Editorial

Liberating the NHS: an information revolution – think beyond the electronic patient record, think service orientated architecture!

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The originators of primary care computer systems designed them to perform functions which were at the time of low quality, took considerable time, or were impossible with paper-based systems. They developed systems which provided them a service. For example, prior to the computerisation of primary care much of the clinical consultation with a person with a chronic illness would be spent trying to hand write repeat prescriptions and trying to amend the repeat prescription card while endeavouring to leave it still legible. It was impossible to search records to measure the quality of chronic disease management.

Growth and development of primary care computing and the general adoption of technology was organic and not the result of planned project management. The first planned EPR system, launched in 1975 in Ottery-St.Mary, was a remarkable achievement but has not stood the test of time. And, although computers help with prescribing, prevention and screening and possibly costs, there have been persistent concerns that their use may undermine the clinician–patient relationship and impose a biomedical model on the consultation.

The UK Department of Health is currently consulting on its information strategy: Liberating the NHS: An Information Revolution. The document promotes a strategy which encourages standardisation of quality measures, or record structure and of terminologies including use of SNOMED CT (Systematised Nomenclature of Medicine – Clinical Terms). It cites the importance of recording data in a way that computers can process, rather than stressing we need systems that support the clinical task.

Meanwhile much of software engineering is looking towards service orientated architectures (SOA). SOA design aims to overcome the problems we are very familiar with in health care: (1) Complexity, (2) Redundant and non-reusable legacy systems, and (3) Most importantly the “Real Integration Killer” trying to link or work with a multiplicity of interfaces. Instead of focussing on standardising the data item SOA focuses on the provision of a service with a published interface. Such services are interoperable with others but act independently. The advantage of an SOA approach is that services could be delivered by a best in class application; rather than as an add-on to the EPR system. For example, appointment booking services and electronic diaries, or even prescribing and drug interaction services could each be provided as a single service across the whole NHS by an industry standard service.

The information strategy consultation provides the opportunity to think about service orientation and move away from expensive comprehensive single supplier solutions for whole institutions delivered from vaults to services provided from the clouds. We should be moving towards services, or some would say resources, accessible through a uniform interface.

It is time to cast aside some of the current sacred cows of informatics:

- Currently the EPR is seen as the unit of provision of a wide range of services. We will come to recognise that the long list of services provided is too great and includes too many complex processes. The EPR system should stick to its core function but in future work alongside other services.
It is not sustainable to work with an oversized terminology (SNOMED CT) where terms lack definitions and searching out information may be challenging. National pay-for-performance quality targets have had to restrict payment to diseases and interventions recorded with a much narrower range of terms (from the much smaller Read classification).

The current information supplied by secondary care is not fit for purpose. We need to move away from recording episodes of care, (e.g. Attended first out patients) where the problem/diagnosis remains invisible to the IT system). For example a hospital might 'bill' for three outpatient attendances on a monthly basis where the patient attends for a monthly injection. This pattern of treatment may continue until the information system provides enough information for us to realise that it would be more cost effective for the patient to be on three-monthly injections.

Semantic interoperability has been a goal of informatics for some decades. However, trying to create semantic interoperability at the data level, where individual terms have no defined meaning, may be futile. It may be better to aim to achieve interoperability at the service level; and where this informs inter-agency working along a care pathway.

The Hayes principles encompass much of the collegiate learning of in health care informatics, and may provide a better model than trying to shoehorn biopsychosocial complexity of medical problems into standard terms. Our new strategy should deliver better services not constrain. To misquote Aldous Huxley: 'All our science is just a coding book, with an orthodox theory of coding that nobody's allowed to question, and a list of diagnosis that mustn't be added to except by special permission from the head coder.' (Misquoting Aldous Huxley, Brave New World. London, Chatto and Windus, 1932.)

REFERENCES
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