http://dx.doi.org/10.4082/kjfm.2013.34.3.159

Using Patient Medical Records for Medical Research

Editorial

Minseon Park

Department of Family Medicine, Seoul National University Hospital, Seoul National University College of Medicine, Seoul, Korea

Medical research is composed of two main parts, basic research and clinical research. This editorial will address several issues concerning clinical research which usually uses patient data to improve the outcome of general medical practice. In Korea, use of electronic medical records (EMRs) among health care providers is relatively high. However, there are lots of pitfalls in the EMR system and greater care in using rich sources of EMR data is needed even in locations where the same EMR system is used. Because EMRs are designed for health care services, not for research, they are not structured to facilitate the research process.

First, the quality of EMR data is one of the most important problems to take into account when conducting research, as poor quality data can lead to biased results.[1,2] EMR data can better reflect co-morbid conditions than data from diagnosis for service or medical history acquired from the patient, and can be easily linked to national data sets such as mortality rates. The complete coding of all presenting diagnoses and symptoms might reduce biased results in case ascertainments, however it is not always feasible in actual practice. Most creative research questions of clinicians using EMR data might originate from the experience of clinicians in medical practice, and would be shown in case series or case-control studies at the outset. If the important issues in medical recording are summarized in a standardized format, user-predefined templates in a predefined space are created, and physicians are regularly educated in EMR input methods, the data in the same EMR system might be easily converted to and used in evolving new research.[3]

The second principal concern is where the patient's records cannot be completely anonymised, for example, in the case of data linkage, informed consent must be acquired. Obtaining informed consent is desirable, however, it can be expensive, time-consuming, produce bias in terms of responders and non-responders.[3] In addition, it can reduce the generalizability of research findings. Therefore, governance committees (institutional review board) have tended to take a strict position regarding medical research involving human subjects, based on the declaration of Helsinki.

There are a few limitations to using EMR data as one of the first steps in identifying individuals with a specific condition and proving simple and more complex research questions. Care is required when using EMR data for research due to variability in the level of quality. Despite these challenges, there are many benefits including access to data that are not easily available, size of the data sets which might be created. Therefore, evolving appropriate technologies and continuing education for physicians will support further research using EMR data efficiently.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Academy of Medical Sciences. Personal data for public good: using health information in medical research [Internet]. London: Academy of Medical Sciences [cited 2006 Jul 4]. Available from: http://www.acmedsci.ac.uk/index.php/pid=99%20&%20puid=62.
2. Striking the right balance between privacy and public good. Lancet 2006;367:275.
3. Terry AL, Chevendra V, Thind A, Stewart M, Marshall JN, Cejic S. Using your electronic medical record for research: a primer for avoiding pitfalls. Fam Pract 2010;27:121-6.