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Surgeon 2.0: The Challenge Is on the Web[☆]

Ricardo Belda Lozano,^{a,*} Manuel Ferrer Márquez,^a Juan Manuel García Torrecillas,^b
Antonio Alvarez García,^a Angel Reina Duarte^a

^aUGC de Cirugía General y del Aparato Digestivo, Hospital Torrecárdenas, Almería, Spain

^bUGC de Cuidados Críticos y Urgencias, Hospital Torrecárdenas, Almería, Spain

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ABSTRACT

Numerous articles and opinions have been published in the last few years on how the Internet is changing clinical practice.

In this article we focus on describing 2 aspects that we believe are fundamental in the Web 2.0 and medicine–surgery inter-relationship: (a) Web 2.0 conceptualisation and its differences with other pre-existing tools, and (b) a description of some of the tools that from a medical-surgical view could be of major interest to the professionals, the patients, and interaction between both.

The time has arrived to board train 2.0, where the channels of communication between the professionals, and between them and the patients, are improving disease situations daily, to improve learning through contact with other physicians and surgeons, at the same time providing an excellent resource for maintaining health and to know the disease and its treatment.

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Cirujano 2.0: el reto está en la red

RESUMEN

En los últimos tiempos hemos visto publicados numerosos artículos y opiniones acerca de cómo internet está cambiando la práctica clínica.

En el presente artículo nos centraremos en describir 2 aspectos que creemos fundamentales en la interrelación web 2.0 y Medicina-Cirugía: a) conceptualización de web 2.0 y sus diferencias con las herramientas preexistentes y b) descripción de algunas de las herramientas que bajo la óptica médico-quirúrgica pueden ser de mayor interés para los profesionales, los pacientes y la interacción entre ambos.

Ha llegado el momento de subirse al tren 2.0, donde los canales de comunicación entre profesionales y entre estos con los pacientes mejoran a diario las situaciones de enfermedad, facilitan el aprendizaje a partir del contacto con otros médicos y cirujanos, al tiempo que proporcionan un excelente recurso para mantener la salud y conocer la enfermedad y su terapéutica.

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* Corresponding author.

E-mail address: doctorbelda@gmail.com (R. Belda Lozano).

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We have recently seen numerous articles and opinions published about how the internet is changing clinical practice.¹⁻¹¹ Ever since the famous cover of *Time* magazine in 2006 with a computer screen announcing that the Person of the Year was the anonymous internet user, the phrase “Yes, YOU. You control the information age” has become an everyday reality for the world, affecting specialized sectors and, no doubt, medicine and surgery.

We will focus on describing two aspects that we believe are fundamental in the interrelationship between Web 2.0 and medicine-surgery: (a) the concept of Web 2.0 and its differences with pre-existing tools; and (b) a description of some of the tools that, from the medical-surgical perspective, are more interesting to professionals and patients, and the interaction between them.

The fundamental difference between the already-not-so-new Web 2.0 and its predecessor 1.0 is its bidirectionality. Web 2.0, also called the “participation web”³ is based on providing five aspects: social networking, participation, collaboration, apomediation and openness between these groups,⁶ in such a way that these five aspects are in juxtaposition to the traditional hierarchical, closed manner of working.

In the new Web 2.0 (and in the coming 3.0), the user is an integral part of the information contained in the network, feeding the support programs that he/she uses at the same time as these receive the feedback necessary for growth and modification almost instantaneously. In the words of Pere Marqués, “not even computers have played such a decisive role in the evolution of society as the creation of the computer network: the Internet”.¹² It is this interaction that has actually meant a change that the world in general, and in our case surgeons and physicians in particular, should know how to use to our advantage.

Apomediation is an interesting concept that signals the disappearance of information intermediaries with the appearance of apomediators (*apo*, from the Latin word for *separate*), which means that doctors can have direct contact with patients without any type of mediation. This has also been verified in some applications, such as in PubMed. A few years ago, we would have needed a mediator to perform a bibliographic search. Today, PubMed frees us from intermediaries, although it does not meet most of the qualities of a 2.0 resource. In contrast, semantic search engines like *gopubmed.com*, based on the PubMed search engine, does allow for interaction with the information, the authors and even with the website itself, where the manuscripts can be commented.

