

BMJ Open

Supervised Learning Events in the Foundation Programme: A UK-wide narrative interview study

Journal:	<i>BMJ Open</i>
Manuscript ID:	bmjopen-2014-005980
Article Type:	Research
Date Submitted by the Author:	26-Jun-2014
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Primary Subject Heading:	Medical education and training
Secondary Subject Heading:	Qualitative research
Keywords:	EDUCATION & TRAINING (see Medical Education & Training), MEDICAL EDUCATION & TRAINING, QUALITATIVE RESEARCH

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3 **Supervised Learning Events in the Foundation Programme: A UK-wide narrative interview**
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5 **Key words:** Education, Medical; Feedback; Educational Measurement; Workplace;
6 Qualitative Research
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10 **Word count, excluding title page, abstract, references, figures and tables: 4331**
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For peer review only

ABSTRACT

Objectives: To explore Foundation trainees' and trainers' understandings and experiences of supervised learning events (SLEs) compared with workplace-based assessments (WPBAs) and their suggestions for developing SLEs.

Design: A narrative interview study based on 55 individual and 19 group interviews.

Setting: UK-wide study across three sites in England, Scotland and Wales.

Participants: Using maximum-variation sampling, 70 Foundation trainees and 40 trainers were recruited, shared their understandings and experiences of SLEs/WPBAs and made recommendations for future practice.

Methods: Data were analysed using qualitative and quantitative thematic and discourse analysis and narrative analysis of one exemplar personal incident narrative.

Results: While SLEs were conceptualised as learning and assessment, WPBAs were typically understood as assessment. Trainers were more likely than trainees to conceptualise SLEs as assessment and a 'safety net' to protect patients. We identified 333 personal incident narratives in our data (221 SLEs; 72 WPBAs). There was perceived variability in the conduct of SLEs/WPBAs in terms of their initiation, tools used, feedback and finalisation. Numerous factors at individual, interpersonal, cultural and technological levels were thought to facilitate/hinder learning. SLE narratives were more likely to be evaluated positively than WPBA narratives. Trainees narrated more positive evaluations of their SLEs and more negative evaluations of their WPBAs compared with trainers. Participants made sense of their experiences, emotions, identities and relationships through their narratives. They provided numerous suggestions for improving SLEs at individual, interpersonal, cultural and technological levels.

Conclusions: Our findings provide tentative support for the shift to formative assessment with the introduction of SLEs, albeit raising concerns around trainees' and trainers' understandings about SLEs. We identify five key educational recommendations from our study. Additional research is now needed to explore further the complexities around SLEs within workplace learning.

ARTICLE SUMMARY

Strengths and limitations of the study

- This is the first study to explore Foundation Programme trainees and trainers' understandings and experiences of SLEs (compared with WPBAs)
- The large number of narratives collected in England, Scotland and Wales enhances the transferability of our findings to other UK locations
- We had relatively low numbers of GP and nurse trainers so our findings are most relevant to SLEs conducted by hospital doctors

INTRODUCTION

If you are a clinical educator or trainee doctor in today's NHS, you will inevitably have participated in a 'supervised learning event' (SLE)[1]. SLEs review the personal development of trainee doctors, with an emphasis on patient safety [1]. They were introduced into the UK Foundation Programme (UKFP) in 2012. SLEs specifically address concerns raised in the Collins report [2] and previously published literature about assessment within the UKFP [3]; that trainees and trainers perceived workplace-based assessments (WPBAs) as excessive, onerous and therefore unvalued. Drawing on the same tools utilised within WPBAs (e.g. Mini Clinical Evaluation Exercise, Direct Observation of Procedurals Skills and Case-Based Discussion), SLEs are designed to: (1) highlight achievements and areas of excellence; (2) provide immediate feedback and suggest areas for further development; and (3) demonstrate engagement in the educational process. In this way they aim to facilitate a strong formative component of trainee doctors' assessment.

Rather than indicating what a learner can/cannot do or knows (i.e. summative assessment), formative assessments indicate the 'gap' between the learner's actual level of performance and the required standard, providing an indication of how performance could be improved to reach the required standard. Therefore, SLEs are designed to enable the provision of timely feedback about the effectiveness of care and the trainee's interactions with others, with a focus on the trainee's performance and development, which may identify areas of weakness requiring support and reflection. SLEs thus have the potential to be more meaningful for learning, motivating learners to 'mastery goals' such as understanding, rather than 'performance goals' like passing an examination [4,5].

However, SLEs also have a summative role within the UKFP. Currently, evidence of SLEs must be included in every Foundation doctor's e-Portfolio, which in turn is a method of assessment of the Foundation doctor's success in achieving the outcomes described in the curriculum, and which educational supervisors use in the end of placement report. Thus, SLEs can be viewed broadly as information gathering activities that aim to benefit the quality of trainee learning, as well as monitoring their engagement with feedback for accountability purposes.

Effectiveness of the assessment tools

Previous research has examined the effectiveness of the assessment tools (e.g. DOPS, Mini-CEX, CBD) [6-8], drawing on van der Vleuten's utility equation [9]: educational impact x validity x reliability x cost effectiveness x acceptability. Previous research has provided mixed results regarding their efficaciousness in terms of acceptability, reliability and validity: (1) the acceptability of WPBAs to trainees and trainers varies widely [2,8,10-13]; (2) reliability for the tools is frequently sub-optimal [14]; and (3) the Mini-CEX and the 'clinical encounter card' appears to have high criterion validity in terms of strong and significant correlations with other assessment instruments [15]. However, the cost effectiveness and educational impact of the tools have been largely neglected. Indeed, few published articles have explored the educational impact of WPBA tools and there is therefore little evidence that they lead to improvements in performance [3,15].

Effectiveness of WPBAs and SLEs

Research has also examined the effectiveness of WPBAs, albeit scant. What evidence there is suggests that WPBAs are reasonably ineffective, attributed to issues such as the sub-optimal use of the tools for feedback [16,17]. Some research suggests that the rating scales often utilised within the tools such as the Mini-CEX introduce artificiality into the assessment, concluding that open-ended comments may be more valuable as assessors are able to provide feedback in more 'authentic' terms [18]. Additionally, there are issues with sub-optimal learners being less likely to seek feedback [19]. Outcomes such as learning, transfer of skills to new situations, or improved patient care are relatively unstudied, and when they are, conclusions drawn are limited due to weak study designs.

