

# Postgraduate training in Ireland: expectations and experience

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## Abstract

**Background** Postgraduate medical training in Ireland has been compared unfavourably with training abroad and blamed for an “exodus” of graduates of Irish medical schools. Exploration of features of a good training environment and development of tools to measure it have been the focus of much published research. There have been no Irish studies examining training environment using such validated tools.

**Aim** The aim of this study was to use a validated tool, to examine the expectations and experience of training, amongst those training under the Royal College of Physicians of Ireland (RCPI).

**Method** The Dutch Residency Education Climate Test (D-RECT) is a 50 item tool to measure postgraduate learning environments. D-RECT was sent to all new entrants to RCPI training programmes in July 2012 ( $n = 527$ ) and completed in regard to expectations of training (response rate 80.6 %). In March 2013, D-RECT was sent to all RCPI trainees ( $n = 1,246$ ) to complete in relation to the post held on 1 March (response rate 32.6 %). Data were analysed in SPSS version 18.

**Results** Experience fell short of expectations for basic specialist training, however, scores for experience rose

with greater seniority to match expectations. Positive aspects were teamwork, consultant willingness to discuss patients and respectful treatment of trainees. Areas of weakness were provision of feedback and time to learn new skills.

**Conclusion** Measurement of learning environment at a national level using a quantitative tool provides useful information for quality assurance and improvement of training.

**Keywords** Learning environment · D-RECT · Medical education · Postgraduate medical education and training · Graduate retention

## Introduction

In 2006, Irish government and key stakeholders agreed a vision for Postgraduate Medical Education and Training in Ireland;

“that the postgraduate education and training environment will be attractive to all medical graduates and deliver high-quality schemes that will result in a sufficient number of fully trained, competent doctors to deliver a patient centred health service in this country” [1]

The Medical Council of Ireland, the Health Service Executive and 13 postgraduate training bodies have legislative responsibilities for the delivery of this vision. The Health Service Executive Medical Education and Training Unit (HSE-MET), oversees the organisation, structure, management, coordination and funding of medical education and training in Ireland. Through service level agreements, the postgraduate training bodies are responsible to

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HSE-MET, for the provision of postgraduate training and to the Medical Council of Ireland, as their accrediting body, which assures the quality of training provided.

While relationships between these bodies and their relative functions have been formalised in recent years, the quality of postgraduate medical education and training (PGMET) remains a focus of debate in Ireland, both in the medical media and in the public domain. Within this discussion, training in Ireland is compared unfavourably with training abroad and blamed for the “exodus” of graduates of Irish medical schools from the Irish healthcare system [2, 3]. Evidence to support this position is derived from trainee surveys which focus on satisfaction with current training. In 2004, 63 % of interns agreed with the statement that training abroad was better than that available in Ireland [4]. This was supported in the Career Tracking Survey 2005, looking at the 1994 and 1999 graduating cohorts who identified better training facilities, further training and better career prospects as advantages of training outside Ireland [5]. More recently, in 2012, a survey of non-consultant hospital doctors (NCHDs) [2] (response rate not provided) reported 50 % ( $n = 190$ ) of respondents currently working fulltime in Irish hospitals were dissatisfied with their current post, in terms of the general nature of the job and the quality of training they were receiving [2]. A study examining satisfaction amongst surgical trainees (response rate 30 %) found that only 51 % of junior trainees would undertake training in surgery in Ireland again [6]. In contrast, the National Survey of GP trainees 2012 [7] (response rate 55 %) showed much higher levels (>80 %) of satisfaction, with both hospital and GP registrar posts. In the middle ground, the intern survey in 2011 (response rate 44 %) showed 65 % rated their experience of the intern year, including training aspects, as excellent or good [8]. Both the Buttimer Report [1] and the HSE strategy for medical education, training and research 2007 [9] emphasise the need for quality assurance of training posts. However, the available data in relation to satisfaction of trainees across PGMET in Ireland are patchy and based on studies with low or moderate response rates. Training bodies conduct site visits and collect trainee feedback through various mechanisms and the Medical Council has accredited all, but one of the postgraduate training bodies [10]. However, there is a lack of transparency in relation to training quality data when compared with medical training systems in other countries. The results of the UK General Medical Council’s National Training Survey of all NHS trainees (98 % response rate), are published online and provide detailed quality data on individual training sites and posts [11].

Postgraduate Medical Education and Training happens predominantly through workplace learning, learning that is informal, opportunistic and frequently unrecognised [12].

