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To cite this article: Simon Morgan, Kim Henderson, Amanda Tapley, John Scott, Mieke van Driel, Allison Thomson, Neil Spike, Lawrie McArthur, Jenny Presser & Parker Magin (2015) How we use patient encounter data for reflective learning in family medicine training, *Medical Teacher*, 37:10, 897-900, DOI: [10.3109/0142159X.2014.970626](https://doi.org/10.3109/0142159X.2014.970626)

To link to this article: <http://dx.doi.org/10.3109/0142159X.2014.970626>



Published online: 14 Oct 2014.



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HOW WE...

How we use patient encounter data for reflective learning in family medicine training

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Abstract

Introduction: Consulting with patients is the core learning activity of Australian family medicine (general practice/GP) training, providing a rich source of reflective learning for trainees. We have developed a reflective learning program for postgraduate vocational trainees based on clinical encounters.

Methods: The Registrar Clinical Encounters in Training (ReCEnT) program is an educational program documenting GP trainees' consultations in five Australian GP training providers. Trainees record patient demographics, consultation details, problems managed, management practices and educational factors from sixty consecutive consultations per six-month training term. Trainees receive a detailed feedback report comparing individual data to aggregated trainee data and national GP data.

Results: The patient encounter system provides multiple opportunities for reflective learning across a number of domains of exposure and practice. Reflection can occur during completion of the encounter form; as self-reflection on the feedback report; as facilitated reflection with the GP trainer and medical educator; and as part of integration of data into teaching. We have identified areas for further development, including enhancing the reflective skills of trainees and trainers.

Conclusion: The ReCEnT patient encounter program provides a rich platform for reflective learning for vocational trainees and supports development of skills in lifelong learning.

Introduction

Australian general practice training

Consulting with patients is the core learning activity of general practice (family medicine) training in Australia. Trainees (registrars) learn within an 'apprenticeship model', seeing patients in the general practice setting under the supervision of accredited general practitioner trainers (GP supervisors). Ideally, each trainee's clinical experience should comprise 'common and significant conditions that exemplify general practice' (Royal Australian College of General Practitioners 2011).

However, in reality, the curriculum 'walks through the door', and the exposure to different patient demographics and presentations is highly variable. This variability is likely to have an impact on the comprehensiveness and quality of training (de Jong et al. 2013).

The Australian General Practice Training (AGPT) program involves a minimum of two years post-hospital training. Training is regionalised, with coordination and delivery devolved to seventeen regional training providers (RTPs) around the country. Unlike many other specialist disciplines, there is no requirement for completion of a patient log in the AGPT program.

Practice points

- Clinical encounters with patients are a rich source of reflective learning.
- We developed a reflective learning platform for vocational GP trainees based on clinical exposure, management practices and educational factors.
- The patient encounter system provides multiple opportunities for reflective learning – completion of the encounter form, self-reflection on the feedback report, facilitated reflection with the GP trainer and medical educator, and integration of data into teaching.
- There are a number of areas for further development to maximise the educational utility of the project.

Reflective learning in medical education

Reflection in medical education has been defined as 'a metacognitive process that occurs before, during and after situations with the purpose of developing greater understanding of both the self and the situation so that future encounters with the situation are informed from previous encounters'

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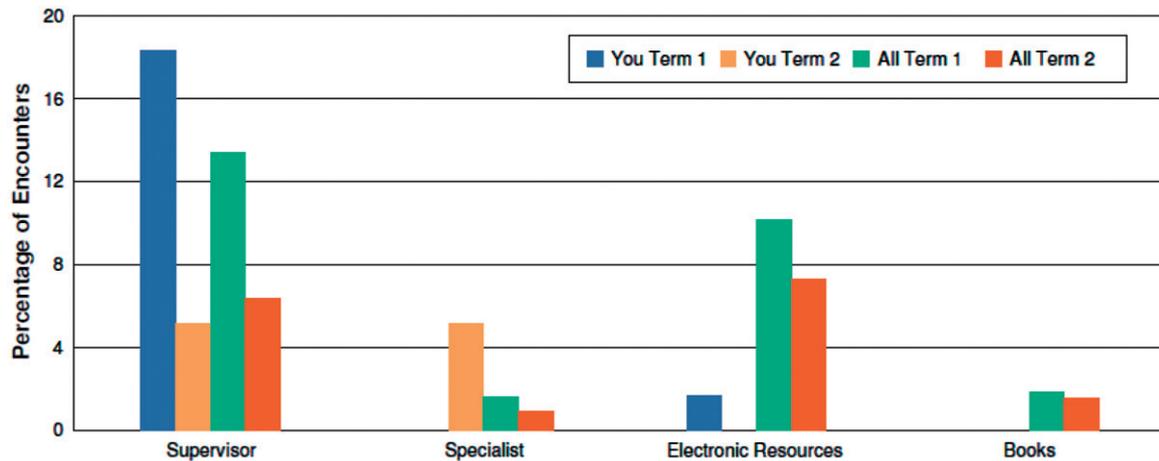


Figure 1. Example of patient encounter feedback report graph (information seeking).

