Information Overload in Medical Practice

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Most practices are inundated with an excess of information. This information overload, or "infoglut," results in distractions and a loss of productivity. This article will discuss the concept of infoglut and what every practice can do to manage the tsunami of information that threatens to consume our practices.

Key words: Information; information overload; computers; e-mail; staff motivation; distractions; productivity; practice efficiency.

WHAT IS INFOGLUT?

Information overload, also variously dubbed *infomania*, *infoglut*, or *infobesity*, is a problem afflicting the productivity and quality of life of today's knowledge workers in every kind of organization worldwide. It impacts managers, engineers, academics, and administrative staff in every sector, be it the high-tech industry, academia, financial enterprise, government agencies, religious groups, education, the military, or nonprofit organizations. Estimated to cost the U.S. economy $900 billion a year, it is arguably the most serious productivity issue in the knowledge workplace, and it also makes the most people miserable.

Information overload has many faces, but the most obvious is the influx of communications, primarily e-mail, telephone calls, and the endless bleeping and alerting of computers, blackberries, and other mobile devices. In the medical profession, this is augmented by the arrival of professional literature that needs to be read and digested. The severity of these problems is illustrated by research data that show how an average knowledge worker receives 50 to 200 incoming work-related e-mails a day and is interrupted from whatever he or she is doing—to switch to some other task—every three minutes on average. For example in the rapidly growing field of medical informatics, the total number of medical informatics MeSH-indexed publications in 2003 (8859) was more than twice that of 1994 (3768). The number of unique journals represented among those publishing 25 or more articles totaled 44 in 2003 as opposed to 26 in 1994.[1] In addition, there are almost 700,000 medical journal articles per year that clinicians have to contend with.[2]

This problem affects its victims and their employers in a number of ways:[3]

- **Direct loss of productive time:** Up to 8 hours a week have been reported as lost to unnecessary e-mails and interruptions.
- **Reduced mental capacity:** The stressful mental state of "continuous partial attention" caused by the interruptions has been shown to reduce mental acuity and creativity and increase error rates.
- **Disappearance of quality "thinking time":** The focus and concentration needed for serious thought has become a scarce commodity.
- **Breakdown of organizational processes:** The flood of e-mails has derailed communication as important messages get buried, and people's ability to execute planned objectives is thwarted by a steady flow of unplanned incoming tasks.
- **Reduced quality of life:** Both workers and their families pay the price as the ubiquity of mobile devices shatters the work/life barrier, with people habitually devoting evenings, weekends, and vacations to the hopeless rat race against their inbox.

While many organizations are still in denial, a growing number are starting to take action against information overload, and many academic researchers are studying its causes and possible solutions. Some of the people involved incorporated the Information Overload Research Group (http://iorgforum.org) in 2008 to promote such research and exchange solution ideas. Change is in the air!

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THE IMPACT OF INFORMATION OVERLOAD ON THE MEDICAL PRACTICE

Since few professions are more knowledge-intensive than the practice of medicine, it is not surprising that information overload is affecting this group. There isn't a day that goes by that a doctor doesn't have dozens of letters, journals, and magazines to review in order to stay current in his or her areas of interest and expertise. This is compounded by the phone calls that have to be returned to patients and referring physicians, and the number of e-mails that must be answered. It is no wonder that physicians are experiencing information overload!

Impact on Productivity

An excess of information can have a negative impact on your practice. It can take a physician several hours a day just to manage the paper and Internet communications from colleagues and patients, and to digest the current information on the practice of medicine. The same applies to office staff members who can spin their wheels dealing with information, e-mails, and the flood of paperwork that can inundate your office.

Effect on Office Morale

If regaining lost productivity is not enough of an incentive to get a handle on information overload, think of the effect it can have on your morale and that of your practice. How do you feel when you look at your desk and see a mountain of paperwork? Most physicians and knowledge workers, including the authors, find this sight depressing and discouraging. The same applies to your staff members who are confronted with large volumes of paperwork. Most of us in the healthcare profession choose this line of work because we enjoy interacting with people. We are not number crunchers or paper pushers, and the increasing amount of paperwork that our staff must contend with has a devastating impact on our morale and can be a source of increased anxiety.

WHAT YOU CAN DO ABOUT IT

Given the impact noted above, it becomes imperative that doctors and their staff make every effort to manage the information overload that is part and parcel of every medical practice. In order to do so, it's useful to understand the various solutions that have been developed and tried elsewhere, which we describe below.

Solutions to information overload can be classified into two categories: personal and organizational. Personal solutions help the individual cope with his or her incoming information: they include methodologies and software tools that you can use to process your inbox and in tray faster. Their advantages are that you can apply them yourself, they cost little or nothing, and the benefit is immediate.

However, these solutions don't address the problem at its source—the information continues to be created and sent. This is where organizational solutions come in: they involve entire groups of people and can include elements that rein in the senders of the information. These solutions are often more complex and costly and harder to implement, especially as they require changes in expectations and organizational culture. Once deployed successfully, however, they can bring high payback.

Below are some solutions that can be applied to good effect in a medical practice setting.