In 2008, 67 % of registrars and SHOs felt that the majority of their learning was informal/situational rather than through formal scheduled activities [13]. While trainee satisfaction with training, as explored by the studies quoted above, is an important measure, the evaluation of training environments should go beyond what trainees like and examine the conditions for learning afforded by the clinical settings in which they work. Learning environment can be defined as “The material and social context wherein learners ‘learn’, which influences learners’ behaviour, emotions, and practical competences. Learning should be understood here as ‘acquiring knowledge’ as well as ‘participating in practice [14].’” What constitutes a good learning environment, and how to measure its elements, as part of quality assurance, has been the focus of much published research in the medical education literature [15]. Tools have been developed and validated for this purpose in both undergraduate and postgraduate settings. These tools are quantitative questionnaires which are based on theories of workplace learning [16] or derived from expert consensus using the Delphi technique [17]. Confirmation of construct validity of a quantitative tool means that it has been shown to measure the “constructs” or elements that you want to assess. Use of pre-existing validated tools allows benchmarking between clinical sites and international training systems. The Dundee ready educational environment measure (DREEM) is such a tool for the undergraduate setting [18] which has been widely used internationally, measuring perceptions of learning, teachers and atmosphere, as well as academic and social self-perceptions [19–22]. DREEM has been used in the Irish undergraduate context to demonstrate the strengths of particular types of learning environment for junior students [23, 24]. Such information is valuable in planning undergraduate curricula and student placements. The Manchester Clinical Placement Index is a more recently developed tool which has the advantage of having fewer items than DREEM, more robust construct validity and allowing space for qualitative comments [16]. Tools for the postgraduate setting include the postgraduate hospital education environment measure (PHEEM) [25] which looks at role autonomy, support and supervision. The construct validity of PHEEM is under question, however, and the Dutch Residency Educational Climate Tool (D-RECT) [26], which is used in this study, is a more recently proposed alternative. D-RECT is a 50 item tool which measures supervision, coaching and assessment, feedback, teamwork, peer collaboration, role of consultants, matching of work to level of trainee, formal education, role of trainer and learning from handover. Its items are derived from studies of positive features of learning environments. There are no published data to date that we are aware of in the Irish PGMET setting using such a validated tool to

examine learning environment. This study aims to address this deficit by examining trainee expectations and experience of training environment.

The relationship between training environment and working conditions complicates any attempt to understand the affordances and constraints of postgraduate learning environments. Although often presented as such, training and service are not two distinct entities. Service provision is a fundamental part of training, which represents a trajectory of increasing participation in practice over time [27]. Nonetheless, working conditions for trainees, in Ireland, have deteriorated in recent years as a result of wider changes in health policy and the economic climate. Health cutbacks and the moratorium on recruitment within the Health Service Executive have led to short staffing across the health service. A joint statement to the Department of Health and Children from Royal College of Physicians of Ireland, Royal College of Surgeons of Ireland and the Institute of Obstetricians and Gynaecologists of Ireland, in 2011 suggested that service pressures and failure to implement the European Working Time Directive have impacted negatively on the training environment and led to a breakdown in trust between trainees and the health service [28]. Recent industrial action was further evidence of the problem. The issue of the European Working Time Directive illustrates the complexity of the relationship between working conditions and learning. While working excessive hours is dangerous for patients and a barrier to learning, there has also been concern that shortening trainee working hours will also reduce learning opportunities [29]. Working under poor conditions may impact learning negatively, however, satisfactory conditions do not guarantee a good learning environment.

The Royal College of Physicians of Ireland (RCPI) is the largest of the accredited postgraduate training bodies. The RCPI and its Faculties of Paediatrics, Obstetrics and Gynaecology, Pathology, Public Health and Occupational Health, oversaw 44 % of postgraduate trainees in Ireland in 2011–2012 [30]. The training pathway is as follows; on completion of internship, trainees can apply for Basic Specialist Training, in General Internal Medicine, Paediatrics, Obstetrics and Gynaecology or Pathology. Completion of basic specialist training (BST) takes 2–3 years, following which trainees are eligible to apply for higher specialist training (HST). In the intervening period between BST and HST trainees may take registrar posts, which may or may not be part of a registrar training programme (RTP) and retrospectively recognised for HST. The study described here focuses on the training programmes under the auspices of the RCPI and its faculties and is part of a wider programme of research on PGMET being conducted jointly by RCPI and University College Cork.

The aims of this study were:

1. To examine the expectations of trainees entering BST, RTP and HST under the auspices of the RCPI in July 2012.
2. To examine the trainees experiences of training across programmes under the RCPI in 2013.
3. To compare expectations with the realities of the training experience.

## Methods

### Expectations of training

Trainees entering BST, RTP and HST in July 2012 ( $n = 527$ ) were sent the D-RECT questionnaire, with their training agreement, to evaluate their expectations of the training programmes. D-RECT is a 50 item validated questionnaire for the measurement of learning environment in the postgraduate setting. Trainees indicated their agreement with 50 statements on a Likert scale from 1 to 5, where 1 is strongly disagree and 5 is strongly agree, with 3 indicating neither agree nor disagree. For this study, the wording of D-RECT was altered to reflect expectations rather than experiences of training and for the Irish context. Other minor changes were made to reflect local terminology for grades of trainee, trainers and the handover process.

