication—namely the current reliance on pagers by front line providers in hospitals. The response rate to paging in the second study was 80%, which is higher than some other studies,[5 6] but still concerning that 20%

Linked

▶ http://dx.doi.org/10.1136/bmjqs-2015-004587
▶ http://dx.doi.org/10.1136/bmjqs-2015-004580

CrossMark

To cite: Wu R. *BMJ Qual Saf* 2017;**26**:4–6.

BMJ Qual Saf: first published as 10.1136/bmjqs-2015-005031 on 23 February 2016. Downloaded from http://qualitysafety.bmj.com/ on April 17, 2024 by guest. Protected by copyright.

of the time, when a nurse is trying to reach a physician (possibly about an urgent patient issue), the physician does not respond.[4] Non-response rates of 10–20% lead to repeat pages, with more frustration for nurses and more interruptions for physicians. Other frequent communication issues include difficulties finding out whom to call and how to escalate in the event of no response.[7] Given these unreliable systems, failures of communication should come as no surprise.

While these issues have existed for decades,[3] advances in information technology are rapidly occurring for personal communication with most clinicians now owning a smartphone.[8] There are also many communication options available including calling, texting and emailing. Instead of resolving communication issues, these new communication tools are introducing unintended consequences. Moving from phone calls to texts appears to reduce interprofessional relationships.[6] There is also adoption of non-secure messaging applications to communicate within hospitals including the use of WhatsApp.[9] Providers who use these apps appear to be aware of the risks to Protected Health Information and reduce these risks by identifying patient by their initials.[9] With non-secure text messaging, providers appear to be making trade-offs between ease of use, breaches of privacy and patient safety by using minimal patient identification.[10]

It may be useful to consider why we are in this state. Implementations of information technology in hospitals have been primarily focused on the implementation and meaningful use of Electronic Medical Records. Interestingly, Electronic Medical Records may actually hinder communication by reducing face-to-face communication and decreasing shared plans of care by possibly reducing the quality of communication.[11] Also, there may be high opportunity costs to implementing communication solutions with little evidence of effectiveness. While there are significant penalties for breaches of privacy in the USA for several years,[12] this has not yet translated to widespread improvements in communication systems.

NEXT STEPS FOR COMMUNICATION

Rapid progress in personal information and communication technology allows us a glimpse of what the near future can bring with improved hospital communication systems. In order to reduce the complexity of current communication and risks to Protected Health Information and patient safety, most hospitals should adopt a standard secure messaging platform. While there are apps that individuals can download and use with their personal smartphone, healthcare organisations are required to manage these systems to ensure that a single highly usable alternative is available for providers instead of non-secure texting platforms. As well, organisations can help clinicians identify who to call with central access to call schedules and provider directories. A secure messaging platform should eliminate the risk to Protected Health Information and also reduce the use of initials to identify patients. It should also provide the desirable closed-loop communication.[4] Finally, it should be auditable. In the analysis of adverse events, knowing what was communicated and how it was communicated should allow for better incident resolution through a better understanding of how communication can be improved.

Once this is available, the next step is to make communication between providers part of the patient record. While there may be multiple methods of secure communication available such as email or secure-texting, it is important that these actually are viewable by those who are taking care of the patient. While some communications are relevant to only the sender and receiver, often there are implications for others involved in their care. With the challenges of more complex patients, more people involved and increased drive to reduce length of stay, it is also critical that members of the care team are able to stay up to date in their patients' progress. This would allow for people to review issues that occurred overnight by reviewing communication or for a nurse to be updated on a patient's progress by viewing communication between specialists and the medical team.

A DIRECTION FOR EVIDENCE

It should be noted that there is a lack of evidence that improving communication improves care.[13] This may damper the enthusiasm for some to improve communication. But since communication is a basic process of care, it should motivate people to both fix communication and to evaluate the changes. Process improvement and further innovation are required to ensure 100% closed-loop communication and to eliminate the need for work-arounds such as repeat paging.

Then, the next step is to move from these surrogate measures to patient outcomes. Improved communication has the potential to produce benefits such as reduced failures to rescue, reduced adverse events and better coordination of care. For the critical communication in deteriorating patients, efficient closed-loop communication should improve the necessary escalation of care. Improved documentation of communication would also allow for better error analysis. This should enable the design of safer processes to reduce adverse events. Improved communication should provide for better coordination of care which could reduce length of stay.

