SOLE (Healthcare online) and EHR (Electronic Health Record - FSE Emilia-Romagna)

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BACKGROUND AND AIMS / TYPE OF INNOVATION

The idea is to create an integrated network of Local Health Trusts, hospitals, general practitioners and paediatricians and to provide, through the Electronic Health Record (EHR), the clinical history of every citizen of the region.

Started in 2003, the SOLE network in Emilia-Romagna aims at boosting the efficient sharing of health information which is indispensable for the effective delivery of care. Elderly people and those with chronic conditions can particularly benefit as they often have several physicians, and are shuttled to and from multiple care settings.

The use of ICTs in the Emilia-Romagna Region ensures the timely and accurate collection and exchange of health data and can foster better care co-ordination and the most efficient use of resources through the promotion of standards, guidelines and reference platforms for interoperable solutions.

Electronic capture of data through EHRs can facilitate clinical research, as well as improve evidence-based care delivery, promote prevention and increase stakeholder cooperation. Indeed new functionalities are under development addressing older people's functionality, including the loss of cognitive functions and frailty and the planning of "evidence based" actions and methods, aimed at preventing frailty and functional decline and at promoting the health of the elderly, planning and developing early diagnosis and "care and cure" tools and networks.

The Regional Health Service is committed to complete the implementation of the computerised network thus allowing GPs and paediatricians, professionals in hospitals and territorial services, administration departments in Health Trusts to communicate with each other, in order to improve and simplify public access to services, and improve both patient management and continuity of care.

It is important to underline that the implementation of SOLE/EHR allows the following benefits:

- increasing quality of care and efficiency;
- reducing operating costs of clinical services;
- reducing administrative costs;
- enabling entirely new modes of care.

Indeed, through the implementation of the technological infrastructure, the project provides a large amount of telematic services, which can be used on a local or district scale by the majority of territorial healthcare structures and authorities.

This way every citizen in Emilia-Romagna Region has his/her Electronic Health Record online, containing medical prescriptions, medical referrals, laboratory referrals, radiology referrals, a patient summary, emergency reports.

The creation of personal electronic medical records is therefore possible through the SOLE network. With the patient's formal consent, documents already available in the network are automatically inserted in the record, which is permanently available on the internet in a protected, confidential format, i.e. it can only be consulted with the use of personal credentials (information on obtaining personal credentials is provided on the website). All citizens can insert medical documents, personal data and information into their own file; these documents can be accessed only by the patients themselves or can be shared with general practitioners and other specialists.

SOLE and EHR deal with chronic disease, which is one of the biggest obstacle to the sustainability of many public healthcare systems and particularly with the management of highly prevalent chronic diseases, which are strongly associated with preventable hospitalisations.

The project is implementing a series of actions at local, regional and national levels which will allow to develop and implement multidimensional early diagnosis services, tele-assistance and monitoring services, education and health supporting services with a particular focus on older people.

The new instances coming from central and regional administrations indicate that more and more actors will be involved in data digitization and in the dematerialization of processes, not necessarily only within healthcare contexts but also within socio-medical and administrative contexts. The purpose is to provide a network capable of connecting different applications and devices, where information is collected and elaborated according to specific logics, that are based on a series of modules and components, largely already present and only requiring a simple configuration/customization.

Scalability-replicability, trasferibility

SOLE/EHR adopts standard formats and processes for the indexation and sharing of the applications which promote the inter-operability of the achieved solutions.

The Region acknowledges the importance of the European Interoperability Framework and many practical results and insights have been obtained in the defined interoperability specification for the epSOS project, both at the infrastructure, services, technical level and at the semantic level (within the context of the two epSOS use cases, Patient Summary and ePrescription). Emilia-Romagna indeed took part at the epPSOS project through a national sub-project called IPSE.

In the SOLE project, all the relevant players have been involved: the Emilia-Romagna Region as promoting and funding body and strategic guide; all the regional Local Health Trusts; GPs, paediatricians, specialist and hospital doctors; CUP 2000, an in-house providing company, that a) provides on the one hand, the professional services to realize the project, and on the other hand customer/user assistance; b) manages the purchase of technological goods from the external suppliers; numerous companies providing sw applications according to international standards.

Up to now SOLE is involving all regional GPs and paediatricians (more than 3,600) and all the citizens can access the network. This means that about 100,000 subjects will be engaged into actions promoting healthy life styles since each GP covers about 1,500 patients, and about 22% of the regional population (approximately 4.5 million inhabitants) is over 65. All Local Health Trusts and primary care structure are being involved to raise awareness about the importance to use the SOLE Network and EHR in the implementation of innovative clinical pathways.

Outcomes

Every citizen of Emilia-Romagna Region, including the elderly, can activate his/her EHR. This means that citizens can access their clinical history, and GPs can access in real time patients' clinical data. With respect to the elderly, the EHR is now integrated with a socio-information system allowing a better continuum of care. SOLE and EHR have contributed to reduce the risks of clinical mistakes at the point of care; to enhance continuity and smoother transfers between different points of care; to allow time savings by avoiding unnecessary journeys.

The SOLE project is well positioned between the expectation of an ageing population and the increase of the demand for more and better health services.

More than 66 million clinical documents transit from the SOLE network each year. This means that well focused policies on data privacy and security have a great influence on how different organisations on the market use cloud-based services, and how they face the developing of data aspects for their innovative platforms and new products, addressed in particularly to elderly people.

In principle the services provided by SOLE/EHR are extended to all regional citizens and more than 3/4 of the regional population (about 3.4 million) gave their consent, resulting in more than 600,000 elderly involved in the network as well as the almost totality of GPs.

SOLE/EHR is a federated system adopted by all 11 Local Health Trusts of the Region and by 6 large hospitals.