General practice trainee strategies for seeking in-consultation assistance from supervisors, and their perceptions of patient-related barriers to help-seeking: a survey study

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Abstract
Background General practice (GP) trainees may seek supervisor assistance when hesitant to complete patient consultations independently. Trainees describe patient-related barriers to this in-consultation help-seeking, despite its key role in supervisory oversight. Little is known, however, about trainee strategies for seeking assistance, or the frequency and associations of trainee concerns about these barriers.

Methods Australian GP trainees rated their frequency of use of five specific strategies for obtaining in-consultation assistance, perceived change in patient impressions of their competence after this assistance, and relative trainee comfort presenting patients outside, compared to within, patients’ hearing. Statistical analyses included descriptive statistics and multivariable logistic regression.

Results Responses were received from 778 Australian GP trainees (response rate 89%). Help-seeking strategies did not differ between trainees at different training stages, except for greater use of electronic messaging in later stages. In-consultation assistance was most commonly provided by phone between trainee and supervisor consulting rooms, or outside the trainee’s patient’s hearing. Supervisor assistance in the trainee’s room face-to-face with the patient was reported as either never or rarely obtained by 12% of respondents. More trainees (25%) perceived that patient impressions of their competence increased after help-seeking than perceived that these impressions decreased (19%). Most trainees (55%) preferred to present patients outside their hearing. Trainee age was the only variable associated with both patient-related barriers.

Conclusion Supervisors appear to have considerable influence over trainee help-seeking barriers and strategies, including whether or not face-to-face in-consultation supervision is sought. In-consultation supervision may actually increase trainee perceptions of patient impressions of their competence. Many supervisors and trainees may benefit from additional educational and workplace interventions to facilitate comfortable and effective trainee help-seeking in front of patients. More work is required to understand the clinical and educational implications of different help-seeking strategies when trainees require ‘just in time’ supervisor assistance.

Background
General practice (GP) specialist trainees (in Australia termed ‘registrars’) are expected to seek help from their GP supervisors when they lack the confidence, knowledge and skills to manage patient consultations independently (1). Australian trainees complete at least three six-month terms across two different training practices, following mandatory hospital placements. They typically undertake patient consultations within the first week of their general practice terms (2, 3), with supervision available on trainee request. Australian general practices are small private businesses, owned either by general practitioner partners or other parties. Training practices are accredited by regional training organisations (1), and trainees are employed by the practice (4). Patients are not registered with particular practices or general practitioners. They pay a fee for consultations (which the Australian government may subsidise in full).

Help-seeking from supervisors before, during and/or after patient consultations (5) is widely believed to play a key role in patient, trainee and training practice safety (6, 7), and the professional development of the trainee (8, 9). The particular focus of this study is help-seeking during consultations ("in-consultation help-seeking"), which affords unique opportunities. In-consultation assistance allows trainees to: maintain workflow by preventing consultation breakdowns (10); make differential diagnoses and develop management plans without resort to temporising strategies (5); and learn from salient, ‘just-in-time’ advice (11).

Trainees in their first six months of Australian GP training ("Term 1") seek in-consultation help from supervisors in 11% of their consultations, and more advanced trainees seek help less frequently (9). However very little is known about the specific strategies used to obtain help and whether these change over the course of training. In-consultation help may be obtained from GP supervisors face-to-face or by phone, either within or outside the patient’s hearing, or using internal messaging systems (12, 13). Different strategies for help-seeking and help provision may have different implications for trainee learning (12) and patient safety (14). Obtaining help with the trainee, supervisor and patient all face-to-face, for example, affords learning opportunities from supervisor observation of trainee interactions with their patient and guidance of trainee performance (15), visual inspection of the patient (e.g. diagnosis of skin conditions) and supervisor modelling of consultation and clinical skills.
(including skills in communicating and managing uncertainty) (6). Opportunities are also afforded for clarification of history and negotiation of management with the patient, and confirmation of trainee findings. On the other hand, the presence of the patient may reduce the supervisor’s emphasis on teaching (12) and influence trainees to withhold sensitive information from their case presentations, differential diagnoses and management plans (16).

GP trainees have described a number of barriers to in-consultation help-seeking. These include uncertainty about supervisor expectations, reluctance to interrupt supervisor consultations, issues with supervisor availability and proximity, concerns about undermining supervisor impressions of their competence, issues with the credibility of supervisor advice, and disruption and delay to trainee consultations from waiting for supervisors to respond (13).

