DANISH HEALTH DATA AUTHORITY

The History of the Shared Medication Record

A comprehensive digital medication overview

The Shared Medication Record is a national IT-solution, providing a comprehensive digital overview over the patients' current medicine, prescriptions and vaccinations for healthcare professionals and patients. It is the first national IT-solution that is integrated in all parts of the healthcare system, and is used by patients and all relevant healthcare professionals.

The Share Medication Record ensures that the patients' medicine information is updated and accessible for the patients themselves and for healthcare professionals involved in the patients' treatment. It reduces the risk of medication errors, improves patient safety, and increases the quality of treatment.

Anchored in the Danish Health Data Authority

Digital Health initiated the project in 2009 as a successor of the Personal Electronic Medicine Profile.

The Personal Electronic Medicine Profile gave patients electronic access to their prescriptions, issued by a general practitioner. One of the visions was to provide doctors with a better overview over the patients' medication. With the Shared Medication Record, the focus shifted from prescription to medication order. The doctor continuously updates the current medication order and issues prescriptions on the patient's medication record.

In December 2009 The Shared Medication Record was taken over by National Health-IT. The Danish Health Data Authority was established on November 1, 2015, and the Shared Medication Record has been anchored here ever since.

Before the Shared Medication Record

Before the Shared Medication Record, it was difficult to getue a quick and complete overview of the patients' current medicine. Medicine information was registered in local systems at the different treatment sites, and information regarding medicine changes was passed on via correspondences, telephone, search in the medicine profile and dialogue with the patient.

In the past, many of the municipalities' medicine information differed from the information that appeared on the medicine record that the doctor had updated. Since the introduction of the Shared Medication Record there have been fewer medication errors, and patient safety has significantly improved.

How it came to be

In 2009 the development of the Shared Medication Record was initiated, and the subsequent implementation took place in phases. The division into phases was an advantage because it was difficult to establish and get support for a full and broad solution from the start.

In the period from 2011-2014, the Shared Medication Record was put into use in general practice, by on-call doctors, specialists, dentists, in hospitals and among patients. The medical fields and patients were the first to put the Shared Medication Record to use because they could help update and quality assure the medicine information on the Shared Medication Record. Not all dental systems integrated the Shared Medication Record into their system from the start, so the implementation stretched to 2016.

In 2015, the Shared Medication Record was implemented in municipalities, which were to administer medicine in nursing homes and home care with the help of the information in the Shared Medication Record.

In 2016, the patient-oriented app 'The medicine record' was developed. In the following years, the Shared Medication Record was put to use by multiple substance abuse centers and residences.

This is voluntary and therefore still ongoing. The pharmacies implemented the Shared Medication Record in 2020.

Today, the Shared Medication Record is integrated into over 30 local systems in all parts of the healthcare system.

Shared Medication Record - timeline

2009	2010	2011-2014	2013-2015	2016	2016-2022
▪ Initiation	▪ Pilot	▪ General practitioners ▪ Practising specialists ▪ Emergency doctors ▪ Dentists ▪ Hospitals ▪ Patients	▪ Municipalities	▪ App	▪ Pharmacies ▪ Drug abuse centres ▪ Treatment residences

That's why it succeeded

The implementation of such a large IT project sets high demands for infrastructure, security solutions, certification, system administration, governance, and data responsibility. The implementation of the Shared Medication Record was therefore also a large organizational change management project, which required solid anchoring at the management level in the entire healthcare system and a comprehensive resource effort at all levels in all organizations.

Desire from both patients, the healthcare system and politicians

A significant reason that it was possible to establish the Shared Medication Record was that the desire for a common digital medicine overview was great among both patients, parties in the healthcare system, and at the political level – therefore, the project had great support from all sides.

Structured collaboration

Cross-sectoral collaboration and responsiveness have been key words in the implementation of the Shared Medication Record. This has been supported by the establishment of national governance with a comprehensive meeting structure, where engaged and skilled participants at all levels and from several professional areas can discuss solutions and challenges. Collaboration across sectors has helped ensure that the Shared Medication Record is the good common solution we know today.

Testing ensures quality

A national test environment has been established, ensuring that end-to-end tests can be carried out between solutions when new functionality is developed or in connection with troubleshooting. Annual test days are held, where system suppliers and local IT managers participate in joint end-to-end tests. The common national test environment has been a significant reason why the Shared Medication Record is today a technically well-functioning solution with high availability, and where any errors are quickly detected and corrected.

Challenges

When introducing a new national IT solution, challenges will inevitably arise along the way. This was also the case for the Shared Medication Record.

Financial and legal framework

First, the economic and legal framework for the Shared Medication Record had to be established. Financial agreements had to be made between regions and municipalities, a new agreement with doctors, and a new executive order to regulate the use of the Shared Medication Record. Many parties had to agree, but because everyone had a common desire for the Shared Medication Record to become a reality, it ultimately succeeded.

Security had to be in place

High security required a digital signature to gain access. A system like the Shared Medication Record contains very sensitive personal data, and therefore the security must be high. All access is therefore only permitted with a digital signature, which places high demands on the infrastructure.

Clarification of the doctor's responsibility

Another topic that was widely discussed was the doctor's responsibility. The doctor must always respond to obvious errors on the medication record. The Shared Medication Record makes the patient's current medication visible, regardless of who prescribed the medication. Doctors were concerned about whether they could be held responsible for the overall medication, even if they had only been responsible for the latest prescription. Legally, the doctor's responsibility has not changed with the introduction of the Shared Medication Record, but doctors remain cautious about touching prescriptions that were not created or last edited by themselves.

Financing continuous development

A third challenge was that the development of the Shared Medication Record was initially seen as a one-time effort. This is not the case, as new needs continue to arise, and new functions and support infrastructure are continuously added to the overall solution. Initially, it was difficult to obtain financing and understanding of why financing should be prioritized. However, collaboration proved crucial again, and today there is a broad collaborative organization supporting the Shared Medication Record.

What now?

The Shared Medication Record is today a robust and well-functioning solution, which is used in all parts of the healthcare system. Access to medicine data in the local systems supports local workflows and the need for documentation and journaling.

There is still focus on the development of the Shared Medication Record and data sharing is continuously discussed, evaluated, and optimized. This contributes to increased quality, treatment and patient safety in the Danish healthcare system.