### Experiences of training

In March 2013, all RCPI trainees, the cohort commencing training in July 2012 and also those who were already part way through the programme at that time ( $n = 1,282$ ), were sent the D-RECT questionnaire by post, requesting that they complete it in relation to experiences of training in the post held on March 1st 2013. The “Experiences” questionnaire featured the same items as the “Expectations” version, with appropriate grammatical alterations. Follow-up reminder questionnaires were sent by email with a link to an online version of the questionnaire. The survey was not anonymous, as the data needed to be linked to the post in question and the training programme. The surveys were returned directly to the researcher and were confidential.

Questionnaire data were entered into EXCEL 2007 and analysed in SPSS Version 19. Descriptive statistics, Mann–Whitney  $U$  testing and Kruskal Wallis testing were performed to compare expectations and experience of training, by mean total D-RECT score and mean score for individual items, between programmes, specialty training groups and geographic areas. Multiple comparisons were allowed for by setting  $p$  at  $<0.0001$ . Data relating to opening the reminder email, accessing and completion of the

**Table 1** Responses to expectations of training D-RECT

	BST	RTP	HST	Programme not recorded	Total
Sent	333	99	95		527
Returned	224	38	76	87	425
Response rate (%)	67.2	38.3	80		80.6

questionnaire, provided by Newsweaver, a communications software provider, were examined. Ethical approval was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals.

## Results

### Response rates

#### *Expectations of training*

New entrants to RCPI programmes at BST, RTP and HST level ( $n = 527$ ) were sent D-RECT questionnaires before the commencement of their first post and asked to return the form with their training agreement. Four hundred and twenty-five (80.6 %) forms were returned in total. Details of responses across programmes are outlined in Table 1.

#### *Experience of Training*

Experience of training questionnaires was sent by post and email to 1,282 trainees, 587 in BST, 129 in RTP and 566 in HST. A number of HST trainees contacted were currently out of programme, in research posts or clinical posts abroad and were ineligible to complete the survey, reducing the HST group to 530 and the total to 1,246. Response rates are shown in Table 2.

### Paired responses

One hundred and twenty-three trainees responded to both expectations and experiences questionnaires, allowing paired analysis of these responses.

**Table 2** Responses to experience of training D-RECT

	BST	RTP	HST	Total
Sent	587	129	566	1,246
Returned	210	32	165	407
Response rate (%)	35.7	24.8	29.0	32.6

### Mode of response

Fifty-seven percent of responses to the D-RECT experience of training questionnaire were returned via post and 43 % via the online system. The initial email, sent 2 weeks after the postal version, to all trainees, was opened by 48 % and the survey within the email opened by only 8 %. A reminder email, led to 33 % of trainees opening the survey. A range of 67–78 % of trainees opened the email on a mobile device rather than a PC on each occasion.

### Non-responder analysis

Response rates for the expectations and experience questionnaires differed significantly. The high response rate to the Expectations questionnaire is likely to be related to the compulsory nature of the paperwork which accompanied it, although completion of the questionnaire itself was not compulsory. In light of the lower response to the Experiences questionnaire, analysis of the representativeness of the responders was undertaken.

- (i) Demographics: Data on gender and qualifying medical school were not available for the whole study population, however, data for first year BST and first year HST trainees showed that responses within these groups were spread proportionately across gender and location of qualifying medical school.
- (ii) Responses by training level: As shown in Tables 1 and 2, RTP was under-represented in responses to both Expectations and Experience questionnaires. RTP has therefore been excluded from the analysis.
- (iii) Responses by specialty area: Medicine, Paediatrics and Obstetrics and Gynaecology as training programmes were proportionately represented in the responses. Other programmes (Pathology, Public Health, and Occupational Health) were excluded due to under-representation and doubt about the relevance of the questionnaire for their training activities.
- (iv) Wave analysis, looks at results from responses to the initial round of questionnaires, in comparison with those returned in response to reminders, on the assumption that those who reply late are more likely to respond in similar ways to those who did not respond. No significant difference in mean total D-RECT score on wave analysis of the responses to the Experience questionnaire.