GP trainees have also described patient-related barriers to in-consultation assistance. These include difficulty maintaining patient impressions of their competence, and presenting their summary of the patient’s case, while seeking help in front of patients (13). Conducting patient-centred consultations, and maintaining patient confidence in their clinical competence are important considerations for GP trainees (13, 17). Trainees in hospital contexts use various strategies to present patients to senior doctors, using medically sanctioned talk to indicate areas of uncertainty (18, 19) which preserves peer and supervisor impression of trainee competence. These strategies may include casting doubt on the reliability of patient histories (18), which may be less acceptable in front of general practice patients, adding to the challenges of in-consultation help-seeking for GP trainees. In order to circumvent the risk of decreased patient or supervisor impressions of their competence, and/or reducing the patient-centredness of their consultations, trainees may leave the patient to seek in-consultation help, or defer their help-seeking until the patient has left (13).

The aims of this study were 1) to investigate the specific strategies used by GP trainees for obtaining in-consultation help from their supervisors, and 2) to investigate the frequency and associations of trainees’ concerns about two patient-related barriers to in-consultation assistance with supervisor, trainee and patient all face-to-face (trainee perceptions of decreased patient impressions of their competence after seeking help, and trainee discomfort presenting the patient to the supervisor within
the patient’s hearing).

Methods
Data Collection
This was a cross-sectional study conducted in 2018 within the Registrar Clinical Encounters in Clinical Training (ReCEnT) project, an ongoing multi-site cohort study described in detail elsewhere (20).

Participants were general practice trainees from three Australian states, from training organizations delivering general practice vocational training to 44% of all Australian general practice trainees (21). These trainees complete ReCEnT data collection each 6-month training term as a part of their educational program and may also provide consent for the data to be used for research purposes. The hard-copy ReCEnT survey for this study was either completed by trainees at educational workshops or completed after workshops and returned by post.

This paper reports findings from survey items specifically concerning in-consultation help-seeking included in one round of ReCEnT data collection. The items were piloted with two trainees who did not participate in ReCEnT. Question 1 rated the frequency of use of five specific strategies for obtaining in-consultation help from supervisors, using a 5-point Likert scale. The five strategies were: 1) trainee, supervisor and patient face-to-face in the trainee’s consulting room, after supervisor interrupts their own consultation; 2) trainee, supervisor and patient face-to-face in the trainee’s consulting room, after supervisor completes their own consultation; 3) by phone between trainee and supervisor consulting rooms; 4) by phone or face-to-face outside the trainee’s patient’s hearing; and 5) using an internal electronic messaging system between trainee and supervisor rooms. These survey items are included as Appendix A.

Question 2 rated trainee perceptions of any change in patient impressions of trainee competence after they seek in-consultation help, using a 5-point Likert scale.

Question 3 rated relative trainee comfort presenting to their supervisor outside, compared to within, the patient’s hearing, using a 5-point Likert scale.

The full survey also elicited trainee and practice demographic details.

Analyses
Responses rating the frequency of using help-seeking strategies were dichotomised as Never/Rarely
and Sometimes/Often/Always. Responses indicating perceptions of change in patient impressions of trainee competence after trainees sought in-consultation help were dichotomised as: ‘Decreases a lot’/‘Decreases somewhat’ and ‘Does not change’/‘Increases somewhat’/‘Increases a lot’. Responses rating relative trainee comfort presenting outside, compared to within, the patient’s hearing were dichotomised as: ‘Much less comfortable’/‘Somewhat less comfortable’/‘Neither more nor less comfortable’ and ‘Somewhat more comfortable’/‘Much more comfortable’.

Analyses were programmed using STATA 13.1 and SAS V9.4. Descriptive statistics included frequencies and proportions for categorical variables and mean with SD for continuous variables. The frequencies of categorical variables were compared between outcome categories using a Chi-square test. For continuous variables, means were compared using a t-test.

