

Incorporating ReCEnT research findings into your approach to teaching and supervision

GP Supervisor Guide Summary

What is the Registrar Clinical Encounters in Training (ReCEnT) project?

Background

ReCEnT is a long-established educational and research project conducted within the Australian general practice specialist vocational training program. GP vocational training operates within an apprenticeship-like model in Australia, whereby registrars consult patients with oversight and mentoring by experienced GP clinical supervisors.

Until the advent of ReCEnT in 2010, the nature and scope of registrars' consultations was unknown. Since 2023 the project has been conducted by the RACGP, with a phased roll-out to all regions of Australia by 2025 planned (expanding from the 2022 footprint of NSW, ACT, Tasmania, and eastern Victoria).

ReCEnT is both an educational tool and a research project. These aspects of ReCEnT are closely integrated.

This document summarizes the full '[GP Supervisor Guide: incorporating ReCEnT research findings into your approach to teaching and supervision](#)' which is available on the [ReCEnT website](#).

Educational aspect

Registrars record the clinical and educational content of 60 consecutive consultations during their training term. These data are processed and returned to them (within two weeks) in a detailed report¹ in which their data are compared to that of their registrar peers, to that of their previous GP terms, and to established GPs.² ReCEnT is a reflective, as opposed to a benchmarking, exercise for registrars. It also provides supervisors and medical educators with valuable evidence in how they approach teaching, supervisory, and mentorship tasks with individual registrars.

Research aspect

Registrars may choose to provide informed consent for their data to also be used for research purposes. The primary research aim of ReCEnT is to uncover the nature and scope of GP registrar experiences and actions. This is explored with the following analyses and findings:

- 'Mapping' analyses
- Exploratory analyses
- Mapping' and exploratory analyses of registrars' educational actions

- Mapping' and exploratory analyses of other outcomes
- Longitudinal 'within-registrar' analyses
- Longitudinal 'within-program' analyses
- Triangulation of 'within-registrar' and 'within-program' findings
- Testing efficacy of educational interventions
- The 'educational-research loop' model
- Combination of ReCEnT data with data from other sources

ReCEnT data strengths and limitations

As with any project, the ReCEnT methodology has both strengths and limitations.

Strengths	Limitations
A large number of variables recorded contemporaneously, providing nuanced context for consultation content and allowing for fine grained adjustment for confounding in statistical models.	A 'snap shot' of a consultation without contextual information – for example, we don't record patient medicines regimens nor patients' past medical histories
Data collected specifically for the purpose of ReCEnT, in a short, focussed period of data collection to facilitate data completeness and reliability	A 'snap shot' of a consultation – ReCEnT is a longitudinal study of registrars (from Term 1 to Term 2 to Term 3), not of patients, so we don't know what happens during follow up.
Registrar 'action' variables - such as prescriptions, referrals, imaging and pathology testing – are directly linked to the problems/diagnoses that prompted the action	For logistical and educational reasons we only collect office-based consultation data – not home visits, aged care facility visits or consultations in specialty clinics (e.g. Flu immunisation clinics)
High response rate and large sample size (for research purposes)	Only a sample (60) of an individual registrar's consultations, which may not be representative (for educational individual purposes)

What has ReCEnT uncovered, and how does this change your approach to teaching and supervision?

Patients and conditions which registrars gain limited exposure to

Overall, registrars see substantially fewer patients aged 65 and above, compared to established GPs³. This, in turn, reduces their exposure to chronic diseases,⁴ especially cardiovascular and endocrine disease, and multimorbidity.⁵ Concerningly, our data suggests that registrars may not be fully engaging in older patient care.³ Practice-level solutions to facilitate greater registrar engagement with older patients include:

- Enlisting practice nurses to work with registrars in chronic disease management.
- Encouraging registrars to participate in nursing home care.
- Having registrars manage supervisors' older patients with the supervisor.
- Receptionists purposively scheduling older patient appointments with registrars.
- Having older patients' care handed over from registrar to registrar at term end.

Influence of registrar gender on patient encounters and experiences

Approximately two-thirds of registrars are female. The training experience of male and female registrars can be very different. Female registrars' practice entails a far greater proportion of female patients (68%) than does male registrars' practice (49%).⁵ As such, female registrars experience

more exposure to problems relating to female genital problems/diagnoses, pregnancy problems/diagnoses, procedures related to female reproductive health, and psychological problems/diagnoses. Alternately, male registrars experience a higher exposure to respiratory problems/diagnoses and musculoskeletal problems/diagnoses. Supervisors and practices (including receptionists⁶) can address this potential educationally limiting imbalance with practice level policies to preferentially direct certain patient categories to particular registrars or, conversely, away from particular registrars and to other GPs in the practice.

Patient categories and conditions which registrars ‘struggle’ with

These categories and conditions have been identified by the conditions which registrars seek information on most, or which they generate learning goals for post consultation. These areas share the commonality of being poorly represented in junior hospital doctor experience, whilst being common in general practice.