Having excluded RTP and some specialty groups, we believe these data are likely to be representative of the population in terms of gender, qualifying medical school, training level and specialty. Further analysis relates only to

**Table 3** Mean D-RECT scores for expectations and experience of training by trainee group- all responses

	Expectations mean total D-RECT (SD)	Expectations (N)	Experience mean total D-RECT (SD)	Experience (n)	Gap	p value Mann-Whitney U
BST (year 1)	190 (34)	230	162 (32)	108	28	$p < 0.0001$
BST (year 2)			164 (31)	95		
HST	194 (29)	61	187 (31)	146	7	NS
Total	192 (33)	351 <sup>a</sup>	173 (33)	349	18	$p < 0.0001$

<sup>a</sup> Includes those whose training level was not indicated on the questionnaire

**Table 4** Mean D-RECT scores for expectations and experience of training by trainee group. Paired responses only

	Expectations mean total D-RECT (SD)	Expectations (N)	Experience mean total D-RECT (SD)	Gap	p value Wilcoxon Signed Ranks
BST (year 1)	189 (35)	84	164 (33)	25	$p < 0.0001$
HST	197 (32)	17	193 (32)	4	NS
Total	191 (35)	123	170 (35)	21	$p < 0.0001$

BST and HST, in medicine, obstetrics and gynaecology, and paediatrics.

#### Mean total D-RECT scores—expectations and experience

Scores are discussed below in terms of mean total score and mean score for individual items. The maximum possible D-RECT score is 250. Across the trainee group as a whole, there was a gap between expectations and actual experience of training. This gap narrowed with progression through training, due to an improvement in the training experience, rather than a decline in expectations, which were similar for all trainees. Total mean D-RECT scores at each training level are shown in Table 3. Mean score for BST experience (163) was significantly lower than that at HST level (187) ( $p < 0.0001$ ).

#### Paired analysis of total D-RECT scores

Subanalysis of paired questionnaires using Wilcoxon signed ranks testing confirmed the picture in the overall group (Table 4).

#### Individual item scores—expectations and experience

The table below shows the 50 items of the D-RECT tool, with mean score for each item, in relation to expectations and experience of training. The range of possible scores for individual items is 1–5. A score of 3 indicates ambivalence, 1–2 disagreement and 4–5 agreement. Items for which there was a statistically significant difference ( $p < 0.0001$ ) between expectation and experience are marked with an asterisk (Table 5).

13 questionnaire items had mean item scores of 4 and above, pointing to strengths of the training environment. These were predominantly in the subscales of teamwork, peer collaboration and consultants' role. Trainees generally work well with each other and with other healthcare professionals. A less positive aspect of peer collaboration was seen in relation to being able to find a peer to swap on-call, which was most marked amongst BST trainees in medicine (mean item score 2.9). Consultant willingness and availability to discuss patients emerged as positive aspects, as well as their respectful treatment of trainees. On the whole these items met expectations, and in the case of consultant availability, actually exceeded expectation.

Subscales relating to more active participation of consultants in training showed more mixed results. The coaching and assessment subscale showed all, but one item falling short of expectation, with mean scores ranging from 2.2–3.6. The feedback subscale was the weakest, with trainees reporting they do not receive regular feedback on performance and that structured formats of evaluation and feedback are not generally in place. For trainees in internal medicine, there was a rise in the likelihood of getting feedback as one progresses through training, with HST trainees responding to Q12 with a mean item score of 3.3 as compared with a mean item score 2.4 in for first year BST medical trainees.

Subscales for formal education and trainer role showed most items falling short of expectations. This was most marked in relation to trainers monitoring progress and with evaluations being useful. For BST trainees in medicine, the mean item score for trainers monitoring progress was lowest of all trainee groups (mean item score 2.5). A further area of weakness identified was that of sufficient time to learn new skills. Again in Medicine, scores for this item,