SLEs were introduced in 2012 to address these shortcomings but, so far, there has been no evidence to evaluate their success in doing so. Given that SLEs comprise similar tools to those used within the WPBAs but with formative goals, it is important that aspects such as acceptability and the educational utility of SLEs as a form of feedback are explored as a matter of priority. Given that acceptability and educational impact inter-relates with how trainees and trainers make sense of their experiences, emotions, identities and relationships, we felt it crucial to employ a narrative approach. We were therefore

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3 commissioned by the AoMRC to undertake an independent evaluation of the impact of the
4 transition from WPBAs to SLEs.
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9 **Aims and research questions**

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11 This study is the first exploration of SLEs within the UKFP and aims to answer four research
12 questions: (RQ1) What are participants' understandings of SLEs and WPBAs and how do
13 they differ between trainees and trainers? (RQ2) What are participants' experiences of SLEs
14 and WPBAs and how do they differ between trainees and trainers? (RQ3) How do
15 participants make sense of their experiences through narrative? (RQ4) What are
16 participants' suggestions for how SLEs should be developed?
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25 **METHODS**

26 **Study design**

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28 We conducted a qualitative study using group and individual interviews to elicit trainees'
29 and trainers' understandings and personal incident narratives (PINs) of their experiences.
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31 Our study draws on social constructionist epistemology suggesting that there are multiple
32 interpretations of reality and ways of knowing [20]. We consider the individual and socio-
33 relational aspects of stories of experience including how participants make sense of their
34 SLE/WPBA experiences through narrative and how they share those stories and in doing so
35 construct identities and trainee-trainer relationships [21].
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45 **Sampling and recruitment**

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47 Following Deanery and Medical School authorisation, ethical approval was established at
48 three sites in England, Scotland and Wales. Using maximum-variation sampling to obtain a
49 greater range of understandings and experiences, we recruited Foundation doctors from
50 Year 1 and Year 2 of the 2-year programme (F1s and F2s) with training experiences in both
51 hospital and general practice settings. We also recruited trainers across hospital and general
52 practice settings, including clinical and educational supervisors and members of placement
53 supervision groups such as specialist registrars, consultants and nurses. Using advice from
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3 our clinical reference group (see acknowledgements), we employed multiple recruitment
4 strategies to maximise participation: (1) email; (2) physical notice-boards; (3) leaflets in
5 strategic places (e.g. medical libraries, common rooms); (4) snowballing through participant
6 and trainee organisations (e.g. BMA junior doctor committee); (5) social networking (e.g.
7 Facebook); and (6) face-to-face during formal curricula. We interviewed 110 participants: 34
8 F1s, 36 F2s, and 40 trainers (see Table 1 for participants' characteristics).
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14 [Insert Table 1 about here]
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19 **Data collection**

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21 We conducted 55 individual and 19 group interviews. All interviews were recorded,
22 transcribed and anonymised (mean length of focus groups 45:43 minutes:seconds [range
23 31:50-63:47] and individual interviews 36:38 minutes:seconds [range 17:37-69:50]: total
24 data around 46 hours). Participants completed a personal details questionnaire, comprising
25 demographic and education-related details enabling classification of sample characteristics
26 by group, site and entire study. An interview schedule ensured consistency across multiple
27 interviewers. Interviews began by exploring trainees' and trainers' understandings of SLEs
28 and WPBAs. Using narrative interviewing, we encouraged participants to articulate their
29 personal incident narratives (PINs) of SLEs and WPBAs by asking a series of prompts around
30 their narratives: Can you tell me about a memorable SLE/WPBA? What happened? Who was
31 involved? Where did it happen? What did you do and why? How did you feel? What was the
32 impact of that SLE/WPBA for trainee learning? We encouraged participants to narrate their
33 SLE/WPBA experiences so that their views were grounded in actual lived experiences and
34 we could understand how they made sense of those experiences, identities and
35 relationships. Interviews continued until participants felt they had shared their experiences
36 sufficiently. We then asked participants how they thought SLEs could be improved.
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52 **Data analysis**

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54 We employed multiple and complementary forms of analyses. We began with a primary
55 level thematic Framework Analysis (involving data familiarisation, thematic framework
56 identification, indexing, charting, mapping and interpretation) to determine content- and
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3 process-related themes (i.e. what participants said and how they said it) [22]. We employed
4 qualitative data analysis software (Atlas-Ti, Version 7.0) to facilitate multi-analyst coding of
5 the data, exploring patterns across our data such as differences in understandings and
6 experiences between trainees and trainers. Finally, we present an in-depth narrative
7 analysis of one exemplar PIN in this paper to illustrate how this trainee made sense of their
8 workplace learning experiences, identities and relationships. We establish credibility in our
9 study by describing our analytic methods, involving multiple data analysts and using
10 illustrative quotes [23]. Finally, we establish transferability through our inclusion of a large
11 number of narratives from a diverse sample of trainees and trainers in three different UK
12 countries [23].
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23 RESULTS

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25 Our thematic framework analysis identified seven themes in the data: one theme relating to
26 our first research question (conceptualisations of SLEs/WPBAs); four themes relating to our
27 second research question (contextual codes for the personal incident narratives, processes
28 of SLEs/WPBAs, factors facilitating learning in SLEs/WPBAs, and factors inhibiting learning);
29 one theme relating to our third research question (how participants narrate their
30 experiences); and one theme relating to our fourth research question (suggestions for
31 improving SLEs).
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41 **RQ1: What are participants' understandings of SLEs and WPBAs and how do they differ** 42 **between trainees and trainers?**

