Informatics research, practice, theory and history

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Introduction

This issue of Informatics in Primary Care includes high-quality papers from around the world: Spain, Canada, London, Australia and Scandinavia. The papers cover the breadth of primary care informatics from the basics of choosing a dataset, via a report of how to select high-quality primary care data to how computers might improve preventive care, history taking and prescribing. We then have a very thoughtful theoretical piece on conceptualising the facets of end-user support before ending with the inaugural James Read Memorial Lecture – which describes the history of the eponymous Read Codes.

Ontological approach to defining datasets and making data dictionaries open in research

An ontology describes the concepts and relationships that exist within a specific domain, and is a core concept within our discipline. For example, the condition 'atrial fibrillation' is an abnormal heart rhythm associated with an increased stroke risk, although this is largely preventable by anti-coagulant medication. Its domain ontology might include the concepts of heart disease, specifically cardiac dysrhythmias; prevention of stroke; anti-coagulant medicines, particularly Warfarin; and tests to measure the level of anti-coagulation. Many of the items of the elements that make up the domain ontology are represented in different parts of coding and classification systems – something that we return to in the paper based on the inaugural James Read Memorial Lecture.

Ontologies have become important in informatics because they help us to share information and knowledge. In this issue’s leading article we argue that ontologies are also essential for defining datasets. If we do not take an ontologically rich approach to identifying cases in records, then our searches of records are likely to be incomplete. For example, people may not have their diagnosis coded in clinical records – but regular prescriptions of insulin may signify that they have diabetes. We propose that we must use ontologically rich approaches to how we identify subjects for research and quality improvement; and the data dictionaries used to identify cases should be made public. Only when this is done is it possible to challenge whether observations based on routine data are correct.

Finding high-quality data in primary care

Colleagues in Catalonia have proposed a Registry Quality Score (RQS) as a method of ascertaining whether data are usable for research. This is a simple and elegant method of comparing the ratio of observed and expected cases – and interestingly, primary care practitioners covering one third (2 million of 6 million) of the population have records generally up to standard for research. They stress the importance of completeness as a core item in data quality, something first published some two decades ago and still needing to be addressed.

Feedback and training: showed little difference at one year

A Canadian study team have looked at the effect of feedback and training on preventive processes at one
How computers can improve history taking and prescribing

We also report how computers can improve history taking.4 This thoughtful literature review sets out how this largely unadopted technology might be evaluated and incorporated into policy and practice. This is followed by an evaluation of electronic prescribing programmes (known internationally as Computerised Physician Order Entry – CPOE).5 This paper creates an evaluative framework for such systems and comments on how most fall down on usability. Usability is key, and has been stated in this journal before: a neglected theme in informatics.12

Theory of end-user support

In the last issue we published a position statement about how we might start to use the longitudinal data in medical records to improve our management of chronic disease.13 In this issue, we include an equally thought-provoking piece about understanding end-user support in IT.6 Many of us have had bad experiences of the inability of end-user support to solve our particular problem – and our domain ontology for this concept may not include many positive attributes! However, the team from Toronto suggests how we might frame research in this important area.

The first James Read Memorial Lecture

It is a privilege to publish the first James Read Memorial lecture.2 The ‘Read Codes’ are used throughout the UK and New Zealand and also in many other countries. Whilst one of many coding, classifications and terminologies14 – the Read Codes’ legacy will have been to enable the creation of comprehensive coding systems. Both cursed and acclaimed – the Read codes are an important chapter in the history of primary care informatics.

REFERENCES

14 de Lusignan S. Codes, classifications, terminologies and nomenclatures: definition, development and application in practice. Informatics in Primary Care 2005;13(1):65–70.