(Sandars 2009). There is an increasing emphasis on reflective practice in medical education. Reflective practice forms part of self-regulation, a deliberate process of professional development and life-long learning (Boekaerts 1999).

Clinical interactions with patients are a rich source of reflective learning and log books have been used in the undergraduate setting for many decades (Denton et al. 2006). Patient encounter logbooks have been shown to be effective tools for reflection and feedback (Patil & Lee 2002), tracking learning needs (Thomas & Goldberg 2007) and measuring achievement of educational objectives (Carney et al. 2000). However, we could find no published literature on the use of a patient encounter analysis to stimulate encounter-based reflection and learning in postgraduate general practice training.

What we did

ReCEnT project

Based on best practice guidelines for maximising learning (O'Brien et al. 2011), we have developed a reflective learning program for GP trainees based on their patient encounters. The ReCEnT (Registrar Clinical Encounters in Training) project is an ongoing educational activity documenting GP trainees' in-practice clinical experiences undertaken in five of Australia's six states. Participation in ReCEnT is part of each trainee's mandatory training requirement. However, trainees also have the option of consenting to their de-identified data being used for educational research purposes. The study methodology has been described in detail elsewhere (Morgan et al. 2012).

Trainees are given a comprehensive face-to-face and written orientation to the activity, including the process and opportunities for reflection on patient encounter data. Trainees record the details of sixty consecutive patient encounters on a paper-based form at the mid-point of each six-month training term. This represents approximately one week of consultations for a full-time trainee in their first training placement. Trainees record only consultations conducted in the general practice setting.

Data collected includes patient, consultation, and educational factors. Patient variables comprise age, gender, Aboriginal or Torres Strait Islander status, new patient to the practice, and new patient to the trainee. Consultation factors are duration, involvement of a practice nurse, specific diagnoses/problems managed, procedures performed, investigations ordered, referrals made and follow-up arranged. Educational factors include whether the trainee accessed in-consultation resources or generated personal learning goals (topics to be looked up after the consultation). Data are coded using the International Classification of Primary Care, second edition (ICPC2-plus), disease classification system (Lamberts & Wood 1987).

Trainees and their trainers are emailed a comprehensive (up to 11 pages, and 12 graphs, in length) electronic feedback report after each round of data collection. To facilitate timely reflection, we undertake to provide the report within three weeks of receipt of completed encounter forms. The feedback report details individual trainee encounter data, and compares this to aggregate trainee data, the individual trainees' data from previous terms, and data of established Australian GPs (Britt et al. 2008). Information is presented both as text and graphically (see Figure 1 for an example of the graph of information-seeking behaviour). We have, thus far, produced 1882 reports for 871 trainees from 364 individual general practices (from 10 rounds of data collection 2009–2014).

Reflective learning

The primary educational application of ReCEnT patient encounter data is to facilitate trainees' reflection on their clinical exposure and practice. Opportunities for reflective learning can occur at a number of stages.

Self-reflection during data recording

The first opportunity for reflective learning occurs while the trainee completes the patient encounter form after each consultation. Our observation is that the deliberate completion of the data instrument (lasting an average of 2–3 minutes per patient) acts as a metacognitive cue to encourage incidental reflection on all aspects of the encounter. For example,

documenting the number and nature of problems managed provides an opportunity to consider other differential diagnoses. The so-called 'diagnostic pause' has previously been described as a tool to minimise diagnostic error (Trowbridge 2008).

Similarly, trainees can reflect on investigations ordered, medication prescribed, referrals made, and follow-up and safety netting planned. These have previously been described as challenging areas for GP trainees (Nyman & Sheridan 1997; Ajawi et al. 2010; Bubner et al. 2012). As well, documentation of the sources of information accessed and learning goals generated can act as a trigger to reflect on specific knowledge or skill gaps. The use of 'notes to self' in a patient log has been previously described as a useful learning strategy in medical students (Thomas & Goldberg 2007; O'Brien et al. 2011).