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44 Many trainees and trainers admitted to not knowing what SLEs were, and this uncertainty
45 was emphasised through hesitations (errs and ums), pauses, hedges (e.g. "I guess") and
46 laughter. Some participants (e.g. those new to training or new to the UK) were also unsure
47 what WPBAs were but the majority seemed better able to explain WPBAs than SLEs.
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52 Many participants' experiences (i.e. trainers and F2s) suggested that SLEs and
53 WPBAs were conceptually and operationally the same. However, others did perceive them
54 to be conceptually different, with SLEs having formative and WPBAs having summative
55 aims. While participants demonstrated a range of conceptualisations for SLEs (e.g. as
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3 learning, as assessment), WPBAs were understood almost exclusively as assessment (see
4 Table 2).
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11 Trainers more commonly conceptualised SLEs as assessment and as a ‘safety net’ (i.e. a
12 diagnostic tool to help identify trainees who were “struggling”) and only trainers
13 conceptualised WPBAs in this way. Another striking difference was the extent of emotional
14 talk employed by trainees when attempting to define SLEs and WPBAs. Trainees sometimes
15 felt the formative focus relieved the pressure to perform and reduced anxieties.
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23 **RQ2: What are participants’ experiences of SLEs and WPBAs and how do they differ**
24 **between trainees and trainers?**
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27 We outline key findings associated with four of our fragmentary themes here: one
28 contextual theme (covering the timing, location of SLEs/WPBAs, identity of trainer, type of
29 tool, and participant evaluation including the differences between trainees’ and trainers’
30 evaluations), and three conceptual themes (processes of SLEs and WPBAs; and factors
31 facilitating and inhibiting learning within SLEs/WPBAs).
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39 **The context of SLE and WPBA narratives**
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41 We identified 333 narratives in the data (221 SLEs, 72 WPBAs; see Table 3). Most SLEs and
42 WPBAs took place in hospital settings (n=253) and involved F1 doctors (n=185). Trainers
43 were usually hospital-based doctors (n=262), although some non-medical specialists (e.g.
44 nurses) also acted as trainers (n=15). CBD, DOPS and Mini-CEX were the most common tools
45 (totalling n=276). Finally, SLE narratives were overall more likely to be evaluated positively
46 (58%) than WPBA narratives (39%), and were less likely to be evaluated negatively (13%)
47 compared with WPBA narratives (22%). The descriptive statistics presented in Table 3
48 illustrate more similarities than differences between trainees and trainers. However,
49 trainees narrate more SLE experiences with positive evaluations (62%) compared with
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3 trainers (46%), but more WPBA narratives with negative evaluations (26%) compared with
4 trainers (18%).
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7 [Insert Table 3 about here]
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9 Processes of SLEs and WPBA

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11 SLEs and WPBAs were conducted in diverse ways, in terms of their initiation, tools
12 employed, educational processes used, and completion.
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15 16 17 18 *Initiating SLEs and WPBAs*

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20 WPBAs/SLEs were initiated by different parties, with different motivations and in different
21 contexts. While SLEs should be trainee-initiated, trainers sometimes also initiated them
22 throughout trainees' rotations, sometimes near the end of rotations (see Box 1 later).
23

24 Trainees and trainers described some trainees lacking proactivity to seek opportunities for
25 SLEs/WPBAs. When trainees did initiate them, they sometimes strategically chose a trainer
26 they knew. This was sometimes done to enhance the learning experience, choosing
27 someone they felt comfortable with, believed would engage in the process, and/or thought
28 would support them in a positive way. At other times this was done with the intention of
29 having a quick and easy experience where the trainer would just 'tick the box'. Trainees
30 often described feeling discomfort in asking for SLE/WPBA supervision and were often
31 grateful when trainers initiated them. The initiation also varied in terms of the level of
32 planning and organisation. Sometimes they were planned ahead of time, and this
33 occasionally involved an element of rehearsal (particularly for the developing the clinical
34 teacher tool: DCT). At other times, they were ad hoc, with opportunistic clinical encounters
35 recognised as an opportunity for an SLE. Finally, they were sometimes initiated
36 retrospectively, sometimes long after the event, particularly when trainees had completed
37 insufficient tools (see Box 1).
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50 51 52 53 *Tools used*

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55 Participants talked about the unique aspects of tools, their preferences and the 'workability'
56 of tools. However, they were sometimes unsure or mistaken about what comprised an
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3 SLE/WPBA assessment tool, or conflated tools (e.g. CBD with Mini-CEX). Participants
4 discussed the practicalities of various tools, and suggested that some were less workable in
5 certain specialties (e.g. DOPS in psychiatry). Interestingly, many participants expressed clear
6 preferences and dislike for certain tools. For example, some clinicians expressed a
7 preference for Mini-CEX over CBD: Mini-CEX allowed them to observe 'real' performances of
8 trainees and identify 'struggling trainees', whereas CBDs gave trainees opportunities to
9 rehearse thereby masking potential difficulties. Other trainees expressed a preference for
10 CBD over DOPS: CBDs led to 'real learning', whereas DOPS were 'tick-box exercises', simply
11 signing off already-competent procedures.
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21 *Feedback*

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24 The educational activities highlighted included: (1) trainers' observation of the trainee; (2)
25 didactic teaching of knowledge/skills; (3) scaffolding trainees' learning through strategic
26 questioning; and (4) feedback (most commonly verbal feedback during the event and
27 written feedback afterwards). Feedback quality was thought to vary. Positive experiences
28 included personal, meaningful and constructive feedback for learning. Negative experiences
29 included generalised (non-specific), inadequate, inconsistent (e.g. contradictory verbal and
30 written feedback from the same trainer), unconstructive/abusive, or overly positive (and
31 therefore educationally unhelpful) feedback. Trainees often wanted formative feedback to
32 help improve their performance (i.e. feed-forward) rather than ticks (i.e. feed-back).
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43 *Finalising SLEs and WPBAs*

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45 Some participants described examples of trainers completing forms promptly, sometimes
46 during the SLE/WPBA itself, with the feedback being a dialogue. However, finalising the
47 SLE/WPBA process often involved chasing trainers to complete forms within trainees' e-
48 Portfolios, which was perceived as frustrating and awkward by trainees. Trainers were also
49 frustrated if they received the link to the form weeks after the SLE. Trainers and trainees
50 described how written e-Portfolio feedback could be inadequate: while some trainees used
51 trainer comments to promote reflection within their e-Portfolio, others seemed to lack
52 motivation to read their e-Portfolio feedback. Occasionally trainers relied on hearsay or
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3 having a general overview of a trainee, rather than seeing events for themselves, signing
4 trainees off without actually witnessing their performance, a sub-theme we called
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7 ‘manipulating the system through short-cuts’ (see Box 1).

