
*Web 2.0 to Share Medical Knowledge and Improve Care
The Scientific Social Network of Madrid Health Region*

White Paper

Introduction

In early 2010, the Community of Madrid launched an innovative project in the area of health professionals through the creation of a **Scientific Social Network** for professionals. The project was initially implemented in the **University General Hospital Gregorio Marañón**, starting as a tool to support the Tumor Committee and thus serving as a *Proof of Concept*.

For the implementation of the **Scientific Social Network**, the Community of Madrid decides to license **MEDTING Enterprise**. **MEDTING** is a collaborative web platform for the sharing of clinical cases that allows professionals to exchange knowledge, research and presentation of the organization's relevant clinical cases to different medical committees. Madrid created its own private and enterprise MEDTING space.

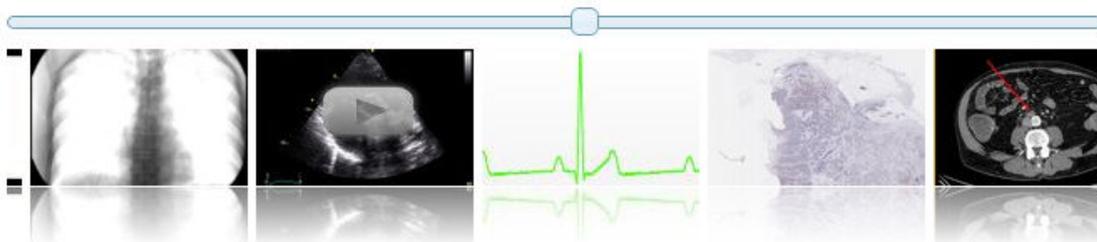
The **Scientific Social Network** facilitates consistency in the information for the presentation of clinical cases to the Tumor Committee, anticipating and documenting the views of specialists and keeping a record of tumors and statistical analysis of cancer epidemiology, standardizes communication between hospitals and enhances scientific and research activity, as it enables the recording of cases treated in this committee as a source of teaching and research material.

The Tumor Committee is composed of specialists who provide multidisciplinary cancer care: medical oncologists, radiation therapists, surgeons, radiologists; who make collective decisions about clinical cases evaluated to provide the best possible care to patients individually.

Characteristics of the MEDTING Scientific Social Network

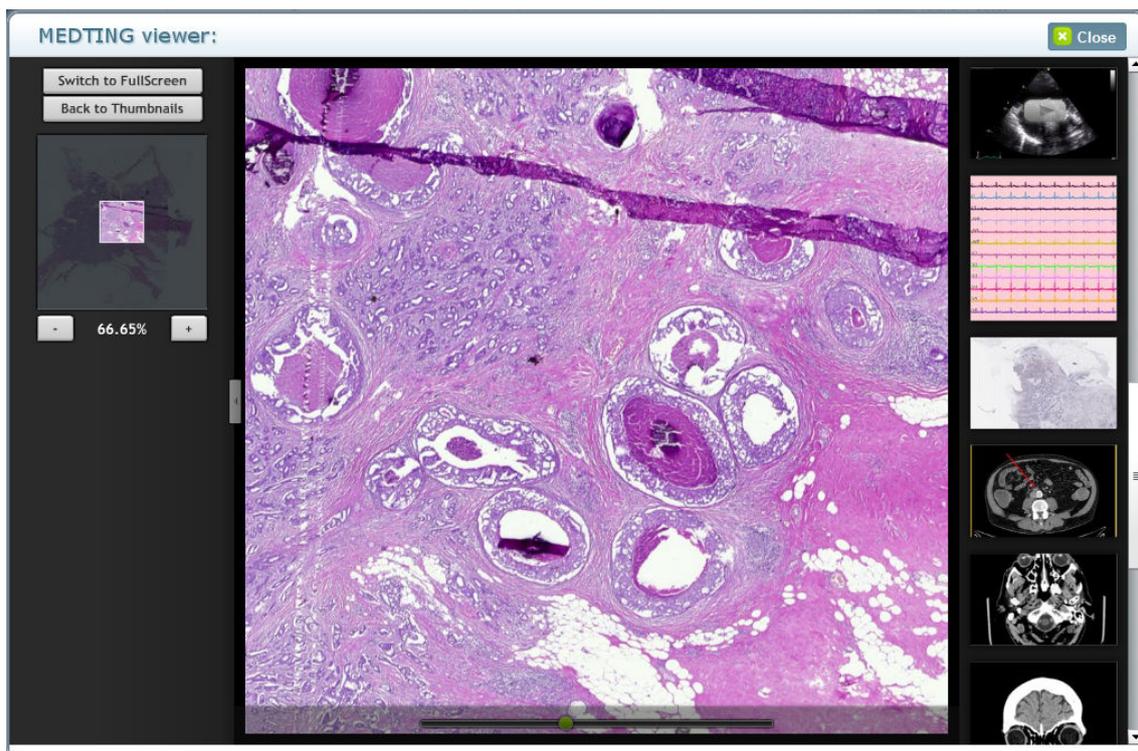
Some of the main features of the **Scientific Social Network MEDTING** are:

- ▶ The Contents stored are managed by the *user community*, publicly or privately.
- ▶ It is a platform based on the *Web 2.0* philosophy that enables sharing of clinical cases (share, generate, comment ... information).
- ▶ Allows *sharing* of private clinical cases (restricted access) or public clinical cases.
- ▶ Enables the creation of both public and private *work groups*.
- ▶ It allows the definition and management of *user profiles*, as well as *language preferences*.
- ▶ Allows indexing and categorization of content information through *SNOMED-CT*.
- ▶ Allows automatic integration with an external repository or PACS.
- ▶ Carries out the *identification of each clinical case* and interaction with the Medical Record.



