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## 16 – Using the Internet to Answer Clinical Questions

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“Medicine has built on a long history of innovation [...] Doctors have embraced each new technology to advance patient care. But nothing has changed clinical practice more fundamentally than one recent innovation: the Internet.”  
- Pamela Hartzband and Jerome Groopman (1)

Evidence-based Medicine became widely accepted at the same time that the World Wide Web was rapidly expanding and the development of online databases was making information easily available. Nowadays, healthcare professionals are increasingly using the Internet to obtain current health and medical information, and access journal articles and synthesis of evidence-based information.

However, there is relatively limited research on the healthcare professionals’ online searching methods and behaviour, especially in real-world settings, beyond the academia’s strict models (2). The plethora of information readily available on the Internet has gradually shifted the focus to how well we are able to search, filter and appraise the most relevant, accurate and reliable information and how efficiently and appropriately we are able to handle and apply it in clinical practice.

Retrieving information from the Internet necessitates specific skills and the outcome depends on the user’s ability to access catalogues and databases, and employ an effective search strategy. Besides the essential digital literacy which is considered to be commonplace among young physicians, healthcare professionals are also required to be trained in order to translate their need for information into a properly structured and “answerable” query (3). Systems using natural language and semantic tagging are under development and promise to change the way we seek and obtain information.

Although almost three out of four physicians who seek out medical information on the Internet state that they begin their research with a generic search engine, such as Google (4), other research suggests that healthcare professionals prefer more specific resources, like Pubmed and WebMD (5).

There are still a significant number of online resources that require paid subscriptions, restricting the fair dissemination of medical knowledge.

Time also represents a major constraint: healthcare professionals have very little amount of time available to search the Internet for the current best information. With medical knowledge and literature expanding rapidly, there is a negative impact on how healthcare professionals are seeking and managing information, leading to misinterpretation of the evidence, acceptance of lower-quality information and resignation (3).

## Social Networks

Despite the exponential growth of medical information available on the Internet, many healthcare professionals still turn to colleagues and trusted experts as their first resource (2). With the advent of the 2.0 era, these resources are being replaced by global networks, where information-seeking and appraisal can be crowd-sourced.

Although social networking should function as a companion in the search for the best available evidence, by investing in the development of a trustworthy network, healthcare professionals can reach out to the world and have information at their fingertips. Besides employing generic-purpose social networks, they can also use those relevant to the medical sector, such as Doximity, Sermo and doc2doc, which offer more controlled and possibly safer environments. What is more, in this era of brewing participatory culture they are also given the opportunity to curate content themselves and open up to a dialogue not only with their peers, but also with professionals from various settings and with different backgrounds and expertise.

## Information Seeking and Healthcare Users

As health information is becoming widely accessible and growingly reliable, patients are increasingly interested in learning about their conditions, their prevention and treatments, and sharing their experiences. They seek online health information, connect and collaborate with the others and take advantage of the Internet not only for decision-making and management of their own condition, but also for education and advocacy purposes. In fact, according to the Pew Research Centre, 7 out of 10 Internet users in the United States searched for health-related information in the span of a year and one in three adults looked online to diagnose a condition (6). Remarkably, 30% of the older people sought health-related information as well.

For the first time, as Eric Topol mentions, the medical world is getting democratized (7) and the flow of information is leading to a paradigm shift of the patient and healthcare professional roles.

As patients face the overwhelming and often conflicting body of available information, it is becoming common practice for them to bring such information to consultations in a quest to analyse and comprehend it. Patients in fact, are increasingly relying on their physicians for the interpretation of the online information (5). It is therefore becoming increasingly essential that not only should healthcare professionals embrace this need and accept this behaviour, but they should also guide their patients and refer them to reliable online resources.

## Take Home Messages

- Healthcare professionals are increasingly using the Internet to obtain current medical information and are gradually focusing on how well they are able to search, filter and appraise the most relevant, accurate and reliable information and how efficiently and appropriately they are able to handle and apply it in clinical practice.
- Information-seeking and appraisal can be crowd-sourced with the use of social networks, where physicians can also curate content and converse with professionals around the globe.
- As patients seek online health information, and connect and collaborate with others on the Internet, healthcare professionals should be able to help them interpret such information and guide them to reliable online resources.

## Original Abstract

<http://www.woncaeurope.org/content/3550-using-internet-answer-clinical-questions>

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