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9 [Insert Table 4 about here]

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13 Factors facilitating and inhibiting learning in SLE/WPBAs

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15 Participants described many factors that facilitated and inhibited learning throughout SLEs
16 and WPBAs at four different levels: individual (e.g. characteristics of individual trainees and
17 trainers), interpersonal (e.g. trainer-trainee relationships), cultural (e.g. protected time), and
18 technological (e.g. e-forms; see Table 5).
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28 **RQ3: How do participants make sense of their experiences through narrative?**

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30 So far, we have presented themes that were identified across narratives. Here, we present
31 one narrative exemplar from a trainee to illustrate the themes and their complex interplay
32 with *how* this participant narrates their experiences in order to make sense of them, their
33 identities and relationships.
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38 Helena (a pseudonym) is a female F2. She narrates a WPBA experience from the end
39 of her final F1 rotation. Her experience takes place in a medical setting within the hospital
40 and involves her clinical fellow trainer. She recounts a fairly typical experience: “hunting” for
41 outstanding WPBAs/SLEs near the end of rotations. In the following narrative, Helena
42 explains how her trainer offers to sign off ‘inserting a venflon’ without observing her (see
43 Box 1), thus clearly indicating how trainees and trainers can manipulate the system through
44 short cuts.
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50 She constructs her own identity and that of her clinical teaching fellow through
51 narrating her DOPS experience. Helena presents herself as a competent Foundation doctor
52 by emphasising her day-to-day participation in the medical work of the hospital: taking
53 blood and inserting venflons. She sees her competence in these procedures as without
54 question, emphasised by her repeated comments about trainers “knowing” that she and her
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3 fellow Foundation doctors can insert venflons because they see evidence of them in
4 patients' arms. Helena suggests the obviousness of Foundation doctors' competence, in that
5 they would not be able to "survive on the wards" if they could not take blood. Helena
6 positions her clinical fellow (and other trainers) as having insufficient time "to actually stand
7 and watch" trainees do basic procedures that they are competent in. Helena presents her
8 trainer as knowledgeable and proactive because he checks she has completed her WPBAs
9 for the end of her rotation. While he is partly constructed as helpful for offering to sign off a
10 venflon insertion, he is simultaneously constructed as blasé in that her competence is
11 "taken for granted".
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20 There are various discourse elements in Helena's narrative that are worthy of
21 consideration, including her pronominal and metaphoric talk and laughter, all of which shed
22 light on how she makes sense of this DOPS experience. In terms of her pronominal talk, she
23 repeatedly positions herself as 'we' throughout her narrative (meaning me and the other
24 Foundation doctors), and she repeatedly positions her clinical fellow as 'they' throughout
25 the narrative (meaning him and other trainers). This use of 'we' and 'they', rather than 'me'
26 and 'him', depersonalises and simultaneously generalises her experience, implying that all
27 Foundation doctors commonly experience this event [24]. Furthermore, this 'them and us'
28 language within the narrative implies an oppositional relationship between trainees and
29 trainers [24]. In terms of metaphoric talk, Helena explains that she is "hunting" for patients
30 in order to get DOPS signed off, and she is busy "surviving" on the wards by practising
31 procedures competently. This latter metaphoric linguistic expression, for example, implies
32 the common conceptual metaphor of MEDICINE AS WAR, and similar to the pronominal talk
33 implies oppositional relationships between trainees and trainers [25,26]. What is striking
34 about these metaphoric linguistic expressions are that they are both accompanied by
35 laughter, possibly for contextual coping (in the interactional moment of narrating the event)
36 and non-contextual coping (due to uncomfortable feelings around the nature of what it is
37 she's disclosing in her narrative) [27,28]. This laughter for coping suggests that experiences
38 such as this ("I don't find DOPS very useful") can have a negative impact on trainees'
39 emotional learning experiences.
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55 [Insert Box 1 about here]
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RQ4: What are participants' suggestions for how SLEs should be developed?

In response to our final question (how do you think SLEs could be improved?), participants provided a range of suggestions at four different levels: individual (e.g. improving trainees' and trainers' understanding and engagement), interpersonal (e.g. improving trainer-trainee relationships), cultural (e.g. shifting away from tick-box summative culture), and technological (e.g. improving e-tools: see Table 6).

[Insert Table 6 about here]

DISCUSSION

SLEs were introduced in 2012. This independent evaluation, commissioned by the AoMRC, is the first of its kind to explore Foundation trainee and trainers' conceptualisations and experiences of SLEs compared with WPBAs.

Confusion reigned amongst participants about what SLEs were and how they differed from WPBAs. While SLEs were conceptualised in diverse ways (e.g. learning and assessment), WPBAs were typically understood as assessment. Trainers were more likely than trainees to conceptualise SLEs as assessment and a 'safety net' to protect patients. That many trainers continue to understand SLEs as assessment means that they may continue to treat them as such, thereby jeopardising trainee learning.

The narratives illustrated that SLEs and WPBAs were conducted in diverse ways, with issues raised about their initiation, tools used, feedback, and finalisation. Enthusiastic trainers and trainees and good relationships facilitated learning within SLEs/WPBAs, whereas time pressures and e-tools posed barriers to learning. SLE narratives were more likely to be evaluated positively than WPBA narratives. Trainees narrated more SLE experiences with positive evaluations and more narratives of WPBAs with negative evaluations compared with trainers. Some of these findings extend the already mixed evidence for WPBA in terms of its acceptability to trainees and trainers [2,10,29]. Previous research, for example, indicates that feedback within the medical workplace can be sub-optimal and numerous factors can hinder workplace learning, such as lack of protected time for the trainee-trainer relationship [16,30-32]. This study provides tentative support for the summative to formative shift in focus from WPBAs to SLEs initiated by the AoMRC (2012).

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3 Furthermore, this study contributes to our understanding of the lived experiences of
4 trainers and trainees, and provides quantitative data on differences in SLE/WPBA
5 experiences between trainees and trainers. That trainees were more likely to report positive
6 evaluations of their SLE experiences compared with trainers, and trainers more likely to
7 report positive evaluations of their WPBA experiences compared with trainees, suggests
8 that trainees and trainers might want different things from SLEs/WPBAs (learning vs.
9 assessment respectively). Further, that participants constructed their own and others'
10 identities, and their relationships in numerous ways (e.g. war) builds on other medical
11 education research at the undergraduate level emphasising potential conflictual
12 relationships between trainees and trainers [24-26,33].

