

An electronic health platform enabling clinical records to be exchanged between centres

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A telecommunications engineer of the NUP/UPNA-Public University of Navarre has designed an e-health platform that standardises health information, thus making it compatible among different computing systems. It would allow clinical records to be exchanged between various hospital and healthcare complexes, and the design of new tools to tackle emerging medical needs.

Right now, health services use closed electronic information systems that need to be continually adapted and, in some cases, replaced by other more modern ones when new functionalities can no longer be incorporated. This practice entails considerable economic cost.

"I would say that the current electronic clinical record systems are comparable with the early 'closed' mobile telephony systems that came onto the market, whereas the e-health platform would be akin to today's smartphones," explained the engineer Aitor Eguzkitza. "The early mobile phones included the same basic functions for all users, whereas smartphones, apart from the basic services, can incorporate apps specific to the needs of each user. These apps are compatible with mobile phone models provided by different manufacturers. In other words, each health [system](#) would be able to personalise its own system and include new parameters without having to acquire another more powerful terminal."

With respect to electronic clinical records currently in use, if doctors

need to add a new field, it is necessary to contact the vendor. This request entails bureaucratic effort and a significant waste of time for both parties. With the e-health platform proposed in the thesis, the doctors themselves would be able to generate the information recorded in each of their clinical processes.

"The main advantage is that instead of having to wait for a major company to add a generic solution to the next version of its macro-system of clinical information, small medical software enterprises would be able to propose tools for highly specific health scenarios," he said.

The researcher also says that if a tool is successful, a company could develop it for various platforms. "As happens with mobile phone apps compatible with both Android and iOS, e-health platforms would be capable of exchanging clinical information without any problems, because they are based on specific standards," he added.

Tests involving three ophthalmological disorders

Eguzkitza tested his platform using three clinical processes with the aim of improving the management of it. He recorded data of three chronic ophthalmological disorders, diabetic retinopathy, age-related macular degeneration, and chronic glaucoma, the most frequent causes of preventable blindness in Europe. There is currently a lack of available specialists to monitor the patients within the recommended intervals.

In the traditional system, the diagnostic tests are concentrated in the ophthalmologist's consulting room, so the waiting list depends directly on the capacity for work of each consultant. The alternative offered by the electronic [platform](#) is to spread the work out among different rooms and have nurses with specific training carry out the diagnostic tests separately. That way, the ophthalmologist can assess the tests remotely and prioritise consultation time for patients with more urgent diagnoses.

"The computing system would enable technical and human resources to be redistributed more efficiently with the subsequent improvement in patient care and the shortening of waiting lists for specialised care," he concluded.

Provided by Elhuyar Fundazioa

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