Summary

Market maturity, or the preparedness of a market to utilize openEHR-based solutions, is very important to understand when initiating openEHR activities. OpenEHR is being introduced to many European countries with quick progress. If openEHR activities were started in a country where the market maturity level for openEHR is low, chances for a successful implementation may be limited.

The German health care industry is enhancing activities to boost interoperability. National interoperability is a goal pursued by two operating systems within the health care sector, the clinical practice and the research projects. A maturity analysis was conducted for both systems.
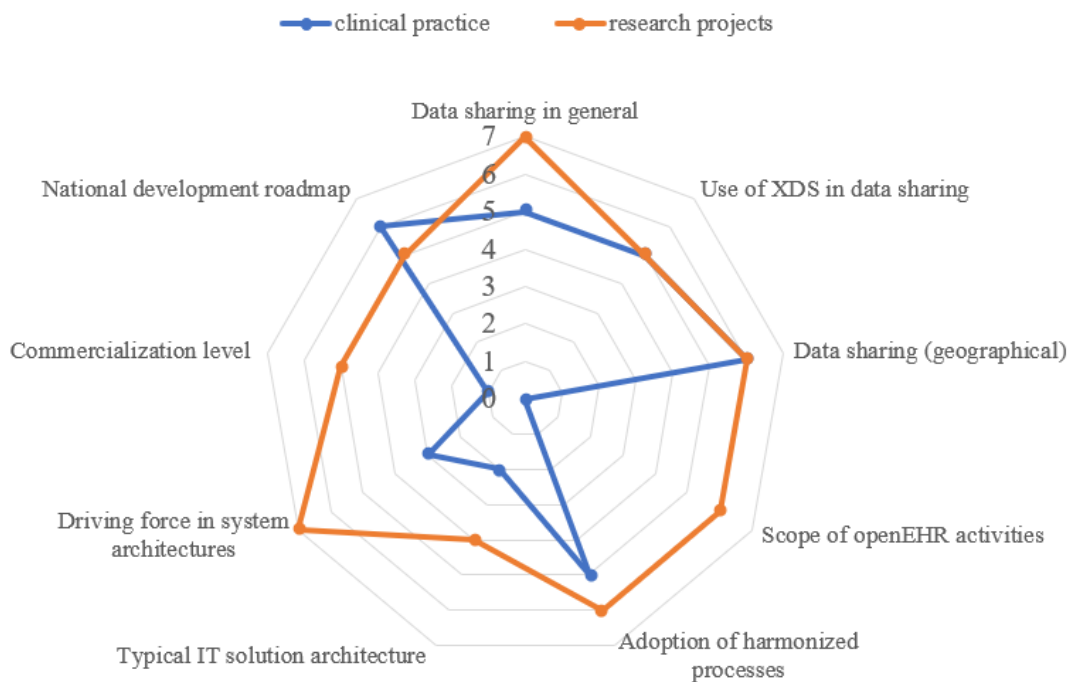
Figure 1: Maturity evaluation for the German market

In the clinical practice, a national document-based sharing platform has been enrolled. Therefore, the legal barriers were removed, and technical capabilities were introduced to accelerate data sharing. For technical and semantical

interoperability, sharing methods such as IHE standard profiles and HL7 FHIR were determined. For a common understanding of data, some clinical content (MIOs) was defined, but the harmonization of processes is limited, as is the data exchange on the national sharing platform. Most inpatient and outpatient care providers have been connected to the national sharing platform, even if the IT solution architectures of the care providers are very heterogenous and data is stored proprietarily. Currently, the benefits of standardization and, thus, facilitated data exchange cannot be experienced by clinicians due to the limited utilization of digital health applications. The progress towards sharing is gradual, and trust for the system has to be established. The patients also contribute to the data sharing process by utilizing digital health applications on prescription. The government continuously drives digitalization along the care process and provides a legal framework for a multi-stakeholder sharing platform. The results of the maturity evaluation show that the clinical practice has a total maturity of 3.67 out of 7. Therefore, the preparedness of the clinical practice of the German market for openEHR is mediocre.

The research projects intend to establish a national sharing network for research. Therefore, the government agreed upon a project roadmap introducing technical and clinical content requirements. Otherwise, the projects are free to apply any open standard solutions. In HiGHmed openEHR specifications, IHE profiles and HL7 FHIR resources complement each other. The work with open standards drives projects to explore innovative modules involving the patient and private stakeholders. OpenEHR is mostly applied in academic work. OpenEHR contributes to a regional (HiGHmed) and a national sharing network (CODEX). Apart from the academic use, international openEHR-based platform vendors and a local vendor for openEHR-based products are already present on the German market. The results of the maturity evaluation show that the research projects have a total maturity of 5.67 out of 7. Therefore, the preparedness of the research projects on the German market for openEHR is high.

The legal and technical development in the clinical practice provides reasonable hope that the evolution towards open standards and structured data sharing will continue.