The dichotomised responses to questions 2 and 3 were used as dependent variables in two logistic regression analyses, using trainee and practice demographic information as independent variables (see Table 1).

| Table 1 | Trainee and practice demographic information included as independent variables in multivariable regression analyses |
|---------|--------------------------------------------------------------------------------------------------------|
| Factor group | Variable | Class |
| Trainee factors | Trainee gender | Male/Female |
| | Trainee FT or PT | Part-time/Full-time |
| | Term | Term 1/Term 2/Term 3 |
| | Worked at practice previously | No/Yes |
| | Qualified as doctor in Australia | No/Yes |
| | Has previous health qualification | No/Yes |
| | Has post-grad medical qualification | No/Yes |
| | Has other regular medical work | No/Yes |
| | Trainee age | mean (SD) |
| | Years worked as doctor prior to GP training | mean (SD) |
| Practice factors | Practice size* | Small/Large |
| | Practice routinely bulk bills (charges patient no fee for service) | No/Yes |
| | Rurality (ASGC-RA)** | Major city/Inner regional/Outer regional-remote |
| | Regional Training Provider (RTP) | RTP 1/2/3/4/5/6/7 |

* Small ≤ 5 FTE GPs; large ≥ 6 FTE GPs
**Increased rurality indicated by higher ASGC-RA, and more disadvantaged locations indicated by lower SEIFA

Univariate and multivariable logistic regression analyses were undertaken to estimate the associations between outcomes for Question 2 (perceived change in patient impressions of trainee competence) and Question 3 (relative trainee comfort presenting outside the patient’s hearing) and
the independent variables.

All covariates with a p-value < 0.20 in the univariate analyses were considered in the multiple regression model. Once the model with all significant covariates was fitted, model reduction assessed covariates with p > 0.20 in the multivariable model. These were tested for removal and if removal did not substantially change the model the covariate was removed from the final model. A substantive change to the model was defined as any covariate in the model having a change in the effect size (odds ratio) of greater than 10%. P values < 0.05 were considered statistically significant.

In post-hoc analyses, we examined differences in the use of help-seeking strategies, and trainee responses to Questions 2 and 3, across training (Terms 1, 2 and 3) using a chi square test for trend. A sub-group of participants who responded Never/Rarely to both trainee, supervisor and patient face-to-face strategies (strategies 1 and 2) was also identified. Associations between this sub-group and responses to Questions 2 and 3 were explored using a Chi square test.

The study has ethics approval from the University of Newcastle Human Research Ethics Committee Reference H-2009-0323.

Results

Responses were received from 778 of 876 eligible trainees (response rate 89%). See Table 2 for a summary of participant demographics.

| Table 2                                                                 | Summary of participant demographic information (n = 778) |
|------------------------------------------------------------------------|---------------------------------------------------------|
| Trainee Gender                                                         | female n = 452 (58.1%) male n = 326 (41.9%)             |
| Trainee Australian or overseas primary medical qualification           | Australian n = 643 (82.7%)                              |
| Trainee Term of Training (1-3)                                         | Term 1 n = 482 (62.0%) Term 2 n = 77 (9.9%) Term 3 n = 219 (28.2%) |
| Trainee working part-time or full-time in general practice             | Part-time n = 176 (23.1%) Full-time n = 586 (76.9%)     |
| Trainee post-graduate medical qualifications                          | Yes n = 303 (39.5%)                                    |
| Years worked as medical practitioner prior to GP training             | Mean (SD) = 3.4 (3.1) Years                            |
| First term in current training practice                                | Yes n = 85 (11.1%)                                     |
| Rurality of current practice (ASGC-RA) *                              | Remote/outer regional n = 81 (10.4%) Inner regional n = 215 (27.7%) Major city n = 481 (61.9%) |
| Relative socioeconomic advantage of current practice (SEIFA index) *   | Mean (SD) = 5.5 (2.9)                                  |
| Size of current training practice **                                  | Small n = 332 (43.8%) Large n = 426 (56.2%)           |

*Increased rurality indicated by higher ASGC-RA, and more disadvantaged locations indicated by lower SEIFA
** small ≤ 5 FTE GPs; large ≥ 6 FTE GPs
Use Of Specific Strategies For In-consultation Help-seeking

The frequency of use of each strategy for obtaining in-consultation assistance from a supervisor is reported in Table 3. There was no significant trend across training in the frequency of these strategies, except for electronic messaging which became more common as training progressed (although it remained the least often used strategy at all stages). The percentage of participants who reported never or rarely obtaining help face-to-face with trainee, supervisor and patient (whether or not the supervisor interrupted their own consultation) was 12.4% (15.7% for Term 3, 11.8% for Term 2, and 11.0% for Term 1, p value = 0.09). When this face-to-face strategy was used, supervisors were reported to more often complete their own consultations before providing assistance than to interrupt them (see Table 3).

