Using Visualization Techniques to Support Common Clinical Tasks in Clinical Documentation

Authors : Jonah Kenei, Elisha Opiyo

Abstract : Electronic health records, as a repository of patient information, is nowadays the most commonly used technology to record, store and review patient clinical records and perform other clinical tasks. However, the accurate identification and retrieval of relevant information from clinical records is a difficult task due to the unstructured nature of clinical documents, characterized in particular by a lack of clear structure. Therefore, medical practice is facing a challenge thanks to the rapid growth of health information in electronic health records (EHRs), mostly in narrative text form. As a result, it's becoming important to effectively manage the growing amount of data for a single patient. As a result, there is currently a requirement to visualize electronic health records (EHRs) in a way that aids physicians in clinical tasks and medical decision-making. Leveraging text visualization techniques to unstructured clinical narrative texts is a new area of research that aims to provide better information extraction and retrieval to support clinical decision support in scenarios where data generated continues to grow. Clinical datasets in electronic health records (EHR) offer a lot of potential for training accurate statistical models to classify facets of information which can then be used to improve patient care and outcomes. However, in many clinical note datasets, the unstructured nature of clinical texts is a common problem. This paper examines the very issue of getting raw clinical texts and mapping them into meaningful structures that can support healthcare professionals utilizing narrative texts. Our work is the result of a collaborative design process that was aided by empirical data collected through formal usability testing.

Keywords : classification, electronic health records, narrative texts, visualization
Conference Title : ICHI 2022 : International Conference on Healthcare and Informatics
Conference Location : Venice, Italy
Conference Dates : April 14-15, 2022