

Case study

Guaranteeing the availability and integrity of data that may be life-saving



AGENCE eSanté | Agence nationale des informations partagées dans le domaine de la santé
LUXEMBOURG

Sector :
Health

Background

The legislator entrusted Agence eSanté with the mission of ensuring the better use of information in the medico-social and health sectors, in order to foster better coordinated care for patients. To this end, it has been called upon to set up and manage a data-sharing and exchange platform, and to define a national health information system interoperability strategy which will enable the various health systems to interact smoothly.

In addition to the Electronic Health Record (Dossier de Soins Partagé - DSP), the eSanté Platform offers a range of services aimed at healthcare professionals and patients: healthcare provider directory, a secure messaging system, a documentary database, and more.

Challenge

In order to gain the trust of the patients and healthcare professionals that the Agency serves, the latter must ensure an extremely high level of security.

The architecture of its IT solutions guarantees optimal data protection. Agence eSanté has also worked with Post on a project aimed at strengthening security of the Healthnet network, in order to ensure that the information remains secure all along the chain.

Solution

The Agence eSanté team, working in collaboration with various service providers, including POST, constantly adjusts the security of its services platform and its dedicated Healthnet network, taking into account all changes in potential threats and carrying out an accurate monitoring of the systems' activities.

Securing medical data is a crucial component of the eSanté project. Hervé Barge, CEO of Agence eSanté, speaks about the ambitions behind the eSanté Platform, and the requirements for ensuring the best possible protection and integrity of the data.

Improving quality and continuity of care

Since 2010, through Agence e-Santé, Luxembourg government has been working towards implementing an e-services platform intended for healthcare professionals. «The challenge, explained Agence eSanté CEO Hervé Barge, is to improve the sharing of information about a given patient between healthcare professionals, in order to ensure optimal care and prevent serious errors that can be avoided if each healthcare provider has the right information at the right time». After having analysed the needs of healthcare professionals in Luxembourg, the Agency launched ambitious project to create a digital platform. At its heart is the Electronic health record (DSP) containing the healthcare-related information about the patient. «The patient remains the master of his essential information, can allow or deny access to his record by healthcare professionals», said Hervé Barge. The platform therefore connects patients with the teams tasked with providing them with care, but also healthcare professionals among themselves, in order to ensure improved continuity of care. «It concerns critical and particularly sensitive information». Every year in France, around 10,000 patients die because the physician either did not have the right information, or the right information had not been sent to them by the time of caring for the patient. In Germany, this figure amounts to 18,000 avoidable deaths. The challenge for us is to ensure the availability, confidentiality and security of the healthcare data, in order to secure the trust of both medical profession and the patients who entrust us with their data».

« The challenge is to improve the sharing of information about a given patient between healthcare professionals »

HERVÉ BARGE,
CEO of Agence eSanté



Securing critical data and ensuring its availability

To achieve this, Agence eSanté supports the functioning of its platform on a distributed architecture, with various separate data directories, making it difficult to identify and use the data found on the platform. It also achieves this by ensuring the management of the security of its information system, which the Agence eSanté has had certified two years ago, in accordance with the ISO 27001 certification. «Another challenge has been ensuring the security of Healthnet, the network that connects the sector's professionals, physicians, hospitals and healthcare facilities, said Hervé Barge. The project management for this network was entrusted to POST which, as a national operator, has a risk approach similar to ours. Given the high level of sensitivity, the network must be available at all times, and the data must be protected.»

**The Healthnet network,
an ultra-secure network with POST**

«POST's experts, who have considerable experience as regards security issues, know that the proper deployment of our services is dependent on the trust established and maintained. It is therefore necessary to provide optimal security, in good cooperation, without denying that a risk exists, explained Hervé Barge. Besides making the necessary updates to the network, required in light of new risks, the technology used offers a higher degree of protection, with advanced

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CEO of Agence eSanté

detection solutions, said Hervé Barge. In collaboration with CSIRT HealthNet and GovCERT, who facilitate communication between healthcare stakeholders on security related matters and who enable better coordination of the responses to be provided, we are better able to protect ourselves from threats and to conduct more in-depth investigations in the event of an attack. Thanks to behavioural analysis tools linked to the network, security officers working within Agence eSanté or with the end users of our services, are better able to detect anomalies and deal with them without delay».