Finally, it is important to recognize that this discussion concerns a very technical aspect of communication - the systems and processes to make a connection between providers. It is a foundational piece, but by itself, it may not improve patient outcomes. Information and communication technologies are well known to cause unintended consequences.[14] A highly usable, efficient communication system could increase communications and interruptions and could move

BMJ Qual Saf: first published as 10.1136/bmjqs-2015-005031 on 23 February 2016. Downloaded from http://qualitysafety.bmj.com/ on April 17, 2024 by guest. Protected by copyright.

more communication from talking to texting with potential negative implications to interprofessional relationships.[6] To understand the sociotechnical implications of new technology, it is important to also look at its interactions with workflow, culture and social interactions.[15] Replacing pagers without changing the paging behaviours of both senders and receivers is unlikely to improve communication or patient outcomes.[16]

Competing interests None declared.

Provenance and peer review Commissioned; internally peer reviewed.

REFERENCES

1 Poor communication is common cause of errors. *Healthcare Benchmarks Qual Improv* 2002;1:18–19.
2 Johnston M, Arora S, King D, *et al*. Escalation of care and failure to rescue: a multicenter, multiprofessional qualitative study. *Surgery* 2014;155:989–94.
3 Carlile N, Rhatigan JJ, Bates DW. Why do we still page each other? Examining the frequency, types and senders of pages in academic medical services. *BMJ Qual Saf* 2017;26:23–8.
4 Kummerow B. Closing the loop: a process evaluation of inpatient care team communication. *BMJ Qual Saf* 2017;26:29–31.
5 Coiera E, Tombs V. Communication behaviours in a hospital setting: an observational study. *BMJ* 1998;316:673–6.
6 Wu RC, Lo V, Morra D, *et al*. The intended and unintended consequences of communication systems on general internal medicine inpatient care delivery: a prospective observational case study of five teaching hospitals. *J Am Med Inform Assoc* 2013;20:766–77.
7 Wong BM, Quan S, Cheung CM, *et al*. Frequency and clinical importance of pages sent to the wrong physician. *Arch Intern Med* 2009;169:1072–3.
8 Mobasheri MH, King D, Johnston M, *et al*. The ownership and clinical use of smartphones by doctors and nurses in the UK: a multicentre survey study. *BMJ Innovat* 2015; doi:10.1136/bmjinnov-2015-000062.
9 Johnston MJ, King D, Arora S, *et al*. Smartphones let surgeons know WhatsApp: an analysis of communication in emergency surgical teams. *Am J Surg* 2015;209:45–51.
10 Prochaska MT, Bird AN, Chadaga A, *et al*. Resident use of text messaging for patient care: ease of use or breach of privacy? *JMIR Med Inform* 2015;3:e37.
11 Taylor SP, Ledford R, Palmer V, *et al*. We need to talk: an observational study of the impact of electronic medical record implementation on hospital communication. *BMJ Qual Saf* 2014;23:584–8.
12 HealthIT.gov. https://www.healthit.gov/providers-professionals/faqs/can-you-use-texting-communicate-health-information-even-if-it-another-p (accessed 10 Dec 2015).
13 Nguyen C, McElroy LM, Abecassis MM, *et al*. The use of technology for urgent clinician to clinician communications: a systematic review of the literature. *Int J Med Inform* 2015;84:101–10.
14 Ash JS, Berg M, Coiera E. Some unintended consequences of information technology in health care: the nature of patient care information system-related errors. *J Am Med Inform Assoc* 2004;11:104–12.
15 Harrison MI, Koppel R, Bar-Lev S. Unintended consequences of information technologies in health care—an interactive sociotechnical analysis. *J Am Med Inform Assoc* 2007;14:542–9.
16 Quan SD, Wu RC, Rossos PG, *et al*. It's not about pager replacement: an in-depth look at the interprofessional nature of communication in healthcare. *J Hosp Med* 2013;8:137–43.

BMJ Qual Saf: first published as 10.1136/bmjqs-2015-005031 on 23 February 2016. Downloaded from http://qualitysafety.bmj.com/ on April 17, 2024 by guest. Protected by copyright.