Based on the feedback from the new Web and its applications, active listening and a change in approach and skills should all be essential for those in charge of user communities and those involved in health and disease processes. We surgeons are responsible for the health of our patients. We now have not only the scalpel in our hands but also the tools of the new Web so that interaction with patients is not restricted to just surgery. Now it is actually possible to provide complete medical care, both before and after, with personalized attention in a holistic manner with a single click of the mouse. At the same time, it facilitates and almost automates the idea of a *regeneration of medicine*, expressing the need for promoting health and offering healthcare services in the user’s home. Nonetheless, this

must be combined with its obvious counterpart: patient awareness and responsibility in the healing and healthcare process.

Social networking is key in the Web 2.0 concept since its application requires a real connection among people, forming a complex web of relationships while enabling collaboration amongst them and creating networks. Social networks can be defined as “social structures made up of groups of people who are connected by one or more types of relationships, such as friendship, kinship, common interests or shared knowledge”.¹³ There are general social networks (Facebook, MySpace, etc.) as well as specialized and professional networks (LinkedIn, Hermes Cloud, Biomedexperts).

Participation in these networks has led users to a new level in their relationship with healthcare providers with electronic reporting of opinions.⁴ They also have the potential to help researchers find collaborators. For instance, the social network for biomedical sciences, Biomedexperts,¹⁴ is a true networking platform where contacts are the co-authors of the indexed publications. Doctor-patient interaction is favored in specific networks like Curetogether.¹⁵

In recent decades, the number of times the term “multi-disciplinary” has been used in the scientific literature has increased exponentially, which illustrates the importance of collaboration in research.¹⁶

Participation and collaboration are essential aspects for both patients and professionals. The Web 2.0 provides users access to information, but it also allows users to create and share knowledge. In addition to social networking, one of the most representative examples of this are “wikis” (Hawaiian for *fast*), which can be edited by people who access them (either anyone, or only individuals with permission). The most famous wiki or collaborative web is Wikipedia¹³; other examples are GANFYD, which is continuously updated by its readers, or the wiki developed in our hospital to coordinate teaching activities.¹⁷ Currently, there are several wikis with doctor-patient interaction where the latter can obtain all the information necessary regarding, for example, a particular surgical procedure. **The possibilities of this type of website are enormous given how easily they can be constructed and the diverse material they can contain.**

Another major element of the 2.0 world are blogs. The word *blog* is derived from the words *web* and *log*. Blogs are tools that work like diaries or journals and can be written by one person or a workgroup; they are open to collaboration and associated comments from the blog itself or from social networks. They can be used as learning or discussion forums. Their success lies in their ease of creation, which requires very basic technical knowledge.² Unlike a website, blogs are tools that are perfect for direct interaction with users as they are dynamic and integrated with all the social media: Facebook, Twitter, YouTube, SlideShare, feeds, FourSquare, Podcast, Flickr, etc.

Last of all, Web 2.0 is an open network. Although it is one of its theoretical advantages because it is free and transparent, there is some controversy about the use of social networks between doctors and patients.¹⁸ We must be especially careful with regards to patient confidentiality. If a patient requests becoming a “friend” in a social network, it is recommended to have a separate, professional account in Facebook for that type of contact.¹⁹ In spite of the drawbacks mentioned in the

doctor-patient relationship at the heart of Web 2.0, we believe that the benefits provided by these new methods of communication and interaction far outweigh the problems that may arise. The time has come for us to jump on the 2.0 bandwagon, where the channels of communication among professionals and with patients improve disease processes, facilitate learning from contact with other physicians and surgeons, and provide an excellent resource to maintain health, determine diseases and define treatment.

Conflict of Interest

The authors have no conflict of interest to declare.

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