Algorithms Can Comb Electronic Medical Records for PrEP Candidates

An analysis of a large patient database found that a computer algorithm could identify those at high risk for HIV.

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A computer algorithm using a cutting-edge method of machine learning can identify those individuals in an electronic medical records database who are at high risk for HIV and could benefit from Truvada as PrEP, aidsmap reports.

Researchers used the electronic medical records of a large medical practice group in the Boston area that included 800,000 patients at 27 sites. They considered more than 100 personal characteristics of these individuals in their analysis.

Findings were presented at the IDWeek 2016 conference in New Orleans.

The investigators matched 138 people newly diagnosed with HIV between 2006 and 2015 and compared them to 13,800 HIV-negative controls.

Numerous variables were associated with a greater likelihood of testing positive for HIV. For example, 6.5 percent of people who were diagnosed with HIV were screened for anal cancer through anal cytology testing, compared with less than 0.1 percent of those who remained HIV negative. A respective 3.6 percent and less than 0.1 percent of individuals were treated for syphilis with Bicillin (benzathine penicillin G). And a respective 5.8 percent and less than 0.1 percent had ever tested positive for gonorrhea while receiving care from the Boston health system.

After excluding 885 people who were already HIV positive and 249 who were on PrEP, the computer program identified 8,414 patients of the health system (1.1 percent of the overall patient population) who were likely good candidates for PrEP.

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