EUROPEAN PROJECTS ON TELEMEDICINE IN TIMISOARA

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SUMMARY:
Telemedicine models were developed by some European countries such as Denmark - County of Funen, in Italy - region Veneto, in Spain - region Aragon and in Sweden. The most important result of this type of projects in Romania was the improvement of communications through Internet connections and e-mail facilities. At the same time, other pilot projects in hospitals and outpatient departments have been developed within the framework of health programs funded from national and international sources. “Near to Needs” Project in Timisoara implied tele-transmission services between Timisoara and Treviso for Neurosurgery and Cardiology, trainings in Italian hospitals for young medical doctors in neurosurgery and orthopedy, tele-trainings for nurses. “Health Optimum” Project in Timis County implied tele-counselling services between a general hospital specialist or exceptionally a GP and another specialist from a tertiary hospital. Telemedicine initiated by “Health Optimum” Project in Timisoara can improve quality of medical care and it will try to satisfy the growing demand for clinical services with decreasing the healthcare expenditures.

Key Words: telemedicine, tele-counselling, tele-trainings

PROIECTE EUROPENE DE TELEMEDICINA IN TIMISOARA

Rezumat:
Modelele de telemedicina sunt folosite de unele tari europene ca Danemarca – regiunea Funen, Italia – regiunea Veneto, Spania – regiunea Aragon. Un prim rezultat important al acestui tip de proiecte in Romania a fost imbunatatirea comunicarii prin conexiunele oferite de internet si facilitatile e-mail-urilor. In acelasi timp, alte proiecte pilot in spitali si policlinate s-au dezvoltat in cadrul programelor de sanatate finantate cu resurse nationale si internationale. Proiectul "Near to Needs” in Timisoara a implicat servicii medicale de teletransmisii intre Timisoara si Treviso pentru departamentele de Neurochirurgie si Cardiologie, stagii in spital din Italia pentru medici tineri neurochirurigi si ortopezi, teletransmisii pentru asistente medicale. Proiectul "Health Optimum" in regiunea Banatului a implicat servicii de tele - consulturi medicale intre un medic specialist dintr-un spital primar sau in mod exceptional un medic de familie si un alt medic specialist dintr-un spital teritorial. Serviciile de telemedicina initiate de Proiectul "Health Optimum” pot imbunatati calitatea actului medical si vor incerca sa satisfaca cererea tot mai mare de servicii medicale cu scaderea totodata a costurilor acestora.

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INTRODUCTION

The telemedicine services have been designed for the healthcare systems that provide healthcare in many countries from west Europe. For example we encountered HEALTH OPTIMUM Business Model in Denmark - County of Funen, in Italy - region Veneto, in Spain - region Aragon and in Sweden. The Ministry of Public Health has been the beneficiary of “Healthy Romania Project” funded by the World Bank. One first important result of the project in Romania was the improvement of communications through Internet connections and e-mail facilities. At the same time, other pilot projects in hospitals and outpatient departments

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have been developed within the framework of health programs funded from national and international sources. In 2003 was performed a review of telemedicine in Romania and the conclusion was that telemedicine has the potential to accelerate health-care reform. In 2004 the Ministry of Public Health and the Ministry of Communications and IT formed a common information system implying Health Insurance House, as the providers of funding in health system and the District Public Health Directorate for introduction of the “health card” and “unique identification of health insured person”.

The main hospitals and universities are interested in a wider distribution and development of telemedicine within Romania for the benefits to the Romanian people, 46% living in rural areas.

The main telemedicine projects realised in Romania are:
- NCMN (National Critical Medicine Network)
- Telemedicina Toscana, Lombardia e Timis
- National Trauma Network
- Net for Care
- Near to Needs
- Health Optimum

Near to Needs Project was funded by ESA (European Space Agency) and it has demonstrated the useful role of satellite communications for telemedicine services. Its general targets are medical services for the Italian residents in Romania - Timis Region and the Romanian employed by Italian companies from the same Region, eLearning courses and second opinion medical services.

The first target was accomplished providing quality healthcare through telemedicine applications in the field of diagnosis and treatment of complex clinical cases. It was performed by connecting Treviso Hospital with Timis County Hospital in synchronous consultations (videoconferencing) for chronic cases by transmissions of additional data (X-ray films, CT and MRI images) without the presence of the patient.

The second target was accomplished by organising courses for nurses (mainly from the Intensive Care Department) of County Hospital Timisoara (SCJUT) on “Management of after-surgery pain” led by physicians and nurses from Treviso Hospital using videoconference sessions (connections between Treviso Hospital - Timis County Hospital).

The third target was reached by receiving second opinion in critical patients, the opportunity of transporting these patients in a tertiary hospital, discussions on medical responsibility for these cases and interpretation of imaging data as computer tomographies.

Telemedicine services consisted of:
- telecounselling
- telelaboratory
- telereferral
- telecare

The tele-counselling services represent a communication between a general hospital specialist or exceptionally a GP and another specialist from a tertiary hospital; the first requests the opinion of the tertiary hospital specialists on a clinical case. The service is provided in various ways as asynchronously systems (secure e-mails type interaction) or interactively systems (through videoconferencing facilities).

Tele-counselling service for Neurosurgery had some advantages as:
- reduce mortality and morbidity from cranio-encephalic trauma and spine injuries by reducing transfer times and by improving the patient transfers to a neurosurgery centre;
- improve the ability to rapidly diagnose serious injury for patients non transferred to a neurosurgery centre;
- provide equality of treatment to all citizens victim of a trauma, irrespective of where it occurs within the regional boundaries

Tele-counselling service for Radiology assured the following advantages:
- avoid a double transfer of the X-ray and CT plates from the Primary Care Center to the hospital
- reduce the delay between the taking of the X-ray and the communication of the diagnosis to the patient
- reduce costs by eliminating the need to use expensive revealing substances and X-rays plates

Virtual referral services represents a discussion between a general hospital specialist, highly specialised nurse or exceptionally a GP and a tertiary hospital specialist while the patient is hospitalized in his/her department and normally requires booking an appointment with the tertiary hospital specialist.

Virtual Referral for Cardiology allows the following services:
- a cardiologist from a General or Tertiary Hospital may assist a general practitioner or a highly trained nurse to conduct diagnostic exams and more specifically an echocardiography diagnosis for a patient
- advise the GP concerning the patients who showed anomalies in their EKG pointing heart diseases as: ischemic heart disease, dyspnea, heart failure, murmurs, syncope, hypertension
The healthcare structures and medical services involves in Health Optimum Project are:

- Tertiary Hospitals (hubs):
  - Treviso Hospital
  - County Hospital of Timisoara
  - Municipal Hospital of Timisoara

- Primary Care Centers (spokes):
  - County Hospital of Timisoara
  - Municipal Hospital of Timisoara
  - Hospitals from Arad (County or/and Municipal)
  - Hospitals from Deva (County or/and Municipal)
  - Hospitals from Resita (County or/and Municipal)
  - City Hospital Petrosani

Fig. 1: The network of telemedicine in Health Optimum Project

Fig. 2: Telemedicine services in Romania
CONCLUSIONS

The tele-counselling medical service is not a universal solution but reduces time and distance barriers (these are major obstacles to equal access to quality healthcare). Telemedicine reduces the number of referrals without substantially increasing the duration of consultations by Secondary Care specialists or GPs. Electronic referrals and tele-counselling constitute an on-the-job training for Secondary Care specialists or GPs.

The HEALTH OPTIMUM telemedicine platform is suitable to build commercial services on top of it. This fact promises to be highly profitable. Part of the profit could be re-injected into the public healthcare system to increase the financial resources currently available. Elimination of radiological plates reduces pollution. Telemedicine can improve quality of medical care, satisfies growing demand for clinical services while containing healthcare expenditure. Financial advantages are also real facts that must be taken into account.

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