**Table 5** Mean scores for expectations and experience of training by individual D-RECT questionnaire item

	Expectations mean item score (SD)	Experience mean item score (SD)
Subscale: supervision		
1 The guidelines clearly outline when to request input from a supervisor	3.8 (1.0)	3.1 (1.2)*
2 The amount of supervision I receive is appropriate for my level of experience	4.0 (0.9)	3.8 (1.1)
3 It is clear which consultant supervises me	4.3 (0.9)	4.0 (1.2)
Subscale: coaching and assessment		
4 I am asked on a regular basis to provide a rationale for my management decisions and actions	4.0 (0.8)	3.5 (1.2)*
5 My consultants coach me on how to communicate with difficult patients	3.6 (1.1)	3.0 (1.2)*
6 My consultants take the initiative to explain their actions	3.7 (1.0)	3.6 (1.1)
7 My consultants take the initiative to evaluate my performance	3.8 (1.0)	3.1 (1.2)*
8 My consultants take the initiative to evaluate difficult situations I have been involved in	3.7 (1.0)	3.1 (1.1)*
9 My consultants evaluate whether my performance in patient care is commensurate with my level of training	3.9 (0.9)	3.2 (1.1)*
10 My consultants occasionally observe me taking a history	2.8 (1.2)	2.2 (1.1)*
11 My consultants assess not only my medical expertise but also other skills such as teamwork, organisation or professional behaviour	4.0 (0.9)	3.3 (1.2)*
Subscale: feedback		
12 My consultants give regular feedback on my strengths and weaknesses	3.6 (1.1)	2.8 (1.2)*
13 Observation forms (i.e. Mini-CEX) are used to structure feedback	3.4 (1.1)	2.2 (1.1)*
14 Observation forms (i.e. Mini-CEX) are used periodically to monitor my progress	3.3 (1.1)	2.1 (1.1)*
Subscale: teamwork		
15 Consultants, nursing staff, other allied health professionals and residents work together as a team	4.3 (0.8)	4.1 (0.9)
16 Nursing staff and other allied health professionals make a positive contribution to my training	4.0 (0.9)	3.7 (1.1)
17 Nursing staff and other allied health professionals are willing to reflect with me on the delivery of patient care	3.9 (1.0)	3.7 (1.1)
18 Teamwork is an integral part of my training	4.5 (0.7)	4.3 (0.9)
Subscale: peer collaboration		
19 Residents work well together	4.3 (0.7)	4.2 (0.9)
20 Residents, as a group, make sure the day's work gets done	4.2 (0.8)	4.1 (0.9)
21 Within our group of residents it is easy to find someone to cover or exchange a call	3.8 (0.9)	3.2(1.2)*
Subscale: professional relations between consultants		
22 Continuity of care is not affected by differences of opinion between consultants	3.8 (1.0)	3.3 (1.2)*
23 Differences of opinion between consultants about patient management are discussed in such a manner that is instructive to others present	3.9 (0.9)	3.4 (1.1)*
24 Differences of opinion are not such that they have a negative impact on the work climate	3.7 (1.0)	3.6 (1.0)
Subscale: work is adapted to residents' competence		
25 The work am doing is commensurate with my level of experience	3.8 (0.9)	3.7 (1.0)
26 The work I am doing suits my learning objectives at this stage of my training	4.0 (0.9)	3.6 (1.1)*

**Table 5** continued

		Expectations mean item score (SD)	Experience mean item score (SD)
27	It is possible to do follow-up with patients	3.9 (0.9)	3.8 (1.0)
28	There is enough time in the schedule for me to learn new skills	3.8 (1.0)	2.9 (1.2)*
Subscale: consultants' role			
29	My consultants take time to explain things when asked for advice	4.1 (0.8)	4.1 (0.8)
30	My consultants are happy to discuss patient care	4.2 (0.7)	4.2 (0.8)
31	There are NO consultants(s) who have a negative impact on the educational climate	3.2 (1.3)	3.3 (1.4)
32	My consultants treat me as an individual	4.0 (0.8)	4.1 (0.9)
33	My consultants treat me with respect	4.1 (0.8)	4.2 (0.8)
34	My consultants are all in their own way positive role models	3.9 (0.9)	3.9 (1.0)
35	When I need a consultant, I can always contact one	3.8 (1.0)	4.1 (1.0)*
36	When I need to consult a consultant, they are readily available	3.7 (1.1)	4.0 (1.0)
Subscale: formal education			
37	Trainees will generally be able to attend scheduled educational activities	3.7 (1.1)	3.4 (1.3)
38	Educational activities will take place as scheduled	3.7 (1.0)	3.7 (1.0)
39	Consultants will contribute actively to the delivery of high-quality formal education	3.9 (0.9)	3.4 (1.2)*
40	Formal education and training activities will be appropriate to my needs	3.9 (0.9)	3.2 (1.3)*
Subscale: role of the trainer			
41	My trainer monitors the progress of my training	3.9 (0.9)	3.1 (1.2)*
42	My trainer provides guidance to other consultants when needed	3.7 (0.9)	3.3 (1.2)*
43	My trainer is actively involved in improving the quality of education and training	3.8 (0.9)	3.4 (1.2)*
44	In this rotation evaluations are useful discussions about my performance	3.9 (0.8)	3.2 (1.1)*
45	My plans for the future are part of the discussion	4.0 (0.9)	3.6 (1.2)*
46	During evaluations, input from several consultants are considered	3.8 (0.9)	2.9 (1.2)*
Subscale: patient handover			
47	When there is criticism of a management plan I have developed in consultation with my consultant, I know the consultant will back me up	3.7 (1.0)	3.7 (1.0)
48	Handover takes place in a safe climate	3.8 (1.0)	3.5 (1.1)
49	Handover is used as a teaching opportunity	3.8 (1.0)	3.2 (1.2)*
50	Consultants encourage trainees to join in the discussion during patient handover	3.9 (0.9)	3.4 (1.1)*

\* Significant at  $p < 0.0001$

rose with increasing seniority, from mean item score 2.5 (BST 1) to 3.3 (HST).

**Training environment by location**

Trainees were asked to provide the name of the hospital in which they were training. In view of small numbers of

trainees in some hospitals and the need to preserve trainee confidentiality, these hospital sites have been collapsed into four categories based on geographical location; Dublin, Cork, Galway and Other.