- ‘Community’ paediatrics, specifically management of behavioural, mental health and developmental issues.⁷⁻¹¹
- Dermatology, including the acquisition of skin surgery skills.^{12,13}
- Musculoskeletal problems.

Role of practice location on registrar experience

Registrars who practice in a lower socioeconomic status area¹⁴ or, even more so, in rural locations,¹⁵ are provided with a particularly rich learning environment. This includes seeing more older patients, more continuity of care, seeing more patients of Aboriginal and Torres Strait Islander background, seeing more patients from a non-English-speaking background, and more participation in practices’ after-hours rosters.^{14,15}

Evidence practice gaps

Evidence practice gaps exist in registrars’ medication prescription and pathology test-ordering. Whilst registrars’ clinical behaviours are complex with many determinants, supervisor instruction and role modelling are the primary drivers of registrar behaviours. Thus, there is much that supervisors and their practices can do to positively influence registrars’ adoption of evidence-based practice. Areas which require particular focus include:

- Registrars prescribe antibiotics in excess of guidelines for acute bronchitis,¹⁶ sinusitis,¹⁷ sore throat¹⁸ and otitis media.¹⁷ Positively, their prescribing rate is within quality benchmarks for URTI’s,¹⁶ and lower than established GPs’ antibiotics prescribing for these respiratory infections.
- Opioids are largely being prescribed as maintenance therapy for pre-existing problems, as opposed to acute pain or for those in palliative care.¹⁹
- Pathology test ordering increases significantly throughout a registrar’s training,²⁰ and is in excess of the tests ordered by established GPs.²¹ Registrars need specific support from their supervisors during the difficult transition into independent post-Fellowship practice. A proposed exercise to promote rational test-ordering is for supervisors and registrars jointly to do ‘test result audit and feedback’ (‘TRAFk’) of registrars’ pathology test and imaging requests.²²

Influencing registrars' clinical behaviours

ReCEnT findings have informed the design of educational innovations directed at registrar clinical behaviours. Such programs are designed with elements targeting registrars, supervisors, supervisor-registrar interactions, and practices. However, evaluation of these programs demonstrates that knowledge is 'necessary but not sufficient' for influencing registrars' actual clinical behaviours. Other behaviour change interventions, which are in the domain of the supervisor/practice, are critical to influencing registrar clinical behaviours. Examples of such interventions (directed, for example, at antibiotic stewardship) include:

- Environmental restructuring: to include posters and patient education brochures in the waiting room.
- Modelling: supervisors and other GPs in the practice should model evidence-based prescription of medications.
- Development of standard protocols for common presentations.
- Enablement: by 'licensing' registrars to decline prescription requests, where appropriate.

Implications of ReCEnT-derived data on prediction of FRACGP Fellowship examination performance

Previous non-ReCEnT work has demonstrated the 'exam-style' assessments prior to the commencement of GP Term 1 are quite strongly predictive of FRACGP Fellowship examination performance.²³ Furthermore, the ReCEnT data demonstrates that practicing 'low value, non-evidence-based care' is robustly predictive of poorer Fellowship exam performance and increased failure risk.²⁴ Registrars can be encouraged that developing good practice is optimal exam preparation.

Can I participate in the ReCEnT research as a practice/supervisor/registrar?

Registrars and practices make ReCEnT possible with their contribution to data collection, and the contribution is much appreciated. There is also scope for registrars and supervisors to participate further by collaboration with our ReCEnT team. Registrars and medical students have collaborated extensively with us. While one supervisor has worked with us a great deal and MEs have regularly contributed, there is scope for greater engagement – supervisors are well placed to bring their content expertise and, especially, their relevant clinical/educational questions that may be answerable with ReCEnT analyses.

