Interview summary

**Interviewees:**
Guðrún Auður Harðardóttir (Project Manager, National Centre for eHealth, Directorate of Health, Iceland)
Ingi Steinar Ingason (Head of Division National Centre for eHealth, Directorate of Health, Iceland)

**mHealth Practice:** Heilsuvera.is - The Integrated National Portal (Directorate of E-health, Iceland)

**Interviewers:** Berglind Smaradottir and Santiago Martinez, University of Agder, Norway

**Date of interview:** 2020-12-01

**Topics**

Heilsuvera.is constitutes an example of successful implementation on national level. It has a successfully approach on the following topics:

- **Initiation:**
  - Stakeholder/ecosystem analysis
- **Planning:**
  - Interoperability with existing systems
- **Execution:**
  - Integration with EHR

**Summary of main interview ideas**

- National health portal integrated with national EHR
- One point of access for all citizens
- 100% of primary health care providers connected to the portal
- Some private doctors also connected to the portal
- Implementation started in the hospital environment
- Fully operative since 2014
- Scalable website accessible in all platforms and devices
- Mobile app release in 2021
- Reduced physical contact – less risk of spreading COVID-19
- Incentive scheme by the Ministry of Health for primary health care physicians when using the portal (reimbursement)
- Patient empowerment
- Health Questionnaires (pre-operative, quality of life)
- Increased digital access to health services
- Interoperates with existing systems (e.g., EHRs)
- Saves time for health professionals and health consumers

**Scope of mHealth Practice:**

- **Heilsuvera.is** is the national health portal in Iceland. The portal gives citizens and patients one point of access for appointments within primary health care and some private practise doctors. It provides individuals with a secure communication platform with health care providers, overview of immunisations, request for medication renewal, medication history, maternal health record, organ donation, and numerous other functionalities.

All primary health care centres in Iceland are connected to the portal, as well as some of the private practises. The citizen has an electronic identification (eID) and can self add
measurements on blood pressure, glucose, pulse, fever and other medical parameters. These measurements cannot be sent or shared digitally. Parents can read information for kids up to 16 years old. Ordering Covid-19 test goes through this portal, and the results and sickness certificate to employers have an automated process through the portal. More than 5000 certificates are sent digitally each week, reducing phone calls and physical visits to General Practitioners (GPs).

The health record is interconnected between hospitals, primary health care, nursing homes and a majority of private practise doctors. Hence, patient health information is shared on a national level. The national health network Hekla is used for communication and sharing of patient information. The health portal has an integrated videoconference function. More than 43% of citizens over 18 years old used the portal in 2019, and the number of users increases yearly. The portal is a scalable website that can be used on all devices, although a specific mobile application will be released during 2021. The portal has been operated since 2014 and builds on national policies, strategies and laws (security and safety).

- The portal provides then a useful digital service for all Icelandic citizens based on a platform interconnected with all the other necessary health services and databases on a national level.

Scope and timeline of the mHealth good practice implementation:
- How long did it take for the mHealth practice to be implemented? The process to establish
  The portal started in 2013 with public funding and it has been operative since 2014.

- What are the key steps that were undertaken?
  The Directorate of Health in Iceland developed the portal in collaboration with the Primary Health care of the capital area and a national IT service company (main vendor for EHR in Iceland). They also contributed to the funding.

- What are the strengths and weaknesses of the implementation process?
  Start at a small scale (one health centre) to later scale it up to other centres and then nationally deployed.

- What are the strengths and weaknesses of the solution?

Strengths
- The solution is free of charge for the citizens and aligns with the national strategy from authorities to enable patients to take more part in their own treatment.
- The solution has limited storage; most information is stored in the EHR system of the connected organisations. The only data stored in the portal system are patients’ own measurements and communication. When a health professional searches for patient, the system retrieves the data stored in other systems (e.g., EHRs) and visualises it.
- It has been a useful service to avoid the spread of Covid-19 due to reduction of physical visits (by the order of thousands) to receive the services that are now available online. The solution has automated processes for Covid-19 test, results and certificates. This reduces the physical and telephone contact with health centres.

Weakness
- The videoconference function has a large potential but has not yet been fully implemented. During first phase of Covid-19, it became clear that technical issues such as doctors not having a web-camera (or not an appropriate one) in their desktop/office reduced the use of videoconference. Technical support was then needed for these users.
Barriers
- It is not straightforward to implement new technology for physicians, if they do not see or understand what the benefits are of using the technology. There was resistance among GPs, not fully understanding the policy and potential of the improved IT solution.

Success factors
- Incentive scheme established by the Ministry of Health: reimbursement for practitioners using the portal and this increased the usage. Same procedure will be applied for videoconference consultation in the near future.
- Currently, there are several questionnaires being implemented in the portal: pre-operative questionnaire answered via the portal at home, and other evidence-based questionnaires, such as well-being scores in the treatment of cancer patients and within psychiatry. The score of the questionnaires is automatically calculated and saved within the national electronic health record. Notifications are sent to health professionals when required.
- The portal followed strict requirements for safety and privacy following national data protection regulations.
- Running the portal does not require a high cost. The expenses include hosting the system and its data (yearly license fee). However, due to the higher increase in usage during the Covid-19 pandemic, they have had to double or triple the power capacity of the servers, which has led to some increased cost. In addition, there is an increasing cost connected to sending of text messages linked to specific services. The main cost is connected to the development of new functionalities and services every year. There is an increasing demand from the Ministry of Health to extend the catalogue of services for the citizens. There is a strategy from the Ministry to encourage the patients to take part on their own treatment, particularly in a long-term perspective and chronic diseases.

Lessons learnt
- Use of national indicators for e-health from Nordic Council of Ministers. Compare usage between countries.
- Patient empowerment for managing their own long-term disease (cancer, diabetes) and providing a better overview of own treatment.

Outcomes

- What were the main outcomes of implementing the mHealth solution?
Nation-wide digital health solution integrated with other existing health systems (public and private). It gives digital access to several health services for the citizens, reduced number of physical meetings and mobility in times of Covid-19, sparing time for staff in health centres, particularly for appointments and phone calls. Increased accessibility to digital dialogue with health providers and open to all citizens.

- What is the status?
Fully operational national portal with 100% of primary health care providers using the portal. Furthermore, some of the private practice doctors are using the portal for eBooking. Moreover, implementation has started at the hospital level.

Continuous learning and outlook

- What are the future plans for exploiting the mHealth solution?
mHealth app release next year. Centralised medication list/card. Text in EHR available for patients.