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21 Key suggestions to improve the SLEs included improving trainees' and trainers'
22 understandings of SLEs, better trainee-trainer relationships through regular meetings and
23 closing the 'feedback loop', improving the culture of workplace learning through formative
24 learning rather than summative assessment, and improving the technology around SLEs,
25 extending previous research within medical education [16,30-37].
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33 **Methodological strengths and challenges of study**

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35 To our knowledge, this is the first study to explore Foundation trainee and trainers'
36 understandings of SLEs and WPBAs, and their lived experiences, through narrative. The large
37 number of narratives collected, and our consistent findings across the three geographically
38 dispersed sites, suggests that our results are transferable to other UK locations. Although
39 our sample of trainees and trainers was intentionally diverse, we do have relatively low
40 numbers of GP and nurse trainers in our study, and relatively few trainees with GP and
41 nurse trainer SLE/WPBA experiences. While this reflects the reality of training programme
42 structures and processes, we must use caution when extrapolating our findings to GP
43 settings and to GP and nurse trainers.
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51 The geographical distance between sites and the need to collect large amounts of
52 qualitative data in a relatively short time-frame (around 6 months) required multiple
53 researchers across the three sites to undertake interviews and data analysis. Consistency
54 was maintained across the researchers through training, the use of a discussion guide,
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3 regular meetings and use of a comprehensive coding framework. Finally, with around 46
4 hours of qualitative data it was pragmatic for us to adopt different methods of data analysis
5 to explore both the *breadth* and *depth* (and therefore the *what's* and *how's*) of participants'
6 experiences. Because of this voluminous data, we partly quantified it to identify patterns
7 that would otherwise be invisible [38,39]. Some methodological purists would find this
8 combination of quantitative and qualitative analyses problematic because of the different
9 epistemologies underpinning these two approaches. However, we retained a process-
10 orientated qualitative approach to our interpretation of numerical data [38,39].
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17 18 19 20 **Implications for educational practice**

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22 Our recommendations are based on key findings from our research and comments from our
23 clinical reference group (see acknowledgements). First, we need to improve trainee and
24 trainers' understandings of SLEs. Both must understand the concepts of formative and
25 summative assessment and be able to recognise good quality feedback; that feedback is a
26 dialogic process; and how they can give, receive and seek feedback effectively within the
27 workplace. Both need to appreciate the diversity of processes for conducting SLEs; know the
28 tools and how they differ; and comprehend factors facilitating and hindering learning within
29 SLEs.
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37 Second, trainee-trainer relationships need to be improved. Good quality
38 relationships, characterised by knowledge of the other person, mutual respect and trust,
39 should be possible through prolonged engagement including multiple trainee-trainer
40 meetings throughout rotations. We recognise that the pressures of service delivery make
41 this recommendation challenging.
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47 Thirdly, the culture of workplace learning needs to be improved. The formative
48 focus of SLEs could be emphasised further by re-thinking the structures around SLEs, and
49 particularly those structures that imply a summative focus. For example, SLEs should be
50 undertaken at regular intervals with a cumulative formative impact over the course of a
51 rotation, thereby allowing trainees to conduct SLEs in a meaningful way that is beneficial to
52 their own personal and professional development, rather than encouraging a system of
53 "hunting" for SLEs at the end of a rotation to secure that "tick".
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3 Fourth, tools need to be improved to emphasise their formative focus (e.g.
4 prioritising free-text comments) and making them easier to finalise (e.g. applications for
5 smartphones and tablets) [5].
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9 Finally, we need to develop, assess and recognise trainers for the work they do
10 including the provision of trainee feedback to trainers to close the 'feedback loop' [40], and
11 to be used as part of trainers' annual appraisals. Furthermore, this process of feedback
12 could form the basis of a trainer recognition programme, thus valuing the important role of
13 the educator.
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20 **Implications for further research**

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22 The introduction of any new workplace-based initiative will benefit from investigation using
23 a range of approaches. Further research is required to explore SLEs using qualitative (e.g.
24 longitudinal audio-diary, video-reflexive ethnography) and quantitative methodologies (e.g.
25 pragmatic cluster randomised trial). The latter could compare various outcomes (e.g.
26 trainee and trainer satisfaction, metrics around form completion) for an intervention group
27 of trainers and/or trainees who have received theory-based training in giving, receiving and
28 seeking formative feedback, compared with those not receiving the educational
29 intervention. Ultimately, without such further research, it may be impossible to fully
30 understand the complexities surrounding SLEs within workplace learning.
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3 **Acknowledgements** We thank all the trainers and trainees who participated. We also thank
4 our administrative, academic, and clinical colleagues who helped us recruit participants. In
5 particular, we thank members of our clinical reference group, who advised us on the
6 recruitment of participants, and gave us feedback on our interpretations of the data and
7 developing educational recommendations. In alphabetical order these are: Professor Stuart
8 Carney, previously University of Exeter; Dr Ben Hannigan, Cardiff University; Professor Peter
9 Johnston, University of Aberdeen; Professor Jean Ker, University of Dundee; Dr David
10 Leeder, University of Exeter; Professor Graham Leese, University of Dundee; Dr Murray
11 Lough, previously NHS Education for Scotland; Dr Alan Stone, Cardiff University; Professor
12 Frank Sullivan, previously University of Dundee; and Professor Mike Watson, Previously NHS
13 Education for Scotland. We also thank Elaine Plenderleith at the Centre for Medical
14 Education, University of Dundee, for her administrative support throughout the course of
15 this project. Finally, we thank the Academy of Medical Royal Colleges for its contribution to
16 this project. In particular, we thank Dr Ed Neville, Chair of the Supervised Learning Events
17 Evaluation Working Group, and Dr David Kessel, Chair of the Academy Foundation
18 Programme Committee, for their contribution to the design of this project, advice about
19 recruitment of participants, thoughtful comments about the educational recommendations
20 for the project, and feedback on the preliminary draft of our end-of-award report.

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35 **Contributors** CR, JC, KM and LM designed the study and secured its funding. CR, KM, and LM
36 were site-specific leads and over-saw the work of AD and NK. JC and AD conducted the
37 literature review. CR, KM, LM, AD, and NK secured ethics approval for the three sites and
38 recruited participants. AD and NK did the bulk of the data collection (CR and LM facilitated
39 some interviews). All authors participated in a preliminary thematic analysis of selected
40 transcripts. CR, LM, AD and NK coded data using Atlas-Ti (the bulk of this was done by AD
41 and NK). LM and AD interrogated the coding using Atlas-Ti and CR conducted narrative
42 analyses. CR, JC, KM and LM wrote parts of this paper, and CR edited it. All authors
43 commented on various iterations. CR, JC and AD conducted this research on behalf of the
44 Scottish Medical Education Research Consortium (SMERC). CR is the Principal Investigator
45 for the project and overall guarantor.

