eHealth on track

Frank Robben sees numerous ways to optimize the quality and continuity of healthcare

Through its 9 basic services, the eHealth platform of the Belgian government already supports more than twenty value-added services, which can all be found on the eHealth portal website https://www.ehealth.fgov.be, and 15 others are in the pipeline. Currently, the value-added services are mainly services offered to healthcare providers or patients to support high quality healthcare, to optimize patient safety, to reduce administrative burden or to foster scientific research.

An example of a value-added service is the cancer register. There is also a register of all hip and knee replacements, as well as a register of all provided care with respect to heart implants. The eHealth platform also has a service where radiologists can anonymously upload radiographs to get a second opinion, the electronic declaration of birth or the electronic prescription of drugs within hospitals. Frank Robben, general manager of the eHealth platform, is already looking further ahead and promoting and exploring various new services that could attain the above

mentioned objectives and optimize the quality and continuity of healthcare while still guaranteeing the patient's privacy.

EXCHANGING PATIENT DATA

To improve the exchange of patient data, all references to hospitals or other medical institutions holding information about a patient will be stored, with the informed consent of the patient, in a local or regional "hub". 'For example, this makes it possible for a medical doctor to check your medical situation in order to know whether you have

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Frank Robben is general manager of the Crossroads Bank for Social Security, an institution he conceived and founded. More recently, Frank founded the eHealth platform that enables electronic service delivery in the healthcare sector.

stomach problems, which could be essential information to decide which drugs (not) to prescribe,' Frank explains. He emphasizes, though, that the system will stay completely decentralized: all electronic patient files will be kept at the hospitals.

The eHealth platform will then manage a "metahub" that stores all references to the hubs holding information about a patient. This system respects the organization of existing regional and local networks, and it prevents that certain health information about the patient can be deduced simply by knowing in which hospital he is a patient: 'For example, if someone would be able to read in the references that you're a patient in the Melsbroek hospital, which is specialized in multiple sclerosis (MS), he would immediately know that you're an MS patient. That's why the references are on the level of a hub, e.g. the hub "Leuven".' Moreover, only care workers who have a therapeutic relationship with the patient get access to the information references in a hub, e.g. to prevent that the doctor of your insurance company can access your files.

EVIDENCE-BASED MEDICINE

Amongst others, the Belgian eHealth initiative is inspired by the Finnish electronic patient files system, which is well-structured with great respect to the therapeutic freedom. They are also proponents of evidence-based medicine, using decision support systems such as scripts that automatically give a warning if for example the doctor prescribes a drug to a diabetes patient which is known to have side effects for him. Frank Robben: 'I like this use of technology: it supports the physician's actions based on evidence, but it's still up to the physician to

decide.' Ultimately, such a system can prevent incorrect medication, which unfortunately still occurs too often: 'According to a recent study in the Netherlands, 50,000 hospitalizations per year are due to incorrect or incompatible medication.'

DATA WAREHOUSING

Frank expects a lot from external data warehousing based on coded or anonymised data to support medical research. It is important to note that the eHealth platform doesn't perform studies and always supports data exchanges, data coding and data access in safe and privacy-protecting conditions, under the control of an independent committee of the Privacy Commission. He gives some examples: 'If you have registered the coded results of all treatments of diabetes patients, you can infer which treatments are the best and return this feedback to the doctors. Or if according to coded data recorded through the eHealth platform, one type of hip replacement lasts only 3 years on average while another

type endures 15 years and both cost roughly the same, it's evident that you should do something with this information, for example by adapting the part of the price that is reimbursed by the government to the average lifetime of the hip replacement. Since last year, there are already some external databases, managed by INAMI and/or scientific associations of healthcare providers, such as the ones for hip and knee replacements and for heart implants, and I hope that researchers will be able to

deduce the first interesting results in the near future. Of course we'll guarantee the patient's anonymity with care.'

However, there are still some challenges for data warehousing. For example, there are hundreds of thousands of codes to describe diseases, but this is not done in a consistent way: 'There is a code for eczema, one for diabetes, and there is also a code for eczema with diabetes. This complicates the matter if you want to query the database for all treatments of diabetes patients. Another example: for a heart attack there is a code

for when it concerns the left side, another code for when it concerns the right side, and so on. Instead, we need one code that describes a heart attack but with some specifications - like whether it's in the left or right heart chamber. If we want advanced applications like data mining to furnish meaningful results, we'll have to make the underlying data semantically interoperable, which is still a lot of work.'

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