

## Chapter 10

# Telemedicine Service of San Giovanni–Addolorata Hospital in Rome: Analysis of About Two Years of Activity (2008– Early 2011)

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### ABSTRACT

*Telemedicine service has dramatically increased in San Giovanni-Addolorata hospital in Rome in the last two years. Stated as an experimental service in 2005, telemedicine has gained the status of usual service in 2008 and now has reached a good functional level since the creation of a dedicated department within the hospital in late 2009. The authors intend to present the results obtained since the beginning of the usual service and a brief description of the operational workflow.*

### INTRODUCTION

Telemedicine is the branch of the health care, which lets health operators control and cure patients remotely, freeing people from the constraint of a direct and tight connection to the hospital.

Patients can experience normal life as if they were not affected by pathologies while physicians have a constant and updated view of their clinical situation. This way of acting in health care dramatically increases patients' life style level while, in the meantime, saves huge amount of money

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for the hospitals sparing hospitalization beds, cures, sickbay accesses and lowers waiting lists. What we are going to describe is our experience in telemedicine in the San Giovanni-Addolorata hospital in Rome (Italy), as far as the adopted methodologies and the recorded results.

## DESCRIPTION

The telemedicine service held in the San Giovanni-Addolorata hospital in Rome is one of the most significant and innovative services in Italy. It has grown from experimental to full operational status in 2008 after a 2 years training period and has become an independent clinical department in late 2009. Its key points and peculiarities are that is one of the few telemedicine wards created in Italy, with dedicated structure and personnel and that all the hardware and software architecture was designed by ward's and technological partners' personnel, avoiding to use already implemented stuff, but customizing the solution to the department needs and trying to continuously refine and improve it. Up to the end of 2010 the technological partner was Hewlett Packard Italy, which demanded software implementation to some of its partners. Since February 2008 software was developed by Format Systems & Networks.

In the following, the analysis of the collected data during the observation period is described in details.

Started as a prototypal service for selected patients in 2005, the telemedicine service is based on some portable clinical devices which create a “virtual hospitalization bed” (see Figure 1), a Service Centre for communication between patients and doctors, and a certain amount of specialist physicians who daily check the remote patients' life parameters remotely interacting with them as if they were making the normal department daily visit checkout.

This way of checking patient's health is called TeleMonitoring. It is greatly useful in some non-

*Figure 1. Virtual bed devices*



critical, long-term pathologies, such as hypertension, or many forms of cardiac diseases or for a territorial assistance and screening. We have adopted two different ways of using the TeleMonitoring.

The first option has been named “Standard TeleMonitoring Service”. It consists in a “virtual bed” composed of various and specific clinical devices that are supposed to be used by the patient or by his/her care giver to take and automatically send life parameters to the Service Centre in San Giovanni hospital.

The other option is called “MultiPatient TeleMonitoring System”. Its operational way is similar to the one described above, but, in this solution, many people might be monitored with the same apparel at the same time. In this case a more professional operator is required because clinical devices are more advanced than the single patients ones and a non-professional person might not be able to operate alone. The MultiPatient solution has been developed to be installed in nurseries, sickbays, or wherever many people may be treated at the same time.

A third option, the TeleConsultation Service, is also available: a spot request may be sent to a specialist physician via MultiPatient or custom software, with the option of sending the needed patient's life measurements in the meantime.

Only a certain amount of diseases may be treated by the telemedicine service (no emergen-

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