Fostering Healthcare Criticalities Management through Web Collaboration Platforms: HealthUs Project

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Extended Abstract

According to the emergent discipline of Health Web Science, partially overlapping with Medicine 2.0, it is important to take into account not only the technical aspects of healthcare web environments, but also their social features.

Objective: HealthUs project is based on the assuption that it's only through the study of the topology of healthcare social networks that it's possible to detect the key human resources which can find solutions or answers to the emergent healthcare knowledge claims.
Method: HealthUs is a social web platfom designed to support collaborative and cooperative work among management and clinical professionals. Collaborative learning is an active process involving peers which is aimed at constructing new knowledge and innovation. This is achieved through dialogue, communication, collaboration and integration. The process is directed by a learner centered approach meaning that knowledge is not communicated by an instructor or an expert, but it emerges through the interaction among learners as a shared point of view on the examined problem. The personal experiences of the participants in the learning process are important to define a shared context or a topic of common interest. Possible hints are suggested by HealthUs system through big data processing tools which provide dynamically updated reports and knowledge representations of healthcare system criticalities. For example neural network representations of correlation among organizational, clinical and demographic data can enable the discussion about novel treatments for diseases, new integrated processes, or provide data on drug safety.
The quantity and complexity of healthcare big data has lead to the development of new tools capable of automatically converting this data into new biomedical knowledge that is accessible to the clinical practitioners, researchers and managers. These representations regarding hospital discharge cases, drug consumption and therapeutic outcomes allow the healthcare and research community to identify future research lines in order to cope with new emergent problems.
A good starting point to express the experiences and the skills of the professionals and to create the conditions for an effective sharing of knowledge is represented by the (micro)blogosphere. This representation is interesting for its evolving structure that reflects the set of social ties which shape the community. But in order to enable effective collaborative learning experiences social networks analysis tools are adopted to select instructors and discussion topics. This is the first step of a collaborative learning process which can be managed by a third module that is the workflow management system. The typical process begins with the definition of the objective of the learning session and the assignment of the roles within the defined learning community. The final step is a test to evaluate the acquired knowledge of the participants and their level of satisfaction. The

process comprehends also intermediary feedback steps to evaluate the participation level of the group and the quality of the learning process.

In this way, far from replacing the experts, HealthUs platform ensures that the clinicians maintain their critical final-arbiter role in patient care and healthcare system management.

Results: Research in Progress

Conclusions: Research in Progress