Lack of Interoperability Increases Risks for Patients

National Health Service (NHS) patients' safety is at risk due to critical deficiencies in medical record keeping. A new research shows that NHS Trusts use at least 21 different electronic medical record systems, which poses a big challenge to the effective sharing of information.

The study from the Institute of Global Health Innovation (IGHI) at Imperial College London, *Improving data sharing between acute hospitals in England: an overview of health record system distribution and retrospective observational analysis of inter-hospital transitions of care*, was published in BMJ Open. It used a large national-level administrative data set to identify transitions of care between acute NHS hospital trusts.

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The sample included 21,286,873 patients who had 121,351,837 encounters (receiving inpatient, outpatient or A&E care) at 152 trusts. Of the latter, 35 (23.0%) were using paper records. Electronic medical records (EMR) were used in 117 (77%) trusts, of which 92 (78.6%) had a commercially available EMR system (21 such systems were identified in total); 12 (10.3%) were using multiple different EMR systems; and at 13 (11.1%) tailor-made software existed.

The survey showed that during April 2017 – April 2018 almost 4mn patients were treated at two or more hospitals with different health record systems. Of these patients, 53.6% had encounters shared between just 20 pairs of hospitals. Despite the hospitals' frequent collaborative efforts to care for individual patients, only two of these pairs used the same EMR system. The number of cases when a hospital could not access medical data previously recorded (either electronically or on paper) in another hospital, exceeded 11mn (9.1%).

According to Dr Leigh Warren, clinical research fellow at Imperial's IGHI and first author of the research, healthcare institutions and professionals do not always have "the right information about the right patient in the right place at the right time". "This can lead to errors and accidents that can threaten patients' lives. This is a complex issue, but our work shows how existing data can be used to develop a road map towards better coordination and safer care," he said.

EMR systems, increasingly implemented across the NHS in recent years, are commonly expected to facilitate communication between hospitals. The IGHI's study, however, indicates that (a) almost a quarter of hospitals are still using paper records and (b) for those who switched to EMR serious interoperability challenges exist. These results are even more important considering that a large share of patient move between different trusts but their medical records cannot be shared effectively in the process. Furthermore, the researchers found that among trusts that used a single system, more than half (49) had one of three identified systems. If only these three were made interoperable, every year for more than 1mn hospital encounters access to information would improve.

References

Warren LR et al. (2019) Improving data sharing between acute hospitals in England: an overview of health record system distribution and retrospective observational analysis of inter- hospital transitions of care. BMJ Open 9:e031637. Available from https://bmjopen.bmj.com/content/9/12/e031637

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