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55 **Funding** This work was supported by the Academy of Medical Royal Colleges. The views
56 expressed in this paper are those of the authors and not necessarily of the funders.
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3 **Competing interests** This research was carried out independently of the study sponsor, who
4 had no input to the collection, analysis, and interpretation of data; and writing the report.
5
6 All authors had full access to all of the data in the study and take responsibility for the
7
8 integrity of the data and the accuracy of the data analysis.
9

10 **Ethics** The relevant ethics committees within each site approved this study, and additional
11 site-specific approvals were secured where necessary. Informed consent was obtained from
12 all participants, along with their right to withdraw from the study at any time without
13
14 penalty.
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17 **Provenance and peer review** Not commissioned; externally peer reviewed.
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20 **Data sharing statement** No additional data are available.
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REFERENCES

1. Academy of Medical Royal Colleges. The UK Foundation Programme Curriculum, July 2012: <http://www.foundationprogramme.nhs.uk/pages/foundation-doctors/training-and-assessment/fpcurriculum2012> (accessed June 2014).
2. Collins JP. Foundation for Excellence: An Evaluation of the Foundation Programme. Medical Education England; 2010. <http://hee.nhs.uk/wp-content/uploads/sites/321/2012/08/Foundation-for-excellence-report.pdf> (accessed June 2014).
3. Miller A, Archer J. Impact of workplace based assessment on doctors' education and performance: a systematic review. *Brit Med J* 2010;341:c5064.
4. Tunstall P. Teacher feedback to young children in formative assessment: A typology. *Brit Educ Res J* 1996;22:389-395.
5. Driessen E, Scheele F. What is wrong with assessment in postgraduate training? Lessons from clinical practice and educational research. *Med Teach* 2003;35:569-74.
6. Norcini J, Burch V. Workplace-based assessment as an educational tool: AMEE Guide No 31. *Med Teach* 2007;9:855-71.
7. Nair BR, Alexander HG, McGrath BP, et al. The mini clinical evaluation exercise (mini-CEX) for assessing clinical performance of international medical graduates. *Med J Aust* 2008;189:159-61.
8. Weller JM, Jones A, Merry AF, et al. Investigation of trainee and specialist reactions to the mini-clinical evaluation exercise in anaesthesia: implications for implementation. *Br J Anaesth* 2009;103:524-30.
9. van der Vleuten C. The assessment of professional competence: developments, research and practical implications. *Adv Health Sci Educ* 1996;1:41-67.
10. Pereira EA, Dean BJ. British surgeons' experiences of mandatory online workplace-based assessment. *J Royal Soc Med* 2009;102:287-93.
11. Ryland I, Brown J, O'Brien M, et al. The portfolio: how was it for you? Views of F2 doctors from the Mersey Deanery Foundation Pilot. *Clin Med* 2006;6:378-80.
12. Weston PSJ, Smith CA. The use of mini-CEX in UK foundation training six years following its introduction: Lessons still to be learned and the benefit of formal teaching regarding its utility. *Med Teach* 2014;36:155-63.

13. Wilkinson JR, Crossley JG, Wrag A, et al. Implementing workplace-based assessment across the medical specialties in the United Kingdom. *Med Educ* 2008;42:364-373.
14. Kogan JR, Holmboe ES, Hauer KE. Tools for direct observation and assessment of clinical skills of medical trainees: a systematic review. *JAMA* 2009;302:1316-26.
15. Pelgrim EAM, Kramer AWM, Mookink HGA, et al. In-training assessment using direct observation of single-patient encounters: a literature review. *Adv Health Sci Educ* 2010;16:131-142.
16. Fernando N, Cleland JA, McKenzie H, et al. Identifying the factors that determine feedback given to Undergraduate Medical Students following formative mini-CEX assessments. *Med Educ* 2008;42:89-95.
17. Holmboe ES, Yepes M, Williams F, et al. Feedback and the mini clinical evaluation exercise. *J Gen Int Med* 2004;19(5 Pt 2):558-56.
18. Yeates P, O'Neill P, Mann K, et al. Seeing the same thing differently: Mechanisms that contribute to assessor differences in directly-observed performance assessments. *Adv Health Sci Educ* 2013;18:325-41.
19. Sinclair H, Cleland JA. Medical undergraduate students – who seeks formative feedback? *Med Educ* 2007;41:580-582.
20. Crotty M. *The Foundations of Social Research. Meaning and Perspective in the Research Process.* London: Sage Publications; 2003.
21. Smith B, Sparkes AC. Contrasting perspectives on narrative selves and identities: an invitation to dialogue. *Qual Res* 2008;8:5-35.
22. Ritchie J, Spencer L. Qualitative data analysis for applied policy research. In: Bryman A, Burgess RG, eds. *Analysing Qualitative Data.* London: Routledge, 1994: 173-194.
23. Côté L, Turgeon J. Appraising qualitative research articles in medicine and medical education. *Med Teach* 2005;27(1):71-75.
24. Rees CE, Monrouxe LV. “Is it alright if I-um-we unbutton your pyjama top now?” Pronominal use in bedside teaching encounters. *Commun Med* 2008;5(2):171-182.
25. Rees CE, Knight LV, Wilkinson CE. “Doctors being up there and we being down here”: a metaphorical analysis of talk about student/doctor-patient relationships. *Soc Sci Med* 2007;65(4):725-737.

