

Information mastery and the 21st century doctor: change management for general practitioners

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In general practice, there has been a gradual increase in the use of information technology for managing clinical patient information and medical information. However, computers and the Internet are not being fully used for patient care.^{1,2} Increasingly, patients have embraced the Internet as a tool for information retrieval. General practitioners should clearly be using technology for improved data management and retrieving electronic information at the point of care.³

General practice consultations invariably throw up clinical questions that need further information to be sought. The Internet allows us to have “hands on” information at the time of query. This is often referred to as “just-in-time” information, and it allows us to apply evidence-based medicine (EBM) in clinical practice. Government initiatives such as HealthInsite, Better Health Channel and the Broadband for Health Program have been designed for GPs to use EBM at point of care, but there are barriers to uptake of computers and the Internet in clinical practice.⁴ One way to breach these barriers might be to engage GPs in information mastery skills training, and initiate a structured change in work processes. These skills could then be used opportunistically, giving GPs an extra tool to help with information needs.

What is information mastery?

Information mastery has been defined as the “applied science that allows clinicians to harness resources in the information age”.⁵ It requires users to have a basic set of core skills, but also depends on continuing refinement and upskilling to maximise its potential. The following formula describes this further:

$$\text{Information mastery} = \frac{\text{Relevance} \times \text{Validity}}{\text{Work}}$$

By this formula, reliable information is determined by the relevance of the information sought (eg, does smoking cause heart disease?) and the validity of the information source (ie, where is the evidence?). However, relevance and validity cannot be effective unless there is a counterpoint with the work required to gain the information (ie, where can I find this information quickly and how can I transfer this information at the point of care?). The development of the Internet has led to a change in work processes in the medical environment. Theoretically, the increased efficiencies gained by the use of computers and the Internet should allow GPs to be true information masters. The above formula⁵ has traditionally been applied to using EBM at the point of care, but it can also be applied to how GPs can retrieve important data from electronic health records. However, the tide has not turned, as the profession still shows resistance to this change. Reasons for this include lack of time and training, and personal preference for traditional paper information.⁶

Information mastery is not currently considered a Royal Australian College of General Practitioners (RACGP) priority learning area. Although the curriculum includes critical appraisal and the use of information technology, there is no statement that embraces information mastery. College examinations are not conducted with a computer present. Can this be a realistic reflection of a session in general practice? Does change need to occur?

ABSTRACT

- The Internet and computers have brought immense change in how society deals with information.
- Uptake of these technologies has been disjointed and has occurred in a non-uniform way among general practitioners, compared with other professionals.
- Information mastery is a key 21st century skill that GPs should acquire.
- Applying “change management” concepts may help improve uptake of information mastery skills in general practice.

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Change management and GPs

Fast access to reliable information is a key factor in successful professional enterprise, and should become an integral part of general practice. It is important to acknowledge that uptake of information technology by medical professionals is based on change. For many doctors this change is a fundamental 180-degree turn in their usual information retrieval processes. Change management (Box 1) is commonly used in corporate circles for developing strategies to accomplish process change. Is it possible to apply change management principles to our profession to bring about a positive outcome?

Change experts from non-medical fields have stated a number of reasons why change is difficult. These reasons also apply to general practice, and include the fact that change is a continuing process and not a neat one,⁸ and that there are barriers, such as cost, loss of control, uncertainty, work (effort) and past resentments.⁹

For any change model to be successful, three fundamental entities should be acknowledged:

- Strategists — the executive with the broad vision for the proposed change (eg, RACGP/government);
- Agents — the initiators of the planned change (eg, Divisions of General Practice); and
- Recipients — GPs.

For change to be effective in general practice, all three entities must work together.

Current impediments to change include:

- Lack of a definitive long-term vision and plan — examples of difficulties include withdrawal of government funding for the

1 Definition of change management⁷

Activities involved in:

- Defining and instilling new values, attitudes, norms, and behaviours within an organisation that support new ways of doing work and overcome resistance to change;
- Building consensus among stakeholders on specific changes designed to better meet their needs; and
- Planning, testing, and implementing all aspects of the transition from one organisational structure or business process to another. ♦

2 Eight-step plan for managing change in the use of computer technology in general practice

Step 1: Define change and assess environment

- Assess how using computers for “just-in-time” information will be incorporated into the professional workflow.
- Recognise resistance to, and the financial cost factor of, change.

Step 2: Specify the implementation process

- Prepare a communication plan to inform all stakeholders of the change. Will this come from a College level, a group similar to the General Practice Computing Group, or government bodies?
- Develop an implementation process for the profession.

Step 3: Identify key sponsors and initiate stakeholder “buy-in” (ie, active uptake)

- Crucial to effecting change is whether executive personnel and leaders of the profession are supportive of change (ie, “walk-the-talk”) and are willing to lead.

Step 4: Identify stakeholders/participants at all levels

- Identify entities from all levels of the organisation (eg, Royal Australian College of General Practitioners, Divisions of General Practice, general practitioners, and training providers). Identify and address cultural and personal barriers to uptake of information mastery principles.

Step 5: Communicate change

- Divisions of General Practice and GP leaders will need to communicate with one voice.

Step 6: Implement change plan

- Implement plan for change in work practice.
- Ensure positive reinforcement by executive level.
- Identify risks, both external and internal, that may endanger implementation plan and subsequent initiation of risk management plan.

Step 7: Provide training and education

- Skills acquisition, support and education are key change issues.

Step 8: Monitor and reward adoption of change

- Provide positive reinforcement for change processes.
- Monitor and reward adoption of change (eg, show stakeholders improved patient outcomes, or absence of negative impact on consultation).
- Consider disincentives for continued resistance to change (eg, reduced monetary return). ♦

General Practice Computing Group, lack of a streamlined vision between the RACGP, Divisions of General Practice, Australian Medical Association and government.

- Inadequacies in the GP training program — few training organisations currently assist GP registrars in information mastery skills. It is at the training level that attitudes can be moulded.
- Failure to acknowledge the “lost generation” who are not willing to accept change, as opposed to the next generation of GPs who are more accustomed to the electronic platform for work processes.¹⁰

To illustrate a change-management model for information mastery, an eight-step plan is described in Box 2, summarising key principles applicable to the general practice setting. Under this model, a number of key insights are offered for the profession to consider.

This eight-step process highlights what might be needed for implementing information mastery in general practice. Steps 3 and 4, which involve “walk-the-talk” and “buy-in”, require all stakeholders to reach a consensus on an implementation plan. Acceptance of

the change is also of crucial importance, and will require ongoing effort. Stakeholders at an executive level will require resolve to effect change. Compared with other business organisations, GPs are relatively insulated from the negative effects of not changing. Although information mastery can potentially help with managing patient data and medical information, there are no great financial gains involved. The way in which GPs are now remunerated in the United Kingdom, based on key performance indicators (through computerised patient data), may provide evidence on whether remuneration can provide the incentive for change.

The 21st century is upon us, and with it, the information age. The availability of computers for retrieving medical information and patient data has provided the profession with the potential to use information with greater precision, reliability and reduced effort. To maximise these synergies, the use of change-management principles should be considered. Information mastery can be achieved, but only if there is a discussion of desired outcomes and appropriate resource allocation. The GP training program is an ideal arena to teach the necessary skills. Acknowledgement of change and the need for change is paramount. Those who are resistant to change may never accept the need for information mastery skills and, with this, the need for acceptance and recognition of a generational divide. Further research, particularly on current GP practice, will inform this debate.

The information age is here to stay. Do we want to be left behind?

Competing interests

None identified.

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