



Information Technology in Healthcare

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On Tuesday May 19, 2015, the Embassy of the Kingdom of the Netherlands together with Philips Healthcare Finland, organized a seminar on information technology in healthcare at the Academic Medical Center in Meilahti Hospital Area in Helsinki.

The Netherlands and Finland have their differences in size and population density, but the key challenges are the same: How to make optimal use of new technologies and health data in healthcare, how to deal with the aging population and how to keep rising health care costs under control?

Which measures are currently taken in the two countries, what are the newest solutions, and how can innovations be encouraged and scaled up? As both countries are actively looking at best practices from other nations, the Dutch Embassy in Finland and Philips Healthcare Finland brought together Finnish and Dutch stakeholders, who are interested in new technologies in healthcare, including policymakers, life-science companies and hospitals, to discuss about the above-mentioned questions.

In total, five speakers were invited to give a presentation during the seminar. The seminar started with a presentation of Gerrit Beumer from TNO. Gerrit Beumer is the Business Development Manager for Biomedical Innovations at TNO, which is an independent research organization in the Netherlands. He talked about the activities of TNO in technologies in healthcare and personalized medicine. In TNO's health technology vision P4 Medicine is a key theme. P4 Medicine stands for: Personalized, Predictive, Preventive and Participatory Medicine. **Personalized** Medicine aims to develop targeted treatments and drugs in order to provide the right treatment in the right dose to the right person at the right time. Through tests, diseases and reactions to medicines and treatments can be **predicted** and this can

lead to the **prevention** of diseases. During this whole personalized process, the **participation** of the patient is important; otherwise targeted treatment plan cannot be established.

TNO cooperates with drug manufacturers to develop targeted drugs and with IT-companies to develop applications and tools which support the prevention of diseases. TNO works for example together with the Dutch Diabetes Fund to develop a device that uses light to determine the blood sugar levels of patients. This device would be less harmful for the patient because the patient does not have to inject himself often anymore.

At the end of the presentation, Ville Koiste, who is an expert in the field of “solutions for e-well-being” at Sitra, the Finnish Innovation Fund, had a short interactive discussion with Gerrit Beumer about the topics discussed in the presentation. They both agreed that international cooperation is very welcome in the field.

Thirza van den Broek, the intern at the Dutch Embassy gave the second presentation during the seminar. She presented the findings of her thesis research which was about in what way personalized medicine in Finland can be further developed. She also compared the implementation state of personalized medicine in Finland with the personalized medicine situation in the Netherlands in order to discover in what personalized medicine areas cooperation between Finland and the Netherlands could be beneficial for personalized medicine in both countries. Therefore both Finnish and Dutch personalized medicine experts were interviewed. The findings of the research show that the following elements are important to further develop personalized medicine in Finland:

- National cohort studies, which are used to collect health data of Finnish citizens which can be used for personalized medicine research.
- Genome research (genetic tests).
- A national database system, where health data of Finnish patients can be processed and stored and which can be used for personalized medicine research.
- International collaboration in personalized medicine research.
- E-Health (digitalized health).
- Serious games, which are games used for purposes beyond pure entertainment, like for medical purposes. Serious games can be used in targeted treatment plans.

The Finnish and Dutch interviewees were interested in collaboration between Finland and the Netherlands mainly in the field of IT, serious games and genome research.

The third presentation was given by Martijn Schol, who is an international business expert with a specialization in Life Sciences and Medical Technology at the InnovationQuarter. InnovationQuarter is a regional business development organization in the western part of the Netherlands. Martijn assists foreign companies setting up their European business in the Netherlands. In his presentation he gave a general overview of the Life Sciences (LS) sector in the Netherlands which focuses at the moment at subjects like healthy aging, personalized nutrition, medical devices, digital health and personalized medicine. In the Dutch Life Sciences sector, the cooperation between the science and education sector, the business sector and the government is important. Furthermore, international collaboration is important for the LS sector. About 70% of the Dutch LS companies collaborate with foreign companies and knowledge centers.

Jaakko Olkkonen, CEO at Wellmo also spoke at the seminar. The Finnish company Wellmo has developed the product Wellmo, which is a cloud-based mobile solution for service providers in the wellness and healthcare sector. Wellmo brings wellbeing and health data (like a person's blood pressure or daily step count) from different wearable devices (like Fitbit, Withings, Garmin, Jawbone) together in the cloud. The Wellmo app is connected to this cloud. Therefore customers can track their health and wellbeing data via the Wellmo app at their smartphones.

The last presentation was given by Kenneth Grönholm from Philips Healthcare. Kenneth is the Head of Digital and Business Transformation for Philips Nordic. He is accountable for driving the Business Transformation and improvement programs and for ensuring that Philips Nordic becomes a truly digital organization. Next to this he is also accountable for IT. He told about the new Digital Platform 'HealthSuite' established by Philips. This platform is a cloud-based platform which connects both patients and healthcare providers and which collects and analyzes clinical data from different sources. Kenneth Grönholm emphasized the importance of collecting patient data at a central point. All this patient data can be used in health research in order to understand why certain people get ill why others stay healthy.

After the presentations, the attendees of the seminar got the opportunity to discuss healthcare topics with the speakers. Some topics which were discussed were:

- The funding for personalized medicine projects. Often people state that personalized medicine can save costs in healthcare because targeted therapies and drugs would avoid ineffective treatments and would result in better outcomes. However, the implementation of personalized medicine costs a lot of money and therefore funding is required. The important question is: where does this funding come from? In Finland, the funding agencies Sitra, TEKES and the Academy of Finland provide money for personalized medicine projects.
- Big data. The important question in healthcare is: where and how to store and process all patient data which is collected by hospitals, care providers, health researchers and patients themselves? Who will be responsible for the data storage and processing? Who will get access to the health information? Also the privacy and security issues related to big data storage were discussed.
- The patient as owner of his/her own health data. The point was raised that patients should have their own health account online where they can find all their own health and wellness data. This account should work the same way as an online bank account.
- The importance of mental health and lifestyle in the personalized care path. Often only the physical health is discussed and investigated in healthcare, but in personalized health, the importance of the connection between physical and mental health and lifestyle is increasing. How do these different factors influence each other?
- The accessibility of e-Health for elderly people. Elderly people make less use of digitalized devices than younger people. Therefore the use of e-Health applications in healthcare could be challenging for elderly people. It is important that elderly people will be well informed about the use of the newest e-Health applications and devices.

During the seminar it was mentioned several times that the Finnish healthcare system will be reformed in the future. Currently municipalities are responsible for arranging and funding health care, while employers are responsible for preventive health care and, where possible, nursing care. The reform of the social and health care service structure is aimed to ensure the quality of services, while supporting

the stability of municipal economies. The responsibility will be moved from municipalities to so-called health care regions, but details will be decided later.

The importance of digital health is also increasing in Finnish healthcare. These reforms in healthcare could bring new business opportunities also for Dutch health tech and IT companies that want to operate on the Finnish market. Also the rising importance of serious games for healthcare was mentioned several times during the seminar. Finland is an important international player in the gaming industry. This makes Finland an interesting country for Dutch gaming companies that want to expand abroad or collaborate internationally. At the end of the seminar, people got the time to network and discuss health related topics further.