

Mental illnesses are highly heterogeneous with diagnoses based on symptoms that are generally qualitative, subjective, and documented in free text clinical notes rather than as structured data. Moreover, there exists significant variation in symptoms within diagnostic categories as well as substantial overlap in symptoms. Mental health professionals currently diagnose and treat mental disorders, such as schizophrenia, mainly by analyzing the language and speech of their patients, a method that maybe improved with the usage of artificial intelligence. Natural language processing (NLP) and its subdiscipline of Information Extraction (IE) are commonly employed within clinical records to process large quantities of unstructured (human authored) text and return structured information about its meaning. However, there has been little application of NLP techniques in mental healthcare data despite the volumes of text-based information contained, and even less on ascertaining symptomatology.

Daily many health records uploaded in the clinical system ORBIS from the physicians and nurses. The main goal of this study is the generation of a clinical toolkit for the university clinic of Lübeck that will act as a decision support tool for the clinicians to predict the suicide attempt. The present project aims to explore the feasibility of applying NLP to EHRs to investigate the power of transfer learning to facilitate the process of patient screening in psychiatry. We hypothesize that the analysis of EHRs recorded the day of admission and the last 10 days before suicide attempt capture the risk factors of suicide.