Electronic medical records could be used as a predictor of domestic abuse

September 30 2009

Doctors could predict a patient's risk of receiving a domestic abuse diagnosis years in advance by using electronic medical records as an early warning system, according to research published on BMJ.com today.

Lead author Dr Ben Reis from the Children's [Hospital](#) Boston Informatics Program and Harvard Medical School investigated whether the wealth of historical electronic data could be used to flag up high risk patients.

Reis says: "Doctors typically do not have the time to thoroughly review a patient's historical records during the brief clinical encounter. As a result, certain conditions that could otherwise be detected are often missed. One such condition is domestic abuse, which may go unrecognised for years as it is masked by acute complaints that form the basis of clinical encounters."

Domestic abuse is the most common cause of nonfatal injury to women in the United States, accounting for more than half the murders of women every year. It affects both men and women and can result in serious injury and death. Given this, say the researchers, "it is critical that at-risk patients be identified as early as possible".

While evidence demonstrates that screening is a useful tool in detecting domestic abuse, the authors believe that doctors "may not be taking full advantage of the growing amounts of longitudinal data stored in

electronic health information systems".

The authors analysed medical records from over 500,000 non-identifiable patients over 18 years of age for whom they had at least four years' data on admissions to hospital and visits to emergency departments. The patients had over 16 million diagnoses among them and cases of abuse were identified according to established record-keeping codes.

The researchers developed a scoring system to predict which patients were likely to receive a domestic abuse diagnosis. The system was successfully able to predict future diagnoses of abuse an average of 10-30 months in advance.

Certain risk factors were strongly associated with a future diagnosis of abuse. For women the risk was highest after being seen in hospital or the emergency department for injuries, poisoning, and alcoholism. For men being seen for mental health conditions such as depression and psychosis conferred the greatest risk of a subsequent diagnosis of domestic abuse.

They also developed a prototype risk-visualisation environment which provides clinicians with instant overviews of longitudinal medical histories and related risk profiles at the point of care. According to the authors: "In conjunction with alerts for high-risk patients, this could enable clinicians to rapidly review and act on all available historical information by identifying important risk factors and long-term trends."

Reis maintains that these risk profiles could help doctors diagnose domestic abuse much earlier, perhaps many years in advance. He points out that: "With increasing amounts of data becoming available, this work has the potential to bring closer the vision of predictive medicine, where vast quantities of information are used to predict individuals' future medical risks in order to improve medical care and diagnosis."

Source: British Medical Journal (news : web)

Citation: Electronic medical records could be used as a predictor of domestic abuse (2009, September 30) retrieved 24 April 2024 from https://medicalxpress.com/news/2009-09-electronic-medical-predictor-domestic-abuse.html