A “full EHR” dataset utilizing 298 features could be achieved using phenotyping of more comprehensive pre-screening criteria. In this paper, Anderson AE, Kerr WT, Thames A, Li T, Xiao J, Cohen MS describe the concept and implementation of the extensible visualization framework “EHDViz” to create dashboards for longitudinal health and wellness data. The platform uses open source components like the R statistics package to ingest biomedical data sources and provides an intuitive user interface for interactively selecting relevant data items for static or near-realtime visualization. Data from multiple sources are merged and normalized, and it is possible to integrate further processing steps (e.g. calculation of risk scores) into the pipeline. Using simulated datasets, the authors provide several prototype dashboards to demonstrate a visualization of multiple-source data for a single patient as well as a multi-patient visualization with interactive selection of EHR data items.

The authors conclude that the framework can support the rapid design and implementation of visualization dashboards, which can be applied in clinical care and research as well as teaching use cases.

Hadj B, Martin G, Dupuis I, Campoy E, Degoulet P 14 Years longitudinal evaluation of clinical information systems acceptance: The HEGP case

Active and meaningful use as well as user satisfaction are important success factors for the continuing success of a clinical information system (CIS) implementation. In this article, Hadji et al. describe a longitudinal evaluation of these aspects at the Georges Pompidou University Hospital in France. The long observation period of 14 years provided a unique opportunity to assess the evolution of CIS acceptance during early (4 years), late (8 years), and very late (>10 years) stages of CIS use.

The survey instrument covered items from multiple established acceptance models (TAM2, UTAUT, ISSM, ECM, ITPAM), considering six acceptance dimensions: CIS quality, facilitating conditions, perceived usefulness, confirmation of expectations, use, and global satisfaction. Relationships between these constructs were tested using multiple regression testing and structural equation modeling.

CIS acceptance increased over the study period. Perceived usefulness initially was lower in medical staff than in non-medical staff. While global satisfaction initially appeared to be determined by CIS use, CIS quality, and perceived usefulness, the association with CIS use disappeared over time. The authors conclude that acceptance dimensions change significantly over time and that models should be adapted to the according phase of CIS use. They postulate that the decrease of the relationship between CIS use and satisfaction over time could be interpreted as a maturity indicator of a CIS project.