Table 3
Reported use of specific strategies for in-consultation help-seeking

| Strategy for obtaining in-consultation advice from supervisor(s) | Term 1 | Term 2 | Term 3 | Total | Chi-square for trend p-value |
|---------------------------------------------------------------|--------|--------|--------|-------|-----------------------------|
| Trainee, supervisor and patient face-to-face, after supervisor interrupts own consultation | 298 (62.1%) | 47 (62.7%) | 136 (63.0%) | 481 (62.4%) | 0.82 |
| Trainee, supervisor and patient face-to-face after supervisor completes their own consultation | 368 (76.7%) | 61 (80.3%) | 156 (71.9%) | 585 (75.7%) | 0.22 |
| By phone within the patient’s hearing | 388 (80.8%) | 64 (87.7%) | 176 (81.1%) | 628 (81.6%) | 0.79 |
| By phone or face-to-face outside the patient’s hearing | 363 (75.8%) | 63 (84.0%) | 163 (74.4%) | 589 (76.2%) | 0.86 |
| Internal electronic messaging system* | 101 (21.0%) | 16 (21.6%) | 70 (32.0%) | 187 (24.2%) | 0.002 |
| Total | 480 | 74 | 219 | 773 | |

^total 771; #total 770

*Electronic intra-practice messaging system, usually embedded in practice software

Barriers To Seeking Help

Nineteen percent (n = 149, 95% CI: 16%-22%) of trainees perceived that in-consultation help-seeking
decreased (‘somewhat’ or ‘a lot’) patient impressions of their competence, 57% (n = 441, 95% CI: 53.2–60.1) perceived that patient impressions were unchanged, and 25% (n = 188, CI: 21.3–27.3) perceived that in-consultation help-seeking increased patient impressions of their competence.

On multivariable analysis, trainees who felt that in-consultation help-seeking decreased patient impressions of their competence were more likely to be younger (mean age 31 years v. mean 33 years, OR 0.91 (95% CI: 0.87, 0.96) for each year of age), have post-graduate medical qualifications (OR 1.58 (95% CI: 1.07, 2.34)), or to have worked at their current training practice for less than six months full-time equivalent (OR 3.85, 95% CI: 1.33,11.11) (p < 0.001, 0.021 and 0.013 respectively) (see Table 4). On univariate analysis, trainees who felt that in-consultation help-seeking decreased patient impressions of their competence were more likely to work in a major city than inner regional or outer regional and remote areas, (OR 0.40 (95% CI: 0.25, 0.63) and 0.39 (95% CI: 0.19, 0.81), p < 0.001 and 0.012 respectively) and in relatively socio-economically advantaged areas (OR 1.09 (95% CI: 1.02, 1.17) for each decile of disadvantage, p 0.01), although none of these associations were statistically significant after controlling for other variables in the multivariable analysis. There were no differences between trainees at different stages of training.
Table 4: Factors associated with trainees indicating that patient impressions of their competence decrease after they obtain in-consultation help

| Factor group       | Variable                        | Class       | Univariate | Adjusted     |
|--------------------|---------------------------------|-------------|------------|--------------|
| Registrar factors  | Worked at practice previously   | Yes         | 0.34 (0.15, 0.76) | 0.26 (0.09, 0.75) |
|                    |                                 |             | 0.008      | 0.013        |
|                    | Has previous health qualification| Yes         | 1.57 (0.96, 2.56) | 1.63 (0.91, 2.90) |
|                    |                                 |             | 0.07       | 0.10         |
|                    | Has post-grad medical qualification| Yes      | 1.44 (1.00, 2.06) | 1.58 (1.07, 2.34) |
|                    |                                 |             | 0.05       | 0.021        |
|                    | Registrar age                   |             | 0.92 (0.89, 0.96) | 0.91 (0.87, 0.96) |
|                    |                                 |             | < 0.001    | < 0.001      |
|                    | Years prior to GP training      |             | 0.92 (0.86, 0.99) | 1.05 (0.96, 1.15) |
|                    |                                 |             | 0.02       | 0.31         |
|                    | Training region Comparator:1    | 3           | 0.16 (0.04, 0.70) | 0.22 (0.05, 1.04) |
|                    |                                 |             | 0.015      | 0.056        |
|                    |                                 | 4           | 1.17 (0.66, 2.05) | 0.69 (0.37, 1.31) |
|                    |                                 |             | 0.33       | 0.50         |
|                    |                                 | 5           | 1.30 (0.77, 2.20) | 0.80 (0.42, 1.53) |
|                    | Rurality (ASGC-RA) **           | Inner region| 0.40 (0.25, 0.63) | 0.64 (0.34, 1.21) |
|                    |                                 |             | < 0.001    | 0.17         |
|                    | Comparator: Major City          | Outer region| 0.39 (0.19, 0.81) | 0.87 (0.37, 2.07) |
|                    |                                 |             | 0.012      | 0.75         |
|                    | SEIFA decile (socioeconomic index for area of disadvantage) ** | 1          | 1.09 (1.02, 1.17) | 1.03 (0.96, 1.11) |
|                    |                                 |             | 0.010      | 0.42         |

* Outcomes were dichotomised as 'Decreases a lot'/'Decreases somewhat' and 'Does not change'/'Increases somewhat'/'Increases a lot'.