Self-reflection on the feedback report

The core reflective tool of the ReCEnT program is the feedback report. Using this report, trainees can make broad observations about clinical exposure and practice, e.g. demographics, chronic diseases, continuity, and identify any gaps. In addition, they can compare rates of prescribing, investigation ordering, referrals and information-seeking with peers and to national GP data. Self-reflection is supported by instructions regarding reflection in the feedback report, reinforcing prior provision of face-to-face and written project orientation materials.

Facilitated reflection by the GP trainer

There is strong evidence that effective reflection is most likely to occur when it is well supported by good supervision (Mann et al. 2009). More specifically, reflection on the content of learning portfolios is dependent on the role of the trainer as facilitator (Snadden et al. 1996). We recognise the limitations of trainee self-reflection and strongly encourage structured facilitated reflection of the feedback report in combination with the GP trainer. We have developed a 'Feedback Report User's Guide' and provide professional development workshops to support this process.

There is evidence that brief feedback on the breadth of clinical encounters can influence subsequent clinical exposure in medical students undertaking family medicine clerkships (Delzell et al. 2011). This supports the value of timely trainer-facilitated feedback. Our experience is that the information contained in the feedback report has value for facilitated reflective learning across a number of domains of general practice. As previously, data on the clinical exposure can facilitate a discussion on clinical learning needs. Given the central role of clinical exposure to learning in the apprenticeship model, identification of, and trainer-facilitated reflection on, exposure gaps may lead to identification of knowledge deficits.

The feedback report is also an ideal tool to explore the management of undifferentiated presentations and tolerance of uncertainty (Guenter et al. 2011), for example using data on test ordering, and recourse to clinical information. As well, the report is a valuable prompt to discuss time management,

utilising data on duration of consultation and number of problems managed.

Facilitated reflection by the medical educator

In some RTPs, we have also incorporated the feedback report into 'training advisor meetings', compulsory six-monthly meetings between trainee and medical educator to discuss training plans. Facilitated reflection can cover similar ground as with the trainer, but also involve triangulation with results of other formative assessments e.g. quiz results, patient satisfaction tools.

Other educational applications

The data generated from ReCEnT has a range of other educational applications. The ReCEnT study data provides valuable information for overall training program evaluation and quality improvement. Aggregate cohort data can be used to determine curriculum coverage and systematic clinical exposure gaps (Morgan et al. 2014). This information can support better articulation of RTP educational workshops with practice exposure. Patient encounter data has been used extensively by medical schools for program evaluation and curriculum review (Denton et al. 2006), but has not been described before in vocational general practice training.

We believe that patient encounter data can help support the teaching and supervision role of the GP trainer. We have developed and distributed 'practice feedback reports' containing aggregated trainee exposure and educational data for each participating practice in comparison to the practice cohort. Such reports identify particular practice demographics and practice-patterns, and better inform practice-based teaching and targeted patient appointments.

The other major application of the ReCEnT study is educational evaluation and research, in particular providing a platform for trainee research projects and evaluation of educational interventions, e.g. antibiotic prescribing.

What's next?

A comprehensive evaluation of the project in 2013 has identified a number of areas for further development to enhance overall educational utility. There is scope to provide greater support and encouragement for trainees to self-reflect on both the raw patient encounter data and the feedback report. Specifically, this could include more formal training in self-reflection skills. Reflective writing has been described as a useful technique to help health professionals learn from daily experiences and improve practice (Wald et al. 2009), and we are considering introduction of a formal reflective summary on the process.

We undertake ongoing GP trainer professional development in the project. However, we recognise that opportunities also exist for more comprehensive support of GP trainers, in particular training in skills for facilitating reflection. It is known that reflection is underutilised by community preceptors (Manyon et al. 2003) and training may increase this.

We currently use a paper-based data collection instrument, reflecting the difficulties in extraction and comprehensiveness

of routinely collected electronic data in Australian general practice where a variety of medical records systems are in place. However, we are exploring the options for, and benefits of, electronic recording of encounter data.

Conclusion

We have developed a patient encounter system for reflective learning for vocational GP trainees. Multiple opportunities for reflection exist – trainee self-reflection, facilitated reflection with the trainer and educator, and as part of RTP-based education – but there is still scope to enhance the educational value of the project. The ReCEnT platform supports the development of lifelong learning skills that are essential for all GPs.

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Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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