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ESTONIA

**DIGITAL TECHNOLOGIES ENSURING
CONTINUITY IN ACCESS TO
ESSENTIAL MEDICINES DURING
THE COVID-19 PANDEMIC**

BACKGROUND

Estonia has an excellent history of providing innovative digital health services and solutions to its citizens. One of the key innovations in Estonia's digital health system is electronic prescription (e-prescription). This centralized system for issuing and handling medical prescriptions was introduced in Estonia in 2010 by the Estonian Health Insurance Fund, and within 9 months, 80% of all prescriptions were issued electronically. In 2021, 99% of all prescriptions in Estonia are issued electronically.

The development of the national e-prescription system took five years and was a collaborative effort involving a wide range of partners, including governmental bodies, hospitals, pharmacies and software providers. Its adoption has enhanced



openness and transparency, and opened the door to future developments to improve health care and decision-making by leveraging information from the system.

THE TECHNOLOGY



All health-care providers and pharmacies are connected to Estonia's central e-prescription system. After a doctor prescribes a medicine, the system stores the prescription and makes it available in all pharmacies. Pharmacists can retrieve the prescription from the central database and submit it for reimbursement. Patients are able to retrieve the

prescription by identifying themselves at the pharmacy and can see their prescription data on the patient portal. The system enables doctors to write prescriptions digitally through an online form, get automatic reimbursement, see prescription histories, see if patients filled prescriptions, and renew prescriptions.

As the e-prescription system draws on data from the Estonian Health Insurance Fund, any state medical subsidies to which the patient is entitled are automatically applied and medicines are discounted accordingly. Another major advantage of the system is that visits to doctors are no longer needed for repeat prescriptions. Patients can contact doctors by email, video call or telephone, and doctors are able to issue repeat prescriptions with just a few clicks, allowing patients to immediately collect medicines from the closest pharmacy.

The e-prescription system is connected to the Electronic Health Record, the Estonian Health Insurance Fund and different health-care providers via the data exchange layer X-Road. X-Road is a secure and open internet-based platform that facilitates the integration of data from various databases. Via X-Road, data are shared between secure servers, but no data are stored or visible inside X-Road itself. X-Road only stores logs of data movement, which are used as a security check. The availability of a secure data exchange layer such as X-Road is crucial when building and operating digital health services.

During the COVID-19 pandemic, Estonia further developed its health system through innovative digital health solutions. For instance, an Estonian company developed a solution to allow people, after a call or appointment with a doctor, to start their own sick

leave through the national patient portal with the use of electronic sick-leave notes.

"The crisis showed that well functioning digital services and data interoperability are crucial components during a public health crisis. It allowed us to use these strengths to address the crisis by both providing management information (Government, Health Board, hospitals, general practitioners, etc.) and providing next-day solutions for our citizens."

– Estonian Ministry of Health

IMPACT

During the COVID-19 pandemic, the importance of e-prescription became even more evident as Estonia was able to utilize the existing system to dispense essential medicines while minimizing social contact.

The Ministry of Health recognizes the importance of their efforts to ensure the interoperability of national digital health systems and service architectures, and to ensure privacy and data security during times of crisis. This transparency helped to build public support and trust for the health system and digital health services.

Prior to the pandemic, an estimated 10% of Estonia's population did not have broadband access in their homes. To ensure that all people have access to essential medicines during the COVID-19 pandemic, including those unable to use digital services, Estonia allows e-prescriptions to be issued via a telephone call between a doctor and a patient. In addition, the Ministry of Health set up telephone-based support systems to ease the adoption of the digital services. There is some evidence that the digital gap between urban and rural areas did not widen: 2020 saw a rapid increase of people using mobile data in Estonia's rural areas, where coverage had previously been lower.

KEY LEARNING

- Long-established digital health services helped Estonia to better prepare for emergency contexts.
- The success of digital health in Estonia is based on partnerships and teamwork among ministries, payers, hospitals, doctors, patients and industry. All stakeholders have a role to play in digital health, with the Ministry of Health directing and ensuring that everyone is on the same page. Involving the private sector and its capacity to provide solutions helped the Ministry to address the public health crisis.
- Transparency has helped to build public support and trust for Estonia's digital health system.

MORE INFORMATION

Estonian Health Insurance Fund – What is a digital prescription?:

<https://www.haigekassa.ee/en/people/pharmaceuticals/digital-prescription>

X-Road data exchange layer software:

<https://x-road.global>

Nordic Institute for Interoperability Solutions – X-Road as a platform to exchange MyData:

<https://www.niis.org/blog/2019/10/30/x-road-as-a-platform-to-exchange-mydata>