- 1
2
3 26. Rees CE, Knight LV, Cleland JA. Medical educators' metaphoric talk about their
4 assessment relationship with students: "You don't want to sort of be the one who
5 sticks the knife in them". *Assess Eval Higher Educ* 2009;34(4):455-467.
6
7
8 27. Wilkinson CE, Rees CE, Knight LV. "From the heart of my bottom": Negotiating
9 humour in focus group discussions. *Qual Health Res* 2007;17(3):411-422.
10
11 28. Rees CE, Monrouxe LV. Laughter for coping: Medical students narrating
12 professionalism dilemmas. In: C. Figley, P. Huggard, & C.E. Rees (Eds.). *First Do No
13 Self-Harm: Understanding and Promoting Physician Stress Resilience*. New York:
14 Oxford University Press; 2013:67-87.
15
16 29. Overeem K, Wollersheim H, Driessen E, et al. Doctors' perceptions of why 360-
17 degree feedback does (not) work: a qualitative study. *Med Educ* 2009;43:874-882.
18
19 30. Cleland JA, Knight L, Rees C, et al. "Is it me or is it them?" Factors influencing
20 assessors' failure to report underperformance in medical students. *Med Educ*
21 2008;42:800-809.
22
23 31. Chikwe J, de Souza AC, Pepper JR. No time to train surgeons. *Brit Med J*
24 2004;328:418-419.
25
26 32. Mattick K, Kelly N, Rees C. A window into the lives of junior doctors: narrative
27 interviews exploring antimicrobial prescribing experiences. *J Antimicrob Chemother*
28 2014; Apr 3: Epub ahead of print.
29
30 33. Urquhart LM, Rees CE, Ker JS. Making sense of feedback experiences: a multi-school
31 study of medical students' narratives. *Med Educ* 2014;48(2):189-203.
32
33 34. Bing-You RG, Trowbridge RL. Why medical educators may be failing at feedback.
34 *JAMA* 2009;302(12):1330-1331.
35
36 35. Veloski J, Boex JR, Grasberger MJ, et al. Systematic review of the literature on
37 assessment, feedback and physicians' clinical performance: BEME Guide No. 7. *Med
38 Teach* 2006;28(2):117-128.
39
40 36. Watling C, Lingard L. Toward meaningful evaluation of medical trainees: the
41 influence of participants' perceptions of the process. *Adv Health Sci Educ*
42 2012;17:183-194.
43
44 37. Watling C, Driessen E, van der Vleuten CPM, et al. Learning from clinical work: the
45 roles of learning cues and credibility judgements. *Med Educ* 2012;46(2):192-200
46
47 38. Maxwell J. Using numbers in qualitative research. *Qual Inq* 2010;16:475-82.
48
49
50
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3 39. Rees CE, Monrouxe LV, McDonald LA. Narrative, emotion and action: Analysing
4 'most memorable' professionalism dilemmas. Med Educ 2013;47:80-96.
5
6
7 40. Boud D, Molloy E. Rethinking models of feedback for learning: the challenge of
8 design. Assess Eval High Educ 2012;E1-15.
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Table 1: Participant characteristics by group

Characteristic	Trainees (N = 70)*	Trainers (N=40)*
Age		
20-30	65 (93%)	2 (5%)
31-40	2 (3%)	13 (32%)
41+	3 (4%)	24 (61%)
Gender		
Male	31 (44%)	24 (60%)
Female	39 (56%)	16 (40%)
Ethnicity		
White	57 (81%)	37 (93%)
Non-white	13 (19%)	3 (8%)
Language		
English	60 (86%)	36 (90%)
English as second language	10 (14%)	3 (8%)
Trainers' years since graduation		
0-10	-	8 (20%)
11-20	-	15 (38%)
21+	-	16 (41%)
Trainers' years of PGME experience		
0-10	-	26 (64%)
11-20	-	9 (23%)
21+	-	4 (11%)
Trainers' specialties		
Hospital (medical)**	-	16 (40%)
Hospital (surgical)	-	5 (13%)
Hospital (services)	-	8 (20%)
General Practice	-	5 (13%)
Nurse	-	4 (10%)
Number of SLEs conducted		
Median	8	6
Range	3-25	0-40
Had experience with SLE tools?†		
DOPS	42 (60%)	16 (40%)
Mini-CEX	46 (66%)	25 (63%)
CBD	45 (64%)	26 (65%)
DCT	10 (14%)	6 (15%)
Number of WPBA conducted		
Median	19.5	30
Range	8-28	0-40
Had experience with WPBA tools?†		
DOPS	24 (34%)	20 (50%)
Mini-CEX	24 (34%)	30 (75%)
CBD	24 (34%)	30 (75%)

NOTES: *these figures are rounded up to zero decimal places so may not always add up to 100%; ** Medical specialties included neurology, gastroenterology, rheumatology, anaesthesiology and psychiatry, surgical specialties includes ophthalmology and orthopaedics, and services specialties included infectious diseases and dermatology; †these figures represent a free-text question asking participants to outline which tools they had used so numbers are likely to be under-estimates

Table 2: Participants' conceptualisations of SLEs/WPBAs

Conceptualisation	Description	Illustrative quote
SLE/WPBA as unknown	Conceptualisation unclear.	"I didn't really understand what they [SLEs] meant ((laughs)) to be honest erm" (Female F1, site 3)
SLE/WPBA as summative tool	SLEs/WPBAs' purpose is to assess trainees' abilities, and give 'pass/fail' results.	"WPBA is more of a case of they've performed a task and have they understood what that task is or is it something you can sign off that they're competent to do" (Male Trainer, site 3)
SLE/WPBA as tick box exercise	SLEs/WPBAs demonstrate basic requirements are met with little educational value.	"It's still tempting for an assessor to say "I'm really busy, we'll do a WPBA and we'll just tick whether it was excellent or not"" (Female F2, site 1)
SLE/WPBA as safety net	SLEs/WPBAs' purpose is to ensure that trainees who struggle are identified.	"I initiated a Mini-CEX in a clinic to try and get some ideas about why the registrar was getting these complaints ... what it allowed me to do was to try and broach the subject of the complaints with the registrar but in a training environment" (Male Trainer, site 2)
SLE as formative tool	SLEs are a tool for developing, rather than assessing, trainees.	"It is a learning event and you should be giving them feedback on the process there and then, and that should be used as a learning tool" (Female Trainer, site 2)
SLE as a formalisation process	SLEs open up a legitimate route for trainees to ask seniors to engage in their learning, ensuring that training processes occur within the workplace.	"I think that's just formalising what we do normally, ward round teaching it's formalising that but also making it more time consuming because you have to write it all down" (Female Trainer, site 1)
SLE as individual assessments	An opportunity to assess competencies and knowledge at a single time-point.	"Problem is it's just, the supervised learning events is just a one off thing, it's just like a little snapshot" (Female F1, site 2)
SLE as formal progression	SLEs demonstrate trainee progression, evidencing skill acquisition over time.	"My understanding of the SLEs are they are opportunities to um, view and um, assess a trainee's um, progress, whether that's examination skills, whether that's clinical reasoning..." (Male Trainer, site 3)
SLE as developmental process	SLEs provide trainees with an opportunity for holistic development. Unlike 'formal progression', the focus is on trainees' personal perceptions of development.	"she [consultant] was there all the time, she, when she wasn't there, you know, the first thing she said to me when she got back onto the ward on Monday morning, was "What does the latest gas show? What are you gonna do...? Are you gonna treat this...?", so, so the whole thing was just this massive learning experience" (Female F2, site 3)
SLE as engagement opportunity	SLEs are an opportunity for trainers and trainees to have one-to-one time that may not otherwise happen.	"the fact it's compulsory ... that gives you something you can say to seniors "look, I need to do this, I'm sorry, but I have to do it" ... it does mean you sit down and hopefully spend half an hour talking in a bit more detail... it does mean you've got an excuse to have that face-to-face..." (Male F2, site 2)
WPBA as a gut feeling	WPBAs are poorly defined and therefore assessing whether a trainee had passed is a 'judgement call'.	"because also like last year, somebody would give you all these meets or meets it more, but it's such a subjective thing" (Female F2, site 1)
Understandings linked with emotion	Conceptualisations articulated with emotion talk.	"I think it's six of one half-dozen of the other, I am not somebody who excels at that kind of assessment... erm and I get very anxious, I get very uptight and I don't shine... and it feeds into all my

