EHR algorithm can be used to detect, classify diabetes

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Data from electronic health records can be used to detect more cases of diabetes than claim codes alone and can be used to accurately distinguish between type 1 and type 2 diabetes, according to a study published online Nov. 27 in *Diabetes Care*.

(HealthDay)—Data from electronic health records (EHRs) can be used to detect more cases of diabetes than claim codes alone and can be used to accurately distinguish between type 1 and type 2 diabetes, according to a study published online Nov. 27 in *Diabetes Care*.

To classify type 1 versus type 2 disease, Michael Klompas, M.D., M.P.H., of Harvard Medical School and the Harvard Pilgrim Health Care Institute in Boston, and colleagues used four years of structured EHR data, such as laboratory test results, diagnosis codes, and suggestive prescriptions, from a large, multispecialty ambulatory practice serving

approximately 700,000 patients. The optimized algorithm was tested in a cohort of 210 patients and validated in an additional cohort.

The researchers found that the algorithm flagged 43,177 patients. For type 1 diabetes, the sensitivity and positive predictive value of the International Classification of Diseases version 9 codes were 26 and 94 percent, respectively, for type 1 codes alone, and 90 and 57 percent, respectively, for two or more type 1 codes and any number of type 2 codes. Using an optimized algorithm incorporating the ratio of these codes plus additional information on plasma C-peptide and autoantibody levels and suggestive prescriptions, 100 percent of patients with type 1 diabetes were flagged. On validation, the optimized algorithm correctly identified 35 of 36 patients with type 1 diabetes.

"In sum, we demonstrate the utility of EHR-based algorithms to detect and classify patients with diabetes," the authors write.

One author is an employee of Heliotropic Inc.

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