Site was provided for 333 experience of training D-RECT forms. Distributions across sites and mean total D-RECT score by location are shown in Table 6.

**Table 6** Mean total D-RECT score for training experience by location

Location	N per location	Mean total D-RECT (standard deviation)
Dublin	180	176 (34)
Cork	39	176 (34)
Galway	23	179 (23)
Other	91	168 (33)

## Discussion

This study demonstrates how measurement of learning environment at a national level, using a quantitative tool, can provide useful information in relation to strengths and weaknesses present systematically. Over time, it also has the potential to identify individual sites and posts where training is exemplary or problematic. These data are essential in addressing quality issues within postgraduate medical education and training. Benchmarking training in Ireland against that delivered elsewhere provides a context for discussion of quality of training. We found that total mean D-RECT scores for trainees in Ireland (173) were lower than those reported for Dutch trainees (188) [26]. The Dutch study looked at trainees across all specialties nationally; up to 6 years post qualification, a comparable group to those examined in our study. Although there are differences between the Irish and Dutch health systems, the fundamental elements of workplace learning [31, 32] addressed in the D-RECT questionnaire are as applicable in Ireland as in the Netherlands and this difference in score should not be dismissed.

The response rate for the Experience questionnaire (32.6 %) is a weakness of this study; however, it is in keeping with response rates for similar studies [26, 33, 34]. Meta-analyses of response rates to questionnaires in healthcare [35] and organisational [36] studies show a range of response rates, an average of 52 % (SD 21.1) being typical. A response rate within one SD of this mean has been proposed as acceptable for such studies [36], placing our study at the lower end of the acceptable range. In an attempt to mitigate for non-response bias [37], under-represented subgroups within the responses were excluded. Responses included in the study were representative in terms of gender, location of qualifying medical school, training levels specialties and geographic areas. Non-responders to surveys can be categorised as passive or active. Passive non-responders do not differ in any systematic way from responders, while active non-responders have specific reasons for not responding and are systematically different. Wave analysis suggested that late responders in this study were passive, however, this does not preclude the existence of active non-responders (*ibid*).

Online questionnaires sent by the RCPI to its trainees tend to have response rates in line with the average quoted above. We attempted to improve on this by sending both postal and online versions. The key role of trainee feedback in quality improvement was emphasised in the accompanying cover letter, and when reminders were sent out, trainees were made aware of the low response rate and appealed to for their responses. The network of trainee representatives was advised of the study and asked to encourage participation at grassroots level. Nonetheless, we were unable to achieve a good response rate. Data for the online questionnaire reveal that fewer than 50 % of trainees even opened the email requesting their feedback, and only 8 % clicked on the survey to open it. There are many potential explanations for this, including frequent emails from the training body, frequent requests to complete questionnaires, concerns re-confidentiality or even disillusionment with the training body. Survey length and suitability for completion on mobile devices may also be an issue.

Establishment of an ongoing monitoring process for training quality will require the effective engagement of trainees in a quality improvement partnership. Mandatory completion of quality surveys may lead to biased data and is not recommended [36]. Nonetheless, an acceptable and representative response is essential. One option to deal with this issue is to make the return of the survey mandatory, but to allow blank returns to be made. Selection of an appropriate survey instrument, grounded in educational theory and validated for the measurement of clinical training environments is crucial. The D-RECT, used in this study, is the only existing instrument which meets these criteria. Development and validation of an alternative instrument, with fewer items, is an option but represents a significant psychometric research undertaking. How best to collect data on training environments and ways to engage trainees in that process require further investigation and this is the focus of joint efforts between the authors and the Collegiate Members Committee of the RCPI. This work will inform the programme of quality improvement already underway within the RCPI, through the exemplar programme, which focuses on continual improvement of delivery of RCPI training programmes. Targeted site visits, informed by survey data, offer an additional perspective on training quality. The Medical Council, as the accreditation body for the postgraduate training bodies, has an important role as a driver in the development of these processes.

We have identified positive aspects of the training experience in Ireland. Trainees on the whole are treated well by their consultants and work well with other healthcare professionals and each other. Consultants are generally available when needed and happy to discuss patients with trainees. However, we also identified specific

elements of training which are weak throughout the system. These are core training items—provision of feedback, monitoring of progress by supervisor, usefulness of supervisor meetings and adequate time to learn new skills. Amongst trainees in general internal medicine these items improved as training progressed suggesting that consultants and trainers focus their efforts on senior trainees, making time for their learning and taking a greater interest in their progress. Consultant attitudes towards training and trainees, particularly at BST level, require further investigation. Trainee characteristics such as greater seniority, enthusiasm and interest have been shown to enhance consultant interest in clinical teaching [38]. HST trainees, working in their specialty of choice, may be likely to meet these criteria. We have shown that the weakest area of postgraduate training under RCPI is at BST level and that training at this level falls far short of the expectations of trainees entering training. Disappointment with training amongst the BST cohort inevitably filters down to those at intern and senior student level, with clear implications for graduate retention. The strategic review of BST, which commenced in April 2013, aims to address these issues.