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anxieties and insecurities about myself... and I think that probably skews my perception of them [SLE/WPBAs]..." (Female F2, site 3)

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Table 3: Overview of personal incident narratives of SLEs and WPBAs by participants: Frequencies (%)

	Overall* 333	SLEs**			WPBAs**		
		Total 221	Trainee 167	Trainer 54	Total 72	Trainee 39	Trainer 33
Where							
Hospital	253	170 (76)	123 (73)	47 (84)	58 (81)	31 (79)	27 (82)
GP Practice	20	17 (8)	12 (7)	5 (9)	2 (3)	0 (0)	2 (6)
Other	3	1 (0)	1 (1)	0 (0)	1 (1)	0 (0)	1 (3)
When							
FY1	185	130 (59)	104 (62)	26 (48)	50 (69)	39 (100)	11 (33)
FY2	84	76 (34)	62 (37)	14 (26)	5 (7)	0 (0)	5 (15)
ST	10	4 (2)	0 (0)	4 (7)	2 (3)	0 (0)	2 (6)
Who (trainer)							
Hospital Dr	262	176 (79)	139 (83)	37 (67)	57 (79)	29 (74)	28 (85)
Community Dr	26	21 (9)	12 (8)	9 (16)	3 (4)	0 (0)	3 (9)
Non-medic	15	11 (5)	4 (2)	7 (13)	3 (4)	2 (5)	1 (3)
No trainer	2	0 (0)	0 (0)	0 (0)	2 (3)	2 (5)	0 (0)
Which tool							
CBD	106	78 (34)	59 (34)	19 (35)	16 (22)	5 (13)	11 (32)
Mini-CEX	85	61 (27)	47 (27)	14 (25)	17 (23)	9 (23)	8 (24)
DOPs	85	57 (25)	46 (27)	11 (20)	20 (27)	13 (33)	7 (21)
DCT	28	12 (5)	9 (5)	3 (5)	13 (18)	11 (28)	2 (6)
Other (e.g. MSF)	6	2 (1)	1 (1)	1 (2)	2 (3)	0 (0)	2 (6)
Evaluation							
Positive	173	128 (58)	103 (62)	25 (46)	28 (39)	14 (36)	14 (42)
Negative	56	29 (13)	23 (14)	6 (11)	16 (22)	10 (26)	6 (18)
Neutral	36	28 (13)	16 (10)	12 (22)	8 (11)	3 (8)	5 (15)
Contradictory	20	12 (5)	7 (4)	5 (9)	6 (8)	4 (10)	2 (6)

Notes: *Note that frequencies for SLEs and WPBAs (across rows) do not add up to the overall total because unclear narratives are excluded; **Percentages are calculated within each group/column i.e. total, trainee, trainer. These also fall short of 100% because 'unclear' narratives are excluded.

Table 4: Issues around SLE/WPBA processes

Issue	<i>Illustrative quote</i>
Initiation	"I've done catheter insertion and I did that for the first time as a DOPS because while I was on call a lady needed to be catheterised and the SHO said to me "have you done a catheter before? Do you want to do it as a DOPS for me?" (Female F1, site 1).
Tools used	"... probably the Mini-CEX has been the most useful, I say that because we have a trainee who's currently in difficulty and we had an extra assessment for her a couple of months ago and it became clear that she could swat up for the CBD and was actually quite good at the CBD but in the Mini-CEX when you're in a clerk situation the patient is there you're seeing the whole package... it was the most valuable tool for us in this particular trainee because it seemed to pick out where the gaps were and it was quite alarming ((laughs)) where the gaps were ((said with laughter)) and that's the best tool we found for that particular trainee ..." (Female Trainer, site 1).
Feedback	"there's no point somebody sitting down and filling in a form that takes you know a minute to complete and and all they say is "very good carry on"... because that fine it's nice to have nice things said about you but it doesn't really help in terms of training or feedback... give them something to reflect on" (Male Trainer, site 1).
Finalising	"I'm still waiting and that was about a month, maybe a month ago ((laughs))... I sent her [trainer] some erm reminder e-mails and I think probably... next week I'm gonna have to go up to her and say "Oh I sent you an e-mail, have I got your right e-mail address?" kind of thing but I don't really like chasing people... it's a bit uncomfortable kind of situation" (Female F2, site 3).

Table 5: Factors facilitating/inhibiting learning through SLEs/WPBAs

Levels	Definition	Illustrative quotes
INDIVIDUAL	Trainee/trainer characteristics including the presence (facilitator) or absence (inhibitor) of: enthusiasm, motivation, and engagement; understanding of SLE/WPBAs; teaching/learning competence; self-reflection and self-awareness; organisational skills and confidence.	“but it seems to be sort of confusing the seniors as well because they’re not too sure what’s required of us... they’re not too sure what the requirements are and to be honest when we first started it didn’t seem like the academic office was too sure of the requirements either... so no one had a clue sort of how many we all needed...” (Female F2, site 1)
INTERPERSONAL	Trainee-trainer relationship characterised by presence (facilitator) or absence (inhibitor) of: knowledge of the other person and continuity of relationship; mutual respect; like, warmth, and trust; an identification with the ‘other’ and a sense of connectedness; connection to the ‘team’ with shared goals.	“In a way it’s needed really because of the way postgraduate medical training has been condensed and continuity of training has disