Building eHealth National Strategies –
The Romanian Experience

George I. MIHALAS a,1, Dan D. FARCAS b, Diana LUNGEANU a, Mircea FOCSA a

a Department of Medical Informatics,
Department of Medical Informatics,
Victor Babes University of Medicine and Pharmacy, Timisoara, Romania
b National Center for Health Statistics and Informatics, Bucharest, Romania

Abstract. A description of the newest Romanian eHealth project is presented. The
SIUI project – Integrated Unique Information System of the National Health
Insurance House was tested on three pilot units in 2007 and generalized in 2008,
becoming mandatory for all healthcare units in 2009. The implementation process
revealed some difficulties and the user acceptance is still low. A couple of
supporting measures, including educational programs, are finally discussed.

Keywords. national strategy, eHealth implementation, user acceptance

1. Introduction

The term “e-health” is no longer a neologism and its use crossed the border of
professional terminology being used by several categories of people, including
politicians. Their important role in successful implementations of health information
systems has been recognized for decades [1]. In Europe, various ministerial and high-
level groups, together with the European Commission started in 2003 a series of
“eHealth High Level Conferences”. These yearly commitments yielded good
achievements, including eHealth roadmaps in all member states [2]. This paper aims to
present the Romanian experience in building eHealth national strategies, when
professionals and politicians have to co-operate and harmonize their viewpoints.

2. Romanian eHealth – Short History

After a couple of various small projects rolled between 1992–96 by the Ministry of
Health (MoH), a larger project, credited by the World Bank (18+ M$) started in 1996,
HMIS – Healthcare Management Information System [3]. It was organized on three
levels (central, district and local) with several modules, including resource management
and medical subsystems. A pilot district was supposed to comprise all healthcare units
[4]. However, the first phase was finalized in 2000 with delay and with quite modest
results, mainly due to the fragmentation of the Romanian healthcare decisional system,
creation of the National Health Insurance House (NIIH) with its network of district
health insurance houses, professional national organizations etc.

1 Corresponding Author: Director, Center for Biological Systems Modeling and Data Analysis, Victor
Babes University of Medicine and Pharmacy, Timisoara 300041, Romania; E-mail: mihalas@umft.ro.
Several weaknesses have shown out: parallel data recording, duplication of reporting, all kind of incompatibilities [5]. The need of a political support became obvious [6].

The hospitals took advantage of their relative independence gained within the general trend of decentralization and the fruits of the market economy became soon available, mainly for hospital information systems [7]. However, the absence of a legal frame (accreditation or certification systems) as well as the lack of elementary knowledge about health information systems of the majority of hospital managers, with no previous experience in this domain, left room to disharmonious applications and high prices.

3. The Present State: Different Views

3.1. The Official View

In 2003, the NHII initiated a complex and large project – SIUI – Integrated Unique Information System [8] with a total cost of almost 120 M€. It covers: 11,606 GPs, 496 hospitals, 2,363 clinical ambulatories, 963 paraclinical ambulatories, 4,709 dentistry’s, 3,168 pharmacies, 44 ambulance departments and 47 home care service providers. Another success is the recent provision of all family doctors in Romania with notebooks, printers and the appropriate software [9]. The system was tested in three pilot units in 2007 and generalized in 2008, starting to be mandatory since 2009. It will continue to be extended with more modules until 2013.

3.2. The EC View

Two “Country report Romania” [10, 11] are available and were built on data from various Romanian sites or from questionnaires. We cite from it just a couple of items:

- there is no official eHealth strategy and no formal eHealth national roadmap in force;
- no major eHealth research programmes are underway or in preparation;
- projects are in progress for telemedicine solutions, mainly for emergency (ambulances, connected to the hospital);
- in August 2007 the Minister of Public Health signed, on behalf of Romania the “Letter of Intent” for participation in the “eHealth Initiative” for preparation of a successful proposal for a Large Scale Pilot on interoperability. Romania is also participating in two international eHealth projects for interoperability: “Near to Needs” and “Health Optimum”.

4. The SIUI Project

4.1. General Description

The SIUI, as a national system, is very complex, dedicated to the management of the funds for over 21 million citizens and over 26,000 health service providers. The major goal is to manage the acquisition, storage and processing of data from the whole...
national social health insurance system. The major components are: a national IT structure for healthcare, specific software applications and a secure nationwide communication network. It has three levels: national (NHIH), district and service providers. The data collected from providers are analyzed at district level, aggregated and managed centrally by NHIH. There are five major functions: the management of health insurance funds, the management of insured citizens, the accounts of healthcare and pharmaceutical providers, the accounts of payers and the control of health services quality. Eight extensions of SIUI will complete the functionality:

- cost control decision assisted system (concerning eligibility and pre-authorizing),
- electronic cards for: insured citizens, GPs an pharmacists,
- use of biometric measurements for information security,
- integration of medical data in interoperable EHR,
- a national portal for the insured persons and all service providers,
- medical information integration programme for GPs,
- medical information integration programme for secondary clinical care, and
- an infokiosk for the insured citizens.

These components are already partially available and will continue to be developed until 2013. The EHR structure envisaged in SIUI will comprise: passportal data, general medical data, GP data – consultations, treatments and medication, hospital data – admission, treatment and medication, ambulatory data, medical investigations (laboratory data, RX, functional explorations) and medical expertises.

4.2. User Acceptance

Even the system has just started, several reactions have already been noticed. The general view is not very positive [8]. Most critiques refer to:

- the lack of integration of previous systems, mainly the non compliance with the Diagnosis Related Groups (DRG) reporting system, which has become mandatory since 2005. Thus, the SIUI system is practically duplicating the reporting of most data;
- the unfriendly interfaces have increased dramatically the time for filling in all the forms, reaching up to four hours per day [8];
- the data transfer from the previous patient databases was deficient; hundreds of patients were lost for each district, generating huge losses for both hospitals and GPs;
- the system does not cover all particular cases;
- the training was insignificant, the help module is poor and is far from providing the needed assistance.

5. Other Actions

Besides the actions and positions at central level of the healthcare system mentioned above (MoH and NHIH), we can add here other actions, which bring their contribution.
a) Other Central Institutions

- the National Center for Programs Management (CNMP) sustains several projects covering various directions, including e-Health. We do mention here the project SIMIMED – Integrated System for Medical Information Management using HL7, in which our team is involved [12]. The main objectives aim the design and development of communication interfaces between hospital information systems with SIUI or other information systems used in healthcare;
- the Ministry of Communication and Information Technology sustains projects financed from structural funds; the module M2.5 includes e-Health: “Development and increasing efficiency of modern public electronic services (e-Government, e-Education, e-Health) [13].

b) Educational Institutions

All medical universities included in their curricula a mandatory course on medical informatics. Some of them have also introduced postgraduate optional advanced courses on biomedical or health informatics. A master degree program in medical/health/clinical informatics was introduced by technical universities. The PhD program [14] in medical informatics is available at Victor Babes University of Medicine and Pharmacy in Timisoara and an agreement for co-operation with University of Szeged, Hungary, is in preparation.

c) Industry, Developers, Distributors, Exhibitors

This well defined sector, made up mainly of private SMEs, took contour last two decades and became stronger and stronge r and became important stakeholders on the Romanian eHealth market. Their products, used by most hospitals in Romania are improving with each new version. However, the interoperability between various systems is still low.

6. Discussions and Conclusions

The Romanian experience is not singular; there are, however, some specific features which can be added to the list of “lessons learned”.

The very first visible shortcoming was the mismanagement of the implementation process. A professional look over the project itself would positively qualify both the objectives, the structure and the technical solutions. What was missing was a realistic implementation plan showing again that neglecting the cultural environment with all its features yields a misperception even for good projects [15].

Big projects do often neglect previous work; in our case, the SIUI system did not consider the everyday use of the DRG reporting and made no information transfer possible. This fact generated a “rejection attitude” for almost all users. After all the critiques, there is now a transfer module under construction.

The testing phase was superficially approached, aiming especially technical features, not covering several practical situations. The security issues prevailed,
imposing very restrictive procedures, mainly concerning the corrections of various
types of mistakes.

Personnel training was almost completely ignored. Today, in Romania only about
a quarter of the GPs had medical informatics courses during their preparation and most
of them did not attend any other training course in computer literacy. The Romanian
Society of Medical Informatics is preparing a proposal similar to the American’s 10 x 10,
which would bring a substantial improvement in both user acceptance and in
overall perception.

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