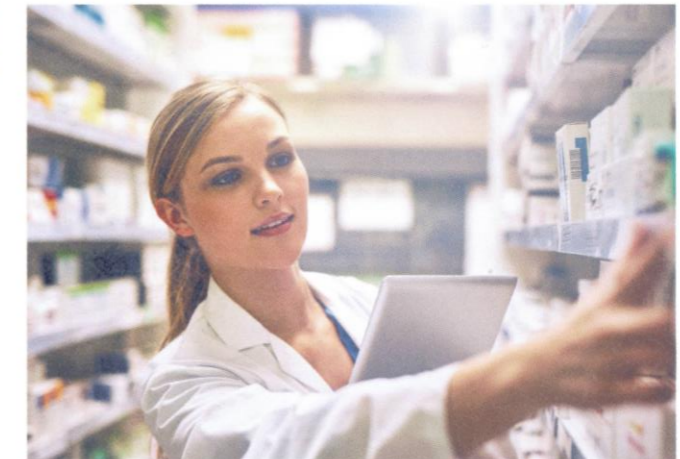
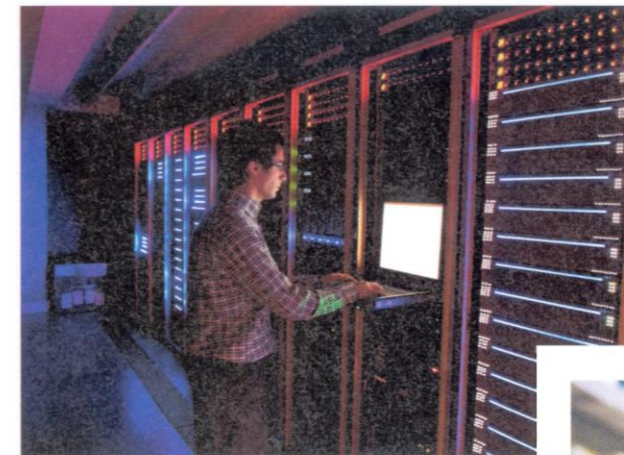
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**Continuously re-evaluating
system security**

Patient's lives depend on the availability and integrity of the data. Therefore, security must be re-assessed on a daily basis. «Each year, no fewer than 185 checks of various kinds are carried out in order to ensure that the platform is secure. Around twenty penetration tests, including four extremely in-depth tests, are carried out each year. We attempt to force our own security system by all means available to us». This type of audit system ensures that the teams in charge of the security of eSanté's services and the related service providers are always operating at full effectiveness.

«Hackers are inventive and mock the rules. With our partners, including POST, we have to re-examine ourselves in order to improve the current systems.»



Benefits and conclusion

New services have been or are to be launched soon. «The projects that we are currently working on include the launch of a national e-prescription service. This system should make it easier to obtain the information attached to a prescription, to provide it in a legible format, to improve traceability and to reduce the number of attempts of forgery, said Hervé Barge. In the medium term, one could imagine associating it with procedures to speed up reimbursements». Agence eSanté will soon be making available tools for collaboration between practitioners, in particular as regards the diagnosis and treatment of cancer. «The platform will make it possible to hold online multidisciplinary consultation meetings, the physicians allowing to discuss matters in order to propose the best possible treatment for a specific case. These new practices should lead, thanks to the greater amount of data taken into consideration, to a gradual integration of artificial intelligence which will be able to make a diagnosis and suggest the most efficient treatment for each patient».

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