

The communication challenge

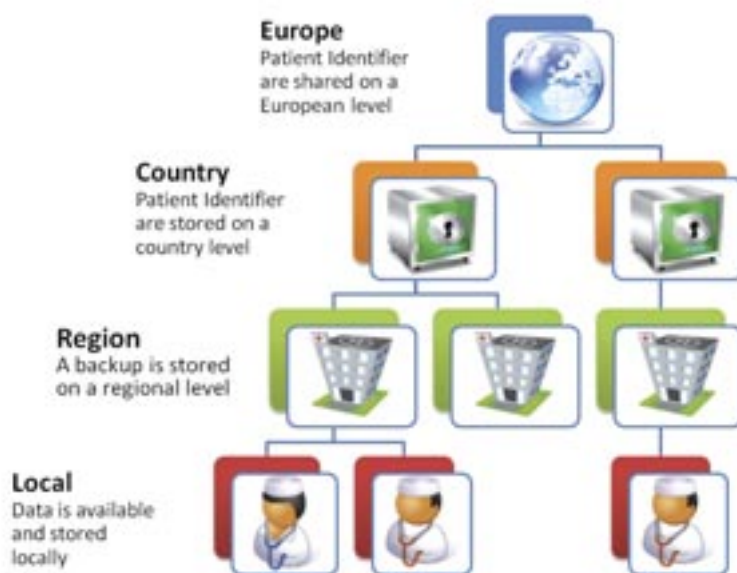
Interoperability and information exchange . . .

As long as information technology exists, its drive is to foster communication and information between its proponents. Looking back, this has been done quite successfully for branches and industries all over the world. A banking system without communication of data and accounts would be impossible. A procurement cycle in an industry company that is not based on IT and standards like EDIFACT would be unthinkable. Communication gives these branches a competitive advantage that they cannot miss out on.

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The competitive challenge

Most healthcare systems in the EU are at least partially financed by public funding. One could say that competition has no place when it comes to treating people. It's true that there should not be a competition in price but there can be competition in quality. I am thinking of vertical integration of health service providers. Offers that combine multiple organisations and institutions. Everything from prevention through high-end medicine to rehab



offered through a single point of contact for the patient. What we need is competition in quality and this competition goes hand-in-hand with a new understanding of medical personnel as service providers.

The collaboration challenge

‘Collaboration is a recursive process where two or more people or organisations work together in an intersection of common goals’ - Wikipedia.org. When we talk of competitive advantage of health service providers, we talk of collaboration. When we talk of collaboration, we need communication as an enabler. Collaboration of health service providers is the next big challenge in healthcare. The steps taken in branches like the manufacturing industry have to be continued in the healthcare systems. Only the combination of resources, skills, knowledge and information can provide care givers and subsequently the patient with the best healthcare system possible.

The innovation challenge

Innovation is mostly driven by individuals called pioneers - it is a personal impetus. The goal of this personal impetus is mostly to create something new and better. Through innovation this individual is able to reach a competitive advantage. It's not technical innovation but organisational innovation that we are talking about. When people work together and combine forces they build something bigger and better than they were able to do alone. Innovation happens where an individual can attract enough people to work together on a common goal. In healthcare, we need to build information bridges between innovative service providers so they are able to work together on their common goal.

The federal challenge

As stated above, we need to build information bridges between the healthcare service islands to foster

communication, collaboration and innovation. The top down approach would be to invest a lot of money to build bridges between every island and then hope that on this island lives an innovative medical service provider with a collaborative approach that can use this bridge. That's not a very accurate way of investing in a healthcare infrastructure. A much better investment would be to set standards on how to build these bridges. In this way, two healthcare islands can connect individually and still later fit into a bigger picture.

The bigger picture in e-health

The way to a successful adoption of e-health can only be through standardisation. As stated in the Australian e-Health initiative: '...there is a point at which the number of these disparate systems will be so great, and integration so difficult that gains from a future integrated system may become risky and expensive.' The bridges between the different islands must be standardised or complexity and expenses will rise.

Talking about standardisation, we can differentiate between 'data standards' and 'communication standards'. Standards like XML state how data is organised; standards like internet protocols define how data should be communicated. In healthcare, we have both data and communication standards available. The framework that combines them is called Integrating the Healthcare Enterprise (IHE).

IHE is a worldwide initiative by industry, healthcare enterprises and professionals to improve the interoperability and the information exchange between healthcare facilities and other health service providers using electronic healthcare information systems. IHE promotes the integration of established standards such as DICOM1 and HL72 to achieve standardised communication between IHE-compliant systems, which then become easier to

implement and use information more efficiently. The IHE implementation framework consists of different domains with different profiles. IHE profiles already provide international specifications and developments. As our main focus is on the exchange of care information, we use the Patient Identifier Cross Referencing (PIX) and Cross-Enterprise Document Sharing (XDS) profiles as well as parts of the Audit Trail and Node Authentication (ATNA) and Patient Care Coordination (PCC) profiles to enable standardised processes and a standardisation of the infrastructure.

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epSOS – The European e-Health Project

The European Commission supports standardisation in the e-health sector. A project initiated by the EC, the 'European Smart Open Services' (epSOS3), is a large-scale European pilot of patient summary and electronic prescription. It is a Europe-wide project organised by 27 beneficiaries representing 12 EU-member states, including ministries of health, national competence centres and numerous companies. This makes it the first European project clustering such a large number of countries in practical cooperation. With epSOS and IHE it would be possible to build a patient record in a federated European setting.

The Healthcare Service Cloud

X-tention has developed a Healthcare Service Cloud, based on IHE, where



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health service providers are able to connect to each other. Now it is possible for them to use an electronic health record

and keep contact to their patients. Government Agencies are able to get actual and relevant data for health relevant decision out of the Health Service Cloud, without the need of a long data collection effort. Clinics can get in contact with their general practitioners, inform them about latest developments and share patient relevant data. The patient can make use of the Service Cloud by having one single point of contact to the health care system, finding all the relevant information at one secure place and ending up being better informed about his health situation.

¹ National Electrical Manufacturers Association (2008): 'DICOM. Digital Imaging and Communications in Medicine.' NEMA, Rosslyn, VA, USA. <http://dicom.nema.org>

² Health Level Seven, Inc. (2008): HL7. 'Health Level Seven', Michigan, USA. <http://www.hl7.org>

³ www.epsos.eu



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