Training quality was scored similarly across sites in Dublin, Cork and Galway. Mean score for sites outside of these centres was somewhat lower. Small numbers in training at some sites precluded analysis at individual site level, however, repeated collection of this type of data over time would allow for individual site profiles and a closer examination of specialty training within sites. Such data are an adjunct to, rather than a substitute for, site visits. Qualitative comments collected within our study, and the range of scores reported, indicate that at an individual level some trainees have very poor experiences of training. Cumulative quantitative data can help to flag up such posts and to remediate them.

In addressing issues in PGMET we should take heed of lessons learned elsewhere. An example is seen in the Danish experience, where an extensive reform of postgraduate medical education and training, did not lead to any improvement in training environment [39]. Inclusion of various structural elements does not necessarily improve the day to day experience on the ground, and though well meant, these exercises can be somewhat cosmetic. Mortensen et al. concluded that structural educational initiatives fail to be effective unless the entire workplace organisation accepts and prioritises the educational responsibility in planning the daily work. This is an area we plan to explore in future work.

This study provides, for the first time, data which elucidate the question of quality of postgraduate medical education and training in Ireland. It has demonstrated that there are features of Irish training environments which are working well in challenging times. By highlighting specific

areas of weakness this work forms the basis for quality improvement and informs future initiatives.

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## References

- Buttimer J (2006) Preparing Ireland's doctors to meet the health needs of the 21st century. Postgraduate Medical Education and Training Group, Dublin
- Bruce-Brand R, Broderick J, Ong J, O'Byrne J (2012) Diagnosing the doctors departure : survey on sources of dissatisfaction among Irish junior doctors. *Ir Med J* 105:15–18
- Burke C (2012) Survey of final year medical students 2012: will we go or will we stay? Dublin, Ireland
- Finucane P, O'Dowd T (2004) The career plans of Irish interns: results of a national survey. *Ir Med J* 97:149
- McEntee E, Daly L, Clarke A, Fitzpatrick P (2005) Career Tracking Study. Factors affecting career choices and retention of Irish medical graduates. Dublin, Ireland
- O'Sullivan KE, Byrne JS, Walsh TN (2013) Basic surgical training in Ireland: the impact of operative experience, training program allocation and mentorship on trainee satisfaction. *Ir J Med Sci*. doi:10.1007/s11845-013-0956-4
- Kelly MO, Kelly FO, Ciardha DÓ (2012) A national survey of GP trainees 2012. Dublin, Ireland
- HSE-MET (2012) Implementation of the reform of the intern year second interim report. pp 1–72
- Fitzgerald MX (2007) Medical education training and research. HSE strategy. Health Service Executive, Dublin
- Medical Council (2013) Medical education, training and practice in Ireland 2008–2013. A progress report. Dublin, Ireland
- GMC (2013) National Training Survey 2013. London
- Eraut M (2008) Learning from other people in the workplace. In: Hall K, Murphy P, Soler J (eds) Pedagogical practice culture identities. Oxford University Press, London, pp 40–57
- Kearns L (2007) National audit of SHO and registrar posts. Dublin, Ireland
- Isba R, Boor K (2011) Creating a learning environment. In: Dorman T, Mann KV, Scherpbier A, Spencer J (eds) Medical education: theory and practice. Churchill Livingstone, London, pp 99–114
- Roff S, McAleer S (2001) What is educational climate? *Med Teach* 23:333–334. doi:10.1080/01421590120063312
- Dornan T, Muijtjens A, Graham J et al (2012) Manchester clinical placement index (MCPI). Conditions for medical students' learning in hospital and community placements. *Adv Health Sci Educ Theory Pract* 17:703–716. doi:10.1007/s10459-011-9344-x
- Roff S (2005) The Dundee ready educational environment measure (DREEM)—a generic instrument for measuring students' perceptions of undergraduate health professions curricula. *Med Teach* 27:322–325. doi:10.1080/01421590500151054
- Roff S, McAleer S, Harden RM et al (1997) Development and validation of the Dundee ready education environment measure (DREEM). *Med Teach* 19:295–299. doi:10.3109/01421599709034208
- Mayya S, Roff S (2004) Students' perceptions of educational environment: a comparison of academic achievers and under-achievers at Kasturba Medical College, India. *Educ Heal Chang*

