Electronic health record (EHR)

- Deep brain stimulation within a multi-center US-based healthcare system - A descriptive epidemiologic review from 2010 through 2021
- Performance of the Marshall and Rotterdam scales as predictors of mortality in children with severe traumatic brain injury
- Clinical decision support using pseudo-notes from multiple streams of EHR data
- Comparative effectiveness of epilepsy surgery versus additional anti-seizure medications for Lennox-Gastaut syndrome: study protocol for a multicenter, mixed-methods study
- Vaccination against COVID-19 and Outcomes in Patients with COVID-19 Infection and Stroke
- Exploring the Potential of LLMs for Patient Safety Incident Reporting in Finland: Interview Insights and a Proof-of-Concept Study
- Hospital Information Systems: From Trio to Quartet
- The use of generative artificial intelligence-based dictation in a neurosurgical practice: a pilot study

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see Medical history.

An electronic health record (EHR), or electronic medical record (EMR), refers to the systematized collection of patient and population electronically-stored health information in a digital format.

The use of computers as safety and research tools to monitor, record, and automate patient information was proposed as early as 1960 [1].

These records can be shared across different health care settings. Records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges. EHRs may include a range of data, including demographics, medical history, medication and allergies, immunization status, laboratory test results, radiology images, vital signs, personal statistics like age and weight, and billing information.

EHR systems are designed to store data accurately and to capture the state of a patient across time. It eliminates the need to track down a patient's previous paper medical records and assists in ensuring data is accurate and legible. It can reduce risk of data replication as there is only one modifiable file, which means the file is more likely up to date, and decreases risk of lost paperwork. Due to the digital information being searchable and in a single file, EMR's are more effective when extracting medical data for the examination of possible trends and long term changes in a patient. Population-based studies of medical records may also be facilitated by the widespread adoption of EHR's and EMR's.

NIH encourages the use of common data elements (CDEs) in clinical research, patient registries, and other human subject research in order to improve data quality and opportunities for comparison and combination of data from multiple studies and with electronic health records.

Neurosurgical documentation is usually stored in unstructured format in electronic health records (EHR). Processing the information is inconvenient and time consuming and should be enhanced by computer systems. In a paper, a rule-based method is introduced that identifies adverse events documented in the EHR that occurred during treatment. For this purpose, clinical documents are transformed into a semantic structure from which adverse events are extracted. The method is evaluated in a user study with neurosurgeons. In comparison to a bag of word classification using support vector machines, our approach achieved comparably good results of 65% recall and 78% precision. In conclusion, the rule-based method generates promising results that can support physicians' decision making. Because of the structured format the data can be reused for other purposes as well [2].

The creation of medical notes in software applications poses an intrinsic problem in workflow as the technology inherently intervenes in the processes of collecting and assembling information, as well as the production of a data-driven note that meets both individual and healthcare system requirements. In addition, the note writing applications in currently available electronic health records (EHRs) do not function to support decision making to any substantial degree.

Deliberato et al. suggest that artificial intelligence (AI) could be utilized to facilitate the workflows of the data collection and assembly processes, as well as to support the development of personalized, yet data-driven assessments and plans [3].

SYNODOS, developed a NLP solution for detecting medical events in electronic medical records for epidemiological purposes [4].

1)
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