** Increased rurality indicated by higher ASGC-RA, and more disadvantaged locations indicated by lower SEIFA.

Fifty-five percent (n = 425, 95% CI: 51.2–58.2) of trainees were more comfortable (‘somewhat’ or ‘a lot’) presenting outside the patient’s hearing, 40% (n = 312, 95% CI: 36.8–43.7) reported no difference in comfort level, and 5% (n = 40, 95% CI: 3.8–6.9) of respondents were less comfortable.

Trainees who were more comfortable presenting outside the patient’s hearing were more likely to be female (OR 1.5 (95% CI: 1.10, 2.03); p = 0.001) and younger (mean age 32 versus 33 years, OR 0.97 (95% CI: 0.95, 1.00) for each year of age, p < 0.001) on multivariable analysis (see Table 5). There were no significant differences between trainees at different stages of training.
Table 5
Factors associated with trainees being more comfortable presenting outside (compared to within) patients’ hearing *

| Factor group | Variable | Class | Univariate | Adjusted |
|--------------|----------|-------|------------|----------|
| Registrar factors | Registrar gender | Female | OR (95% CI) p | OR (95% CI) p |
| | | | 1.46 (1.10, 1.95) 0.001 | 1.50 (1.10, 2.03) 0.001 |
| | | Registrar age | 0.97 (0.95, 1.00) 0.02 | 0.97 (0.95, 1.00) 0.02 |
| Practice factors | Practice size | Small | 1.22 (0.92, 1.63) 0.17 | 1.25 (0.92, 1.69) 0.15 |
| | SEIFA index | | 0.96 (0.91, 1.01) 0.09 | 0.95 (0.90, 1.00) 0.05 |

*Outcomes were dichotomised as ‘Much less comfortable’/‘Somewhat less comfortable’/‘Neither more nor less comfortable’ and ‘Somewhat more comfortable’/‘Much more comfortable’.

There was no association between never or rarely obtaining help with trainee, supervisor and patient face-to-face (whether or not the supervisor interrupted their own consultation to respond) and either perceived patient impressions of competence (chi square p = 0.49) or comfort presenting within the patients’ hearing (chi square p = 0.33).

Discussion

We have presented more granular information than previously available about the help-seeking strategies used by Australian GP trainees, and explored trainee concerns about two patient-related barriers to face-to-face in-consultation supervision. These strategies and concerns are likely to be relevant in many clinical training contexts, despite international differences in oversight practices in general practice training (2) and across different medical contexts (22, 23). The COVID-19 climate has recently directed attention to alternatives to face-to-face clinical and supervisory interactions in primary care. However in-consultation or ‘just in time’ trainee help-seeking, and face-to-face supervisor assistance when appropriate, remain important aspects of clinical supervision in many clinical training contexts.