- Learn Pract (Taylor Fr Ltd) 17:280–291. doi:[10.1080/13576280400002445](https://doi.org/10.1080/13576280400002445)
20. Al-Hazimi A, Al-Hyiani A, Roff S (2004) Perceptions of the educational environment of the medical school in king Abdul Aziz University, Saudi Arabia. *Med Teach* 26:570–573. doi:[10.1080/01421590410001711625](https://doi.org/10.1080/01421590410001711625)
  21. Till H (2005) Climate studies: can students' perceptions of the ideal educational environment be of use for institutional planning and resource utilization? *Med Teach* 27:332–337. doi:[10.1080/01421590400029723](https://doi.org/10.1080/01421590400029723)
  22. Soemantri D, Herrera C, Riquelme A (2010) Measuring the educational environment in health professions studies: a systematic review. *Med Teach* 32:947–952. doi:[10.3109/01421591003686229](https://doi.org/10.3109/01421591003686229)
  23. Kelly M, Bennett D, O'Flynn S (2012) General practice—the DREEM attachment? Comparing the educational environment of hospital and general practice placements. *Educ Prim Care* 23(1):34–40
  24. Bennett D, Kelly M, O'Flynn S (2010) Are the bigger hospitals better: DREEM on? *Ir J Med Sci* 179:515–519. doi:[10.1007/s11845-010-0551-x](https://doi.org/10.1007/s11845-010-0551-x)
  25. Roff S, McAleer S, Skinner A (2005) Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based junior doctors in the UK. *Med Teach* 27:326–331. doi:[10.1080/01421590500150874](https://doi.org/10.1080/01421590500150874)
  26. Boor K, Van Der Vleuten C, Teunissen P et al (2011) Development and analysis of D-RECT, an instrument measuring residents' learning climate. *Med Teach* 33:820–827. doi:[10.3109/0142159X.2010.541533](https://doi.org/10.3109/0142159X.2010.541533)
  27. Lave J, Wenger E (1991) *Situated learning: legitimate peripheral participation*. Cambridge University Press, Cambridge
  28. Royal College of Physicians of Ireland, Royal College of Surgeons of Ireland, Institute of Obstetricians and Gynaecologists of Ireland (2011) Submission to the Joint Committee on Health and Children, Houses of the Oireachtas. Dublin, Ireland
  29. Temple J (2010) *Time for training. A review of the impact of the European working time directive on the quality of training*, Medical Education England. London, UK
  30. Bury G (2011) Annual assessment of NCHD posts July 2011 to June 2012. Medical Education and Training Unit, Dublin
  31. Billett S (2006) Relational interdependence between social and individual agency in work and working life. *Mind Cult Act* 13:53–69. doi:[10.1207/s15327884mca1301\\_5](https://doi.org/10.1207/s15327884mca1301_5)
  32. Yardley S, Teunissen PW, Dornan T (2012) Experiential learning: AMEE guide no. 63. *Med Teach* 34:e102–e115. doi:[10.3109/0142159X.2012.650741](https://doi.org/10.3109/0142159X.2012.650741)
  33. Vieira JE (2008) The postgraduate hospital educational environment measure (PHEEM) questionnaire identifies quality of instruction as a key factor predicting academic achievement. *Clinics* 63:741–746. doi:[10.1590/S1807-59322008000600006](https://doi.org/10.1590/S1807-59322008000600006)
  34. Aspegren K, Bastholt L, Basted KM et al (2007) Validation of the PHEEM instrument in a Danish hospital setting. *Med Teach* 29:498–500. doi:[10.1080/01421590701477357](https://doi.org/10.1080/01421590701477357)
  35. Cook JV, Dickinson HO, Eccles MP (2009) Response rates in postal surveys of healthcare professionals between 1996 and 2005: an observational study. *BMC Health Serv Res* 9:160. doi:[10.1186/1472-6963-9-160](https://doi.org/10.1186/1472-6963-9-160)
  36. Baruch Y, Holtom BC (2008) Survey response rate levels and trends in organizational research. *Hum Relations* 61:1139–1160. doi:[10.1177/0018726708094863](https://doi.org/10.1177/0018726708094863)
  37. Halbesleben JRB, Whitman MV (2013) Evaluating survey quality in health services research: a decision framework for assessing nonresponse bias. *Health Serv Res* 48:913–930. doi:[10.1111/1475-6773.12002](https://doi.org/10.1111/1475-6773.12002)
  38. Peardon E, Caldwell PHY, Oldmeadow W (2010) “I enjoy teaching but...”: Paediatricians' attitudes to teaching. *J Paediatr Child Health* 46:647–652. doi:[10.1111/j.1440-1754.2010.01823.x](https://doi.org/10.1111/j.1440-1754.2010.01823.x)
  39. Mortensen L, Malling B, Ringsted C, Rubak S (2010) What is the impact of a national postgraduate medical specialist education reform on the daily clinical training 3.5 years after implementation? A questionnaire survey. *BMC Med Educ* 10:46. doi:[10.1186/1472-6920-10-46](https://doi.org/10.1186/1472-6920-10-46)