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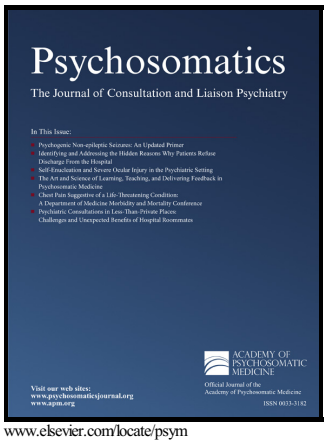

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PII: S0033-3182(16)30125-6
DOI: http://dx.doi.org/10.1016/j.psym.2016.10.007
Reference: PSYM689

To appear in: *Psychosomatics*

Cite this article as: Thomas H. McCoy, Deanna C. Chaukos, Leslie A. Snapper, Kamber L. Hart, Theodore A. Stern and Roy H. Perlis, Enhancing Delirium Case Definitions in Electronic Health Records using Clinical Free Text, *Psychosomatics,* http://dx.doi.org/10.1016/j.psym.2016.10.007

Enhancing Delirium Case Definitions in Electronic Health Records using Clinical Free Text

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Abstract

Background – Delirium is an acute confusional state, associated with morbidity and mortality in diverse medically ill populations. Delirium is preventable and treatable when diagnosed but the diagnosis is often missed. This important and difficult diagnosis is an attractive candidate for computer aided decision support if it can be reliably identified at scale.

Objective - Here, using an electronic health record (EHR)-based case definition of delirium, we characterize incidence of this highly morbid condition in two large academic medical centers.

Methods – Using the EHR of two large New England academic medical centers, we calculated and compared the rate of the diagnosis of delirium using a range of administrative and discharge summary text-based case definitions over an eight-year period.

Results – Depending on case definitions, the overall delirium rate ranged from 2.0% to 5.4% of 809,512 admissions identified. The identified rate of delirium increased between 2005 and 2013,