"Effects of exam room EHR use on doctor–patient communication: a systematic literature review" - Triadic and other key terms may have identified additional literature

Christopher Martin Pearce
Department of General Practice, Monash University, Clayton, Australia

Pushpa Kumarapeli
School of Computing and Information Systems, Kingston University-London, Kingston Upon Thames, Surrey, UK

Simon de Lusignan
Department of Health Care Management and Policy, University of Surrey, Guildford, Surrey, UK

TRADEOFFS BETWEEN SENSITIVITY AND PRECISION OF A SYSTEMATIC REVIEW

Kazmi’s systemic review\(^1\) concludes on the positive influence of the computer use on the biomedical aspect of the consultation interaction, and the adverse effect on the psychosocial dimension. It broaches concerns about the availability of high-quality studies focusing on the doctor–patient interactions. However, there are visible limitations associated with the search strategy employed, which indeed can be considered as a common challenge for reviews in this field of interaction research involving doctor, patient, and computer.

A lesson that has been reemphasized by this paper is the importance of striking a balance between the precision and the sensitivity of a literature search.\(^2\) It is important to employ a search strategy that considers the potential biasing factors, while increasing the comprehensiveness.\(^3\) While, the set of search terms author has used seem reasonable, there are concerns about their effectiveness, which may have resulted in not reflecting the true breadth of literature out there.

CAPTURING LITERATURE ABOUT THE ‘TRIADIC’ RELATIONSHIP

The UK made the earliest, and in many ways most significant contribution to this field. The common theme in the literature is to describe the ‘triadic’ relationship, which views the interaction as a three way, not just the sum of three dyadic interactions. The term ‘Triadic’ was first coined in 1996,\(^4\) and based on UK research. The UK has also been the source of two of the largest studies (in terms of consultations) that have laid significant foundations to the literature, one by being the first to provide a comprehensive categorization of behaviours,\(^5\) and the second by examining the influence of the other players (in particular different computer systems).\(^6\) The other large study is Australian, and further defined frameworks.\(^7\)
WEAKNESSES OF KEYWORD SEARCHING STRATEGY

That these studies could be missed in a comprehensive review is not so much puzzling, but an artefact of one of the dilemmas that haunt health informatics in general, and the interaction research specifically, which is the keyword-searching-process that is used in much academic research. This could be attributed to both mechanics and knowledge elements of the search. When using search terms, their synonyms and related terms, care need to be taken to comprehend their position within the literature databases, the way in which indexing of the literature might have been carried out, and the subject headings and keywords used. For example, medical subject headings (MeSH) used in MEDLINE and Emtree headings may represent similar concepts in different terms.8 Use of search terms like ‘professional–patient relations’ or ‘attitude to computer’, or use of facilities provided in databases to use wildcards, or proximity operators, such as ‘near’ (e.g., patient near doctor) could have increased comprehensiveness of the search strategy in this paper. Such mechanical tuning of the search is important when exploring an area like consultation interactions, where the role or position of each ‘actor’ (doctor–patient–computer) could vary based on how they have been defined within each study. Similarly, inclusion of literature associated with out-patient settings could have been supplemented by combining keywords like ‘general practice’ OR ‘family practice’ where the influence of electronic health record (EHR) use on human–human interactions is mostly visible.

INTERNAL CONSENSUS ON REPORTING STUDIES ABOUT THE DOCTOR–PATIENT–COMPUTER INTERACTION

The second area of significance highlighted by the review is the need for this research area to move to the next level and report the impact and outcome of this triadic (doctor–patient–computer) relationship. Patient centred medicine has already moved on to look at outcomes,9 it is time for triadic research to do the same. The initial studies where simple, observational studies that attempted to classify,1 –2 and later theorise about the triadic relationship.11,12 Subsequently studies reported specific sections of the interaction, such as types of consultations,13 physical layout,14 the beginning,15 the patient viewpoint,16 and the roles of different software systems.6,17 Reviewing this paper has resulted in an international consensus on a framework for reporting studies in this domain, and to move the research on this topic to the next level, exploring outcomes and answering the ‘so what’ question.18

CONCLUSION

This review has drawn useful conclusions from the search terms used. However, it is limited by its choice of search terms. Future research in this domain should include general practice and terms that identify studies of the triadic doctor–patient–computer interaction.

REFERENCES

10. Als A. The desk-top computer as a magic box: patterns of behaviour connected with the desk-top computer; GPs’ and patients’ perceptions. Family Practice 1997;14(1):17–23.
13. Chan WS, Stevenson M and McGlade K. Do general practitioners change how they use the computer during consultations...


