Coding the presenting problem

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The value of coding data?

Coding of the ‘problem’ in computerised medical records is \textit{sine qua non} in the informatics community. The ‘problem’ should be formulation of what the clinician thought was the underlying pathological process, ideally not simply a symptom, or procedure (Box 1). Many in informatics take it for granted that coding clinical data is a good thing; without considering if there is an evidence base for this activity. Whilst much of what we know about health and disease comes from routinely recorded computer data, the quality of that data and our ability to extract it without loss in its fidelity limit its usefulness.\textsuperscript{1,2}

The informatics community has focused on data quality rather than developing an evidence base about the value and utility of the data collected. Data quality is defined in terms of its completeness and accuracy,\textsuperscript{3} currency (i.e. how up-to-date it is),\textsuperscript{4} and in terms of its positive predictive value and sensitivity that someone identified by routine data actually has that condition.\textsuperscript{5} Data quality has also been described functionally in terms of its ‘fitness for purpose.’\textsuperscript{6}

Kalra \textit{et al.}, in their review of the empirical evidence wakes us up to how there is little high-quality evidence for the benefits of clinical coding.\textsuperscript{7} There is no evidence of harm, but a dearth of studies providing positive evidence of benefit from coding data. The principal benefit, in terms of outcomes arising from the use of coded data, is in the management of long-term conditions in which prevention or therapeutic intervention reminders are linked to coded data. This same type of linkage is also used to improve patient safety by providing relevant prescribing alerts.

Supporting the process of care and health informatics infrastructure

Our next two articles explore little reported aspects of the primary care informatics. In the first, Salvo \textit{et al.}

\textbf{Box 1 Coding the clinician’s judgement of the core underlying pathological process}

\textit{Coding principles for problem titles:}

1. Always code the clinician’s underlying pathological process, e.g. code \textit{pneumonia} if that is the most likely underlying diagnosis.
2. Wherever possible code the problem as a disease.
3. Only use symptom or procedure codes where there is no underlying diagnosis.
4. Adopt the following hierarchy for coding the problem title
   a. Use disease codes wherever possible (e.g. Hypertension);
   b. If disease codes are impossible use as symptom code (e.g. use ‘Cough’ where it is impossible to discern the underlying diagnosis;
   c. Use process or procedure codes as a last resort (e.g. code ‘Impacted wax’ as the problem title – NOT ‘Ears syringed’).
5. Only change a problem title code where it will add something to patient care.
6. There is no need to change emerging diagnoses (e.g. a longitudinal series of consultations may have the following problem titles: Chest pain, Angina, Ischaemic heart disease.
report how pharmacists’ skills can be deployed to support the management of hypertension via electronic consultations, ‘e-Consults’. In the subsequent article, Shachak et al, explore the complexity of the vendor–clinic user relationship. This is an under-researched area with the provision of the application sometimes bundled in with secure communications, other hardware and infrastructure. They touch on the role of the ‘super-user’ as a source of support and the importance of locally employed IT support staff. This is clearly an area with scope for further research.

Minority take-up of information prescriptions

Coberly et al, report how there is a low uptake of information prescriptions — for patients (like many clinicians with busy schedules), time was the principle reason. However, there was a significantly greater uptake of electronic rather than paper prescriptions. The respondents in the trial were well matched for demographics and had a mean age of 51 years, with 94% having the Internet at home.

Practice and theory — finding linked data sources and a theoretical model for the adoption of personal health records

The last two articles explore practice and theory. The first by Leppenwell et al, describes a survey instrument to assess whether a primary care, cancer registry or genetic database might be linked: a practical step to support linked data studies. The extent of the information needed to do this ranges from micro-level information, to meso-level information about record structure and extract methods, through to macro-level considerations about legality, consent and the business model for data use.

The final article in this issue is a theoretical paper by Logue and Effken. They propose a four element model of the barriers to personal health record use; they identify (1) Personal, (2) Environmental, (3) Technology and (4) Chronic disease factors. This model resonates with your Editor’s model of the barriers to clinical coding: (1) Organisation (Environmental), (2) Individual (Personal), (3) Technology and (4) Clinical task (Chronic disease factors). Could there be some generalisable common theory emerging from these different approaches?

Developing a core generalisable theory for informatics remains a major challenge for our discipline.

REFERENCES


13 Logue MD and Effken JA. An exploratory study of the personal health records adoption model in the older adult with chronic illness. Informatics in Primary Care 2012;20:151–69.
