Knowledge and information and the quality framework

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BACKGROUND
The quality framework developed by The Royal Australian College of General Practitioners is described by Booth in this issue of *Australian Family Physician*. This article applies the framework to the 'knowledge and information' domain.

OBJECTIVE
This article draws on selected examples of immediate relevance to Australian general practitioners to demonstrate the value of such a framework.

DISCUSSION
The framework provides a mechanism for assessing policy and implementation initiatives in an Australian context that takes account of the realities of clinical practice. Management, implementation of guidelines, immunisation, electronic prescribing, and decision support are considered using descriptive or analytical approaches.

A number of recommendations were presented in the gap analysis conducted as part of the development of The Royal Australian College of General Practitioners (RACGP) Quality Framework for Australian General Practice.[1] Of the 30 recommendations, eight referred to knowledge and information management (and eight to competence), perhaps reflecting the relevance of these areas to the changing and complex environment of primary health care delivery in Australia in the 21st century.[2–4]

The challenge of managing knowledge

In pointing out the failure to implement clinical measures for which there is compelling evidence, Glasziou[5] refers to the epidemiology of 'knowledge and ignorance'. He argues that variations in practice demonstrate the lack of transfer of knowledge and reflect the '...inescapable and growing information problem. Unless we focus some of our research and practice effort on better organising, filtering, and using the research that we have, the gap between what we know and what we do will continue to grow...'.[6] Slawson and Shaughnessy[7] also highlight '...three [knowledge management] skills to practise best medicine:

the ability to select foraging – 'keeping up' – tools that filter information for relevance and validity, the skill to select and use a hunting – 'just in time' – information tool that presents prefiltered information easily and in a quickly accessible form at the point of care, and the ability to make decisions by combining the best patient oriented evidence with patient centred care, placing the evidence in perspective with the needs and desires of the patient'.

As the number of journals 'needed to read' to stay up-to-date seems not to allow much time for clinical practice, Glasziou recommends a 'just in time' learning approach and the utilisation of services such as the Primary Care Question Answering Service in the UK National Library for Health (www.clinicalanswers.nhs.uk). While knowledge and information transcends the form, format or media used for its management, information technology is increasingly the preferred vehicle for clinical practice.[8–11] The huge volume of information in the 21st century requires a 21st century solution!

Guidelines

Guideline development and implementation in a primary care setting is an active area of research, with increasing

Table 1. Implementing a secure link to facilitate immunisation data transfer				
	National	**Regional**	**Setting of care**	**Individual**
Acceptability	Aligns with goals of Immunise Australia Program	Support systems in place at a division level	Aligns with core GP role, systems in place at a practice level	Supports parent allowance and school or child care requirements
Accessibility		Improved performance data for state governments and divisions to target public awareness and educational activities	Convenient 'seamless' access to immunisation status of child during the consultation	Parent/carer can access more accurate data
Appropriateness	More secure, timely data transmission			Privacy maintained but information accessible
Effectiveness	Immunisation data collected at time of consultation	More targeted interventions for hard to reach groups	Permits opportunistic screening without adding to consultation time	Prompts doctor or nurse for opportunistic screening
Efficiency	Better data collection by ACIR, better tracking of vaccine usage, rapid dissemination of immunisation updates		Less red tape sending data, streamlined practice procedures updating database, more immunisation services paid, reduced practice costs	Access to relevant information at the time information is required (doctors, nurses, carers)
Safety	Greater immunisation coverage		Fewer immunisation errors	Greater protection against vaccine preventable diseases

awareness of the crucial role for funding agencies to structure incentives for delivery of evidence based or, as Glasziou would prefer, evidence informed care. There is also a need for funding agencies to take account of the cultural or attitudinal factors that influence health care providers, patients and their carers in attaining optimal health outcomes. Evidence is accumulating that primary care helps prevent illness and death and is associated with a more equitable distribution of health within populations.[12] However, the relevance of some guidelines that are based on randomised control trials to the primary care setting where comorbid conditions are the norm and not the exception is being questioned.[13] Additionally, the importance of investment in health information systems to support the improvement of health outcomes is recognised internationally.[14]

In the context of the quality framework, guidelines feature at each level in this domain, but often without consideration of the layers (acceptability, accessibility, appropriateness, effectiveness, efficiency and safety) that impact on implementation. With this in mind, the RACGP is exploring the feasibility of developing and disseminating e-guidelines that can be downloaded and integrated seamlessly into decision support in electronic medical records software.

Prescribing

Professional and government initiatives in Australia over the past decade have driven the uptake of health information technology,[19,15,16] with recent surveys showing that electronic prescribing is being used by 83–90% of all general practitioners. While medication errors have been reduced as a result of electronic prescribing,[9,16] there remain challenges to further improving the quality and safety of health care delivered in the primary care setting.[17,18] Identification of what constitutes a prescribing error[19] and how to ensure the safety features of an electronic clinical system[10,20] will enhance these positive trends.

Concerns have been raised about the quality and integration of electronic decision support tools in currently available electronic prescribing software and the utility

of these tools in busy general practice.[21–23] In particular, the doubtful clinical relevance of prompts about drug-drug or drug-disease interactions at the time of writing the prescription has been identified as a reason why prescribers might turn off the prompts or disregard the information. The availability of a single evidence based pharmaceutical database that can be used in all prescribing software has been suggested if decision support to improve patient safety is to be used optimally in clinical practice.

Over the past 15 years, a number of professional groups including the Australian Medical Association (AMA), the RACGP and the General Practice Computing Group (GPCG) have advocated for funding for the development and dissemination of 'national treasures' to underpin better quality care and safer prescribing. National treasures are information resources such as the *Australian Medicines Handbook, Therapeutic Guidelines* and the RACGP *Guidelines for preventive activities in general practice* ('red book') that have been developed through a rigorous evidence informed process and which can be made available at minimal cost to software developers. Previous attempts to develop a common interface for these currently available resources failed because of incompatible business models and a lack of financial support.

In its report to the Australian Health Ministers Council in November 2002,[24] the Electronic Decision Support Task Force made a series of recommendations which the Australian Health Information Council (AHIC) were tasked to implement. While many of the recommendations were finalised by the AHIC, there has been no discernible difference for practising GPs as we enter 2007.

Immunisation

For some time, the GPCG has advocated for a direct linkage between a practice and the Australian Childhood Immunisation Register (ACIR). Using a secure network, the immunisation status of a child could be downloaded from the ACIR at the time of the consultation directly into the practice's electronic clinical medical record. Immunisations provided at a consultation and recorded in the medical record could be reported to the ACIR 'automatically'. While interoperability standards need to be defined, the elements of a secure connected network that could link practices and Medicare Australia already exist. This is not rocket science! *Table 1* presents a quality framework analysis that focuses on the layers relevant to knowledge and information management to build a compelling case for funding such an initiative.

Conclusion

The quality framework is a useful tool for developing and implementing policy, or for critiquing strategies for better care delivery. In particular, it provides a context for Australian general practice and takes account of the realities of clinical practice. The development of technology to better manage knowledge and information will challenge doctors who find the pressure of change almost intolerable.

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