

"I should have called the Estonians when we were setting up our health care website."

Barack Obama, former President of the United States



The Estonian National Health Information System (HIS) has been in operation since 2008. Healthcare providers are connected to HIS and patients' health data is stored centrally. There are more than 40 million different documents (summaries of visits or treatments and discharges, referrals, diagnostic study reports and procedures) stored in the health information system.

The Estonian Genome Center has collected the genome data of 200 000 individuals. This data will be used in personalized medicine, where genome data and health data collected in the health information system will be combined in order to offer specific diagnoses and treatments.

As the fundamental principle in Estonian e-governance states, this kind of data belongs to the citizen concerned. All healthcare providers must send data to the Health Information System. Access to HIS is granted only to licensed medical professionals and each patient has the right to see his/her own data collected in the central database. Patients can close their data if they wish (opt out) and monitor visits to their HIS. Health data and healthcare e-services are accessible to patients through the patient portal www.digilugu.ee.

e-Health Record

Each person in Estonia who has visited a doctor has his/her own online e-Health story that can be tracked. Around 1,3 million people have documents in the central database. HIS integrates data from Estonia's different healthcare providers, creating a common record for each patient (since 2015, 99% of health data has been digitised, 97% of hospital discharge letters are sent to the central database). This gives the doctors easy access to the patient's electronic records (test results, X-ray images etc.). Patients have access to their own and to their underaged children's records, and the records of persons who have given authorization to them for seeing their medical data. By logging into the patient portal (ID-card/m-ID), they can review past visits to the doctor, current prescriptions, and receive general health advice.

e-Prescription

The e-Prescription is a centralised paperless system for issuing and handling medical prescriptions – 99,9% of all medicine is issued to Estonian patients using a digital prescription. This connects every hospital and pharmacy in Estonia, cutting down on paperwork as well as doctor visits, and saving untold amounts of time and effort. Doctors can prescribe medicine electronically, and all a patient needs to do at the pharmacy is present their ID card. The pharmacist then retrieves the patient's information from the system and issues the medicine.

As of January 2019, the first cross-border digital prescription services were pioneered in Estonia and Finland. Finnish patients are able to go to a pharmacy in Estonia and retrieve medicine prescribed electronically by their doctor in Finland. Today, e-prescription is interoperable with Finland, Croatia, Portugal, and Poland.

Personalised Medicine

In Estonia, thanks to the e-Health Record and knowledge of the genome data of almost 20% of the country's population we have a unique opportunity to find the most individual possible prevention or treatment plan for each person by analysing the health data of the person and their relatives together with the lifestyle and environmental data. The country is aiming to have the services of personal medicine available in 2024. The first services to include genetic data are personalised drug recommendations and the prevention and early detection of breast cancer.

e-Ambulance

e-Ambulance is a quick-response solution that can detect and position an emergency phone call for the responding ambulance within 30 seconds and send the emergency ambulance to the point of need quickly. The paramedics can use a patient's ID code to read the time-critical information, such as blood type, allergies, current prescriptions, recent treatments, or pregnancy.

Questions & answers

What kind of information and e-services are provided in the patient portal?

Overview of case summaries, immunization data, dental care documents, examination results, health certificates and access to medical bills reimbursed by the Estonian Health Insurance Fund.

How is the patient data securely accessed?

Authentication is based on the Estonian digital ID and associated via a secure infrastructure. In order to ensure the transparency of the system, the patient can review data about the doctors visits and current prescriptions, and check which doctors have had access to their files. Patients have access to their own records, as well as those of their underaged children. It is possible to delegate data access and control the rights to that.

For more information:

www.tehik.ee/en

Facts and figures

- There are close to 144 million health documents in the e-Health system.
- 99,9% prescriptions are prescribed digitally.
- 4 million queries are made to HIS by doctors every month.
- Close to 100% of patients have a countrywide digital record.
- As of August 2022 e-Prescription is interoperable with Finland, Portugal, Croatia, and Poland.
- Blockchain technology has been adopted to ensure the integrity of health data.