

HALLMARKS OF EDUCATION & LEARNING PROGRESS and EXAMINATION RESULTS (HELPER) PROJECT: 2016 - 2017 EXECUTIVE SUMMARY

RESEARCH TEAM

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AIMS

The aim of this study was to establish whether there were associations between four pre-and in-training assessment predictors and final summative exam performance in General Practice Fellowship examinations.

METHODS

This project was a retrospective cohort study of routinely collected data. Participants were GP registrars enrolled in active training with Tropical Medical Training and General Practice Training Queensland between 2010 and 2014, excluding transfers.

Univariate and multivariable analyses were conducted with:

- *Independent variables* – Age; gender; training pathway (rural vs general); country of undergraduate training; number of education hours, part-time and leave status in the first six months of training, and any remediation intervention undertaken.
- *Predictor variables* - Selection decile, Pre-commencement Assessment (PCA) pass/fail, External Clinical Teaching (ECT) Visits, Supervisor reports.
- *Outcome factors* – summative assessment performance
 - Failing any RACGP examination component (AKT, KFP or OSCE): dichotomous outcome
 - Performance on individual examination components: continuous outcomes – scores on:
 - AKT
 - KFP
 - OSCE

Analyses employed logistic and linear regression. A multivariable model was conducted for each outcome and each predictor, each also including co-variables with a p-value < 0.20 on univariate analysis, resulting in 16 models. Ethics approval was granted through the University of Newcastle HREC.

N.B. The pre-commencement assessment was a multiple-choice assessment of 20-25 questions offered to GP Registrars post-selection and prior to commencement of GP training. The questions addressed the key safety competencies required of GPs commencing General Practice as identified by RACGP Standards. ECT Visits are episodes of Direct Observation of clinical practice usually comprising 3-4 hours of observation each three months by an experienced medical educator or GP Supervisor.

FINDINGS AND RECOMMENDATIONS

The total number of registrars for who data was reviewed for the RACGP and ACCRM was 698. ACCRM data was incomplete for both in-training and summative assessments meaning that formal analysis was not possible. For the RACGP data, 485 participants had attempted at least one of the summative RACGP assessments. Of 449 trainees who failed at least one of the three exam components or who passed all three exams at the first attempt, the rate at which all three examinations were passed on first attempt was 75.5% (n=339) whilst the rate for failure of at least one exam was 24.5% (n=110).

On *univariate analysis*, doctors who were female and doctors who were younger, performed better in summative assessment. Poorer exam performance (in any of the three exam components) was significantly more likely in GP Registrars who had failed the pre-commencement assessment or had a lower selection decile. Pre-commencement assessment pass/fail and selection decile were predictive of KFP and OSCE performance but not of AKT performance.

On *multivariable analysis*, pre-commencement activity performance was significantly associated with KFP and OSCE performance. Selection deciles were significantly associated with OSCE performance. There was some evidence for pre-commencement activity pass performance being associated with passing all three exams and with not failing any exams.

Performance in the summative assessments was not significantly correlated with leave taken, part-time status, number of education hours, ECT visit performance or supervisor reports, even though the latter two in-training activities have been shown previously (c.f. the Hallmarks of Education and Learning Progress project) to be indicative of the need for remediation.

LEARNINGS

- Failure of summative assessment may be independent of suboptimal training progression (as indicated by ECT performance and Supervisor reports) and remediation.
- In-training assessments may predominantly be measuring the 'art' of GP vs the 'science' which may be preferentially evaluated in the summative assessments.
- Behavioral assessment predicts behavioral outcomes, knowledge assessments predict performance on summative assessments.
- Well-designed selection and very early assessment can aid prediction of final assessment outcomes in GP training.

LIMITATIONS

The systems and data collected by RTOs across Australia is not generic. Though some of the pre-training and in-training assessment measures included in our study are widely, or universally, used in Australian RTOs, others are specific to the RTOs that participated. There were some inconsistencies with internal data collection and recording, and external data availability (for both colleges of General Practice). These limitations should be addressed prior to future research in this area across Australian RTOs so that outcomes identified attain greater external validity.

FURTHER INFORMATION

For a detailed information regarding the project, please contact:

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