One of the most valued features of MEDTING is its rapid viewer and capability of displaying any type of multimedia information (image,

video, documents, DICOM, ECG's, Pathology, etc.) in a single viewer in integrated form and through the web.



Proof of Concept in the Community of Madrid

The proof of concept involves a large number of clinical departments and units of our hospital: Surgery and Surgical Specialties, Internal Medicine, Medical specialties of Gastroenterology and Pneumology, Oncology (medical, radiation, palliative care), Obstetrics and Gynecology and Central Services (Pathology, hematology and Nuclear Medicine and radiology).

With the use of this platform, an organization of cases and a clinical repository, for teaching and research purposes for the medical community (doctors, students, residents, etc) has been created. This has brought about an improvement in medical education and quality of care focused on clinical cases.

The Proof of Concept at the **University General Hospital Gregorio Marañón** was planned for 6 months, fulfilling the targets set at 4 months since its initiation. The Hospital has managed to establish MEDTING as the basic tool for the

Tumor Committee, creating and dynamizing a medical social network that covers diagnostic and treatment units that work with clinical cases / images / multimedia elements. In turn, a reference library and customized opinion with great value for clinical decisions has been created. Work Groups based on functional units of oncology (breast, gastrointestinal, lung, genitourinary, etc.) have been formed.

The project has integrated image capture devices from medical devices by using the Medical Images Organizer (MIO) tool. This tool enables the integration of cameras, endoscopes, retinography, microscopes, ultrasound, CT and any other medical devices in an automated fashion.

In preliminary plans, an addition of 50 clinical cases was expected. After the Proof of Concept, the **Scientific Social Network** exceeded its goals by accommodating 90 clinical cases that

have been treated in the various tumors Committees. It is expected that by the end of 2010, the platform will include 80% of patients going through the Tumor Committee.



The use of the **Scientific Social Network** has favored the transformation of care, Management and Transfer of Knowledge through the use of social networking and has

been a tool of innovation in the medical community that has optimized professional relationships within the organization.

Project Objectives

The objectives that have been posed in the **Scientific Social Network** project of the Tumor Committee of the **University General Hospital Gregorio Marañón**, are:

- ▶ *Improved communication and exchange of clinical knowledge.*
- ▶ *Sharing of clinical cases, opinions and comments via the Internet.*
- ▶ *Facilitation of research and education by providing the medical community a tool that can store a large volume of images and video.*
- ▶ *Motivation and empowerment of clinicians.*
- ▶ *Helping patients and their families to have a better understanding of the diseases affecting them.*

Results at the University General Hospital Gregorio Marañón

Within our hospital, we have analyzed the results and the impact that the implementation of the **Scientific Social Network** platform as a tool for the Tumor Committee has had:

- ▶ *Innovative project in the sector.*
- ▶ *Improving multidisciplinary communication among professionals.*
- ▶ *Capacity to collect any type of multimedia information associated with the case of any department or specialty.*
- ▶ *Full adoption by diagnostic and treatment units, creating an early diagnosis through an interdisciplinary assessment.*
- ▶ *We have created a registry of tumors that can be used for statistical analysis: evaluation of cancer epidemiology, evolutionary oncology development and measurement of social and health impact of all phases of a tumor.*

- ▶ The platform is valuable to the education and health teaching.
- ▶ Good use as a second opinion (online collaboration) in any

The project has involved a change in the traditional manner of executing the Tumor Committee. Furthermore, in parallel to the clinical discussion, a repository of clinical knowledge relevant to the clinical community (residents) and continuing education is being created.

Currently, an internal assessment process has been launched to objectively measure the following results and impact of the project:

- The organization of Tumor Committees with Medting, described in the Comprehensive Cancer Plan of the Community of Madrid, helps manage 100% of patients
- Avoids repetition of laboratory tests on patients referred from other departments or other hospitals

specialty.

- ▶ Basis of motivation for professional clinicians (Empowerment)
- Helps to reduce waiting times. More focused on early treatment by sharing information on the same patient in real time.
- Facilitates the selection of patients for inclusion in clinical trials, saving costs for the hospital.
- Improves and encourages collaboration with industry (clinical research): it is the most powerful tool to promote clinical research in the hospital.
- Improvement in management of workflows. Helps the Tumor Committee manage itself.
- Publications. Comprehensive knowledge. Epidemiology: Health planning

Expansion of the Social Scientific Network

The project initially defined constitutes the Scientific Social Network of the whole of the Community of Madrid, which consists of 32 hospitals and 500 centers. The Proof of Concept and validation performed at the Hospital Gregorio Marañón not only reached the set goals and confirmed expectations, but the success among professionals has accelerated the expansion and implementation of the initiative in the other centers.

In addition to extending to other centers, we will explore the use of the social network to other clinical settings in the **Hospital Gregorio Marañón**, as a center of innovation and implementation of new network functionalities. Some short term goals:

- ▶ Extension of the platform to all tumor committees of the oncology referral hospitals on

HGUGM.

- ▶ Study and implementation of proposals for other services, outside of the field of oncology, who have detected opportunities for teaching, document repository, improved patient care, etc.
- ▶ Automation of the transfer of information: Automatic transmission of studies and images generated in the repository of hospital medical images (PACS) to MEDTING.
- ▶ Development of application for mobile settings
- ▶ Integration in areas of clinical decision support
- ▶ Assessment of the platform as a second opinion setting in personal health records of the citizens.
- ▶ Integration with EHR settings through Semantic Web.

Learn more about this project and other successful experiences at

<http://medting.com>