Personal Solutions

- Handle all paper or e-mail just once. You should make a commitment to never touch a piece of mail or read an e-mail more than once. If you have an e-mail that requires further action, make an effort to resolve the issue, or place the e-mail in a separate To-Do folder. This simple step will save you many minutes each day.
- **Have two e-mail addresses, one for professional use and one for personal use.** You don't want to mix and match your professional and personal e-mails. Have an account for those e-mails that are related to your practice and that should be answered every day, and have a separate account for your personal e-mail that can be reviewed at a much more leisurely pace.
- **Request electronic, online versions of your journals.** Not only is this the "green" thing to do but it also saves clutter on your desk and at your home.
- **Save articles to read at a later date to a file or folder on your computer.** Few of us will read a journal from cover to cover. You can review an online journal and select articles to read by copying and pasting them into a file for later reading.
- **Review mail and remove all throw-aways so as not to clutter your in-box**. It is easy to purge your snail mail by discarding the throw-away brochures and pamphlets and leaving only those that require your attention. Having a smaller pile always has a psychological advantage over the huge stack of paperwork that so often accumulates on our desks.
- **Consider software tools that facilitate e-mail processing.** There is a growing number of Outlook add-ons that help you by automatically prioritize your messages, sorting them into folders by topic and more. Examples are ClearContext (www.clearcontext.com) and Xobni (www.xobni.com); there are many others.
- **Turn off incoming e-mail alerts!** Beeps, animated icons, "toast" alert pop-ups that tell you a new message has just arrived—turn them all off, especially when you are seeing patients, so you can focus on and think about only patient care. One of us (NHB) carries his cell phone when he's with patients but gives the number only to operating room, intensive care unit, and emergency department staff and to his wife— with instructions that she may call for emergencies only!

- **Last but not least, set specific times to process e-mail.** Whether it's once a day or once in the morning and once in the afternoon, having preset times for dealing with e-mail and ignoring it the rest of the day is a key concept in keeping your brain available for undisturbed problem solving, learning, and of course devoting yourself to your patients' problems.

Organizational Solutions

- **Have your staff screen your e-mails just like they screen your phone calls**. Physicians do not have a problem letting their staff screen or triage their phone calls. You can do the same with your e-mail. Let your staff review patient e-mails and alert you to the ones that require your responses; the staff can then handle the remainder. The doctor should do only that which requires a medical opinion or decision.
- **Identify useful and credible Web sites for your practice and for your patients.** Not all Web sites are worthy of your time. Try to find Web sites that you deem credible, such as WebMD, NIH.gov, and PubMed.com. You should also identify sites you can direct your patients to, and provide patients with a list that you should also include on your practice's Web site. Educate patients to look at the site first, so they don't e-mail you unnecessarily.
- **Develop a no-meeting journal club to share pertinent articles with colleagues**. With all of the time constraints that impact physicians, it is difficult to attend additional meetings. However, you can stay abreast of the voluminous medical literature by developing a journal club network with your fellow physicians. Using this method, you can maintain an awareness of the literature and help your colleagues at the same time. By sending articles that would be of interest to your colleagues and they doing the same for you, your ability to be current and up-to-date is accomplished without an extra burden on your time.
- **Try applying "quiet time" periods.** This idea has been tested in the hi-tech industry and has great promise. Decide on one or more fixed half-day periods in the week—say, Tuesday morning—when you arrange with your staff to give you time to concentrate (you may also want to do the same for them!). In the assigned time, turn off your incoming e-mail and cellphone, switch your telephone to voice mail or an assistant, and devote yourself to reading, writing, or other undistracted activity.

GETTING STARTED

Information overload is a source of intense inefficiency, stress, and unhappiness for many doctors and their staffs. If you are among these, we strongly urge you to stop taking this problem lying down, and to implement changes in processes and procedures that will restore the wasted hours, remove the anxiety, and empower you and your coworkers to enjoy the pleasure of a job well done in a more relaxed work environment. As an extra bonus, you will get to go home to your loved ones without the weight on your mind of hundreds of messages that still need processing. It's all good—go do it!

TO DO THIS SUCCESSFULLY, WE RECOMMEND THE FOLLOWING TWO INITIAL STEPS:

1. **Do your homework.** Information overload is a complex issue with many impact areas and possible causes. Characterize your practice's problem, its causes, and its effects, and then decide what you need to change first, and carefully choose what solutions to adopt. There are many solutions to choose from, but not all of them will work for your situation; you must be sure to accommodate your practice's and your staff's "organizational DNA."
2. **Get commitment from doctors and office managers.** Resolving information overload requires a commitment not only from the staff but also a buy-in from the doctors. Everyone in the practice has to be on board for reducing the overload. You can enlist the support of the staff and the doctors by reviewing the impact that information overload has on the practice's efficiency and productivity. Perhaps one of the best ways to get started is to present the issue at a staff meeting. Keep track of your information overload for a day or two, and provide real examples from your experience in the practice. Ask others what their experience has been. Then request some suggestions from the staff and the doctors for solutions to the problem. If none are forthcoming, you can propose to adopt a few of those provided in this article.

CONCLUSION

Bottom Line: Information is expanding and threatens to overwhelm us like a tsunami. Controlling the flood of information is vital to the success of our medical practices. Each physician and each medical practice must understand the deleterious effect information overload can have on the productivity and the morale of our practices. By following a few of the suggestions and perhaps implementing some of the available software, you can tame the tiger of information overload! ■

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