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Electronic health record documentation of methamphetamine and other stimulant use with patients billed for opioid use-related codes

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Abstract

Background

Despite growing concomitant use of opioids and methamphetamines and other stimulants, documentation of this polysubstance use in the electronic health record (EHR) is not fully understood. International Classification of Disease (ICD) codes, a common tool for identifying patient cohorts, are likely to under-detect methamphetamine and other stimulant use. Assessing other forms of documentation in the EHR may inform more sensitive methods of detecting this form of methamphetamine and stimulant use.

Methods

The sample studied was 250 patients at a large academic medical center that were billed for ≥ 1 opioid use disorder or overdose ICD code between 2018 and 2023. Using Epic, a reviewer assessed patient charts for evidence of methamphetamine and other stimulant use. The reviewer stored the following variables in a REDCap form: type of evidence, settings of documented encounters, dates of reported use, and location in the patient chart. Following completion of the chart review, the prevalence of individual variables in this sample were calculated.

Results

Of the 250 sampled patients, 113 patients (42%) had evidence of methamphetamine and other stimulant use documented in their charts, which is significantly larger than estimates based on ICD codes (24%). For these 113 patients, the most common forms of evidence were provider mention (105, 93%) and patient self report (101, 89%), and positive drug screens (51, 45%) and diagnoses (34, 30%) were also regularly documented. All 113 patients had some evidence documented in the clinical note, and evidence was also documented under lab results, problem lists, and structured questionnaires. Documented

encounters were most commonly in outpatient (65, 58%) and ED (48, 42%) settings, although higher quality evidence was found in addiction specialties.

Conclusion

For patients with opioid use disorders and related conditions, charts contain documentation of methamphetamine and other stimulant use not captured by ICD codes. Evidence is predominantly found in unstructured clinical notes, and the quality of evidence often varies depending on the settings of the documented encounters. Natural language processing (NLP) and other computational models can help increase the sensitivity of phenotyping methods for methamphetamine and other stimulant use disorder in this patient population.