Help-seeking strategies did not differ between trainees at different stages of training, except for relatively more frequent use of electronic messaging in later stages (although this remained least often used). Twelve percent of trainees (including 11% of Term 1 trainees) reported never or rarely obtaining assistance with trainee, supervisor and patient face-to-face, whether or not their supervisor interrupted their own consultation to respond. It was surprising that trainee strategies differed little with stage of training: less advanced trainees would have been expected to seek more face-to-face
assistance, for example. It seems likely that trainee help-seeking strategies reflect supervisor rather than trainee preferences for seeking assistance (although the preferred strategy will also depend on the clinical and educational context). The relative increase in electronic messaging may reflect the increased confidence of more advanced trainees in seeking on-screen in-consultation assistance which may be visible to patients, and less need for an immediate supervisor response. Supervisors were more likely to complete their own consultations, than to interrupt these, before providing in-consultation face-to-face assistance. This is likely to prolong the trainee’s consultation and delay their subsequent consultations, which has been identified by trainees as a barrier to help-seeking (13). Patient-centred supervisor strategies to safely interrupt and resume their own consultations should be identified. The impact of these interruptions on supervision quality and patient care (for both patients involved) is unknown, and should also be explored. Trainees were more likely to perceive that patient impressions of their competence increased after help-seeking than decreased, although perceptions of decreased impressions were still reported by approximately one in five trainees. It would be valuable to identify how trainees and supervisors manage help-seeking interactions to not only preserve, but actually increase, patient impressions of trainee competence (at least as perceived by the trainee), given that help-seeking has often been considered to be a risk to trainee face and self-presentation (24, 25). Trainees who had worked in their current practice for longer than six months were less likely to perceive a decrease in patient impressions of their competence. It is possible that these trainees have more secure relationships with their patients, a better understanding of the local practice norms for help-seeking (the ‘regimes of competence’ set by local communities of practice (26)), and/or more familiarity with their supervisors’ knowledge, skills and attitudes, allowing them to ‘cherry pick’ (13) those supervisors who are better able to maintain favourable patient impressions. Most trainees were more comfortable summarising the patient’s presentation outside the patient’s hearing, and very few trainees were more comfortable presenting within the patient’s hearing. It is important to gain a better understanding of the factors that are involved in this discomfort, which may include situations in which some information is sensitive or prejudicial (such as trainee suspicions of patient drug-seeking,
or concerns about previous management). It is important to understand why neither patient-related barrier to face-to-face in-consultation help-seeking appeared to change through training, as trainees might be expected to become progressively more skilful and comfortable with help-seeking in the patient-centred general practice context. Supervisor responses, which are beyond the influence of trainees, may again have a key impact. Educational interventions to reduce these barriers may include raising supervisor awareness of the trainee perspective, and perhaps the use of code words to convey sensitive material.

Strengths and limitations
Strengths of this study include the large sample size and high response rate. Our study population includes a considerable proportion of Australian GP trainees and generally reflects their demographics, although our sample includes a somewhat lower proportion of rural and Term 2 trainees (21).

A limitation is that self-report data may not capture actual practice accurately, and there may have been social desirability influences on trainee responses. The study was limited to in-consultation help-seeking from GP supervisors. We did not explore any relationship between in-consultation and pre- or post-consultation assistance, or help-seeking from sources other than GP supervisors. We did not measure actual patient impressions of trainee competence, and cannot comment on the accuracy of these trainee perceptions. We have not evaluated the outcomes of the various help-seeking strategies in terms of trainee learning or patient safety, but this would be a valuable area for future research, including direct observation of trainee consultations and in-consultation supervision.

Conclusion
Our findings advance understanding of the important area of trainee help-seeking from clinical supervisors in workplace training. Supervisors appear to have a considerable influence over trainee strategies and trainee perceptions of patient-related barriers. Many supervisors and trainees at all levels of training, may benefit from additional training in comfortable and effective face-to-face in-consultation help-seeking interactions in clinical training contexts, which enhance rather than decrease patient impressions of trainee competence.
Communication skills for presenting the appropriate information about a patient within their hearing, whether by phone or face-to-face, should also be identified and taught. In order to deliver effective and appropriate ‘just in time’ assistance and oversight in clinical training, we should also continue to develop our understanding of the educational and clinical implications of different help-seeking strategies.

**Abbreviations**

GP

general practice

ReCEnT

Registrars Clinical Encounters in Training project

**Declarations**

**Ethics approval and consent to participate**

The ReCEnT study has ethics approval from the University of Newcastle Human Research Ethics Committee Reference H-2009-0323. All participants consented to participate in this study.

**Consent for publication**

Not applicable

**Availability of data and materials**

The datasets generated and/or analysed during the current study are not publicly available on Human Research Ethics Committee advice as some participants did not explicitly agree to their data being available.

**Competing interests**

None. The authors declare that they have no conflict of interest.

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**Authors’ contributions**

NS (corresponding author) led the conception of the work and the interpretation of data, and drafted the work.

She agrees to be responsible for all aspects of the work.

AT led the analysis of the data, and revised the work critically and approved the final version to be published. She
agrees to be responsible for all aspects of the work.

MVD and PM contributed substantially to the design of the work, and the interpretation of the data, and revised the work critically and approved the final version to be published. They agree to be responsible for all aspects of the work.

LH, JB and AD contributed substantially to the analysis of data, and revised the work critically and approved the final version to be published. They agree to be responsible for all aspects of the work.

AF, KF and NS (middle author) contributed substantially to the design of the work, and revised the work critically and approved the final version to be published. They agree to be responsible for all aspects of the work.

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