If you would like to discuss your ideas, contact Parker Magin

parker.magin@racgp.org.au

References

1. Morgan S, Henderson K, Tapley A, et al. How we use patient encounter data for reflective learning in family medicine training. *Medical Teacher* 2015;37 (10)(Medical Teacher.):897–900. doi:10.3109/0142159X.2014.970626
2. Britt H, Miller G, Bayram C, et al. *A decade of Australian general practice activity 2006–07 to 2015–16. General practice series no. 41.* Sydney University Press; 2016.
3. Bonney A, Morgan S, Tapley A, et al. Older patients' consultations with general practice trainees: a cross-sectional study. *Australasian Journal on Ageing* 2017;36 (1):E1–E7. doi:10.1111/ajag.12364
4. Magin P, Morgan S, Henderson K, et al. Family medicine trainees' clinical experience of chronic disease during training: a cross-sectional analysis from the registrars' clinical encounters in training study. Research Support, Non-U.S. Gov't. *BMC Med Educ.* 2014;14:260. doi:10.1186/s12909-014-0260-7
5. Morgan S, Henderson K, Tapley A, et al. Problems Managed by Australian General Practice Registrars: Results from the ReCEnT (Registrar Clinical Encounters in Training) Study. *Education for Primary Care.* 2014;25(3):140–148. doi:10.1080/14739879.2014.11494264
6. de Jong J, Visser MRM, Wieringa-de Waard M. Who determines the patient mix of GP trainees? The role of the receptionist. Research Support, Non-U.S. Gov't. *Fam Pract.* Jun 2011;28(3):287–93. doi:10.1093/fampra/cm102
7. Hiscock H, Freed G, Morgan S, et al. Clinical encounters of Australian general practice registrars with paediatric patients. *Education for Primary Care.* 2017;28(2):75–80. doi:10.1080/14739879.2016.1266697
8. Freed GL, Morgan S, Tapley A, Spike N, Magin PJ. Referral rates of general practice registrars for behavioural or mental health conditions in children. *Australian Family Physician.* Mar 2016;45(3):139–42.
9. Goldfeld S, Tapley A, O'Connor E, et al. Prevalence and associated skills of Australian general practice registrars seeing children with functional bowel and bladder problems. *Journal of Paediatrics & Child Health.* 2023;59(8):979–986. doi:10.1111/jpc.16444
10. Williams S, Temple-Smith M, Chondros P, et al. Are we preparing Victorian general practice registrars to be confident in all aspects of primary care paediatrics? *Aust J Gen Pract.* 2020;49(11):759–766. doi:10.31128/AJGP-08-19-5028
11. Mahoney C, Lamb K, Magin P, et al. Caring for Kids: Are we adequately preparing Australian general practice registrars for primary care paediatrics? *Australian Journal of General Practice* 2024;
12. Whiting G, Magin P, Morgan S, et al. General practice trainees' clinical experience of dermatology indicates a need for improved education: a cross-sectional analysis from the Registrar Clinical Encounters in Training Study. *Australasian Journal of Dermatology.* 2017;58:e199–e206. doi:10.1111/ajd.12493
13. Tng E, Tapley A, Davey A, et al. General practice registrars' clinical exposure to dermatological procedures during general practice training: a cross-sectional analysis. *Education for Primary Care.* 2018;29(6):357–366. doi:10.1080/14739879.2018.1520612
14. Moad D, Tapley A, Fielding A, et al. Socioeconomic status of practice location and Australian GP registrars' training: a cross-sectional analysis. *BMC Med Educ.* 2022;22(1):285. doi:10.1186/s12909-022-03359-x
15. Tapley A, Davey A, van Driel M, et al. General practice training in regional and rural Australia: a cross-sectional analysis of the registrar clinical encounters in training study. *Australian Journal of Rural Health.* 2020;28(1):32–41. doi:10.1111/ajr.12591
16. Dallas A, Magin P, Morgan S, et al. Antibiotic prescribing for respiratory infections: a cross-sectional analysis of the ReCEnT study exploring the habits of early-career doctors in primary care. *Fam Pract.* Feb 2015;32(1):49–55. doi:10.1093/fampra/cmu069
17. Dallas A, van Driel M, Morgan S, et al. Antibiotic prescribing for acute otitis media and acute sinusitis: a cross-sectional analysis of the ReCEnT study exploring the habits of early-career doctors in family practice. *Fam Pract.* 2017;34(2):180–187. doi:10.1093/fampra/cmw144.
18. Dallas A, van Driel M, Morgan S, et al. Antibiotic prescribing for sore throat: a cross-sectional analysis of the ReCEnT study exploring the habits of early-career doctors in family practice. *Fam Pract.* 2016;33 (3):302–308. doi:10.1093/fampra/cmw014
19. Holliday S, Morgan S, Henderson K, et al. The Pattern of Opioid Management by Australian general practice trainees. *Pain Medicine.* 2015;16(9):1720–1731. doi:10.1111/pme.12820
20. Magin P, Tapley A, Morgan S, et al. Changes in pathology test ordering by early career general practitioners: a longitudinal study. *Medical Journal of Australia.* 2017;207:70–74. doi:10.5694/mja16.01421
21. Morgan S, Henderson KM, Tapley A, et al. Pathology test-ordering behaviour of Australian general practice trainees: a cross-sectional analysis. Research Support, Non-U.S. Gov't. *International Journal for Quality in Health Care.* Dec 2015;27(6):528–535. doi:10.1093/intqhc/mzv086
22. Morgan S, Saltis T, Coleman J, Tapley A, Magin P. Test result audit and feedback (TRAFk) as a supervision method for rational test ordering in general practice training. *Australian Family Physician.* Jul 2016;45(7):518–522.
23. Stewart R, Cooling N, Emblen G, et al. Early predictors of summative assessment performance in general practice post-graduate training: A retrospective cohort study. *Medical Teacher.* 2018;40(11):1166–1174. doi:10.1080/0142159X.2018.1470609
24. Magin P, Davey A, Ralston A, et al. Prediction of performance in summative certification examination in general practice by a measure of clinical practice: a retrospective cohort study. *Postgraduate Medical Journal.* 2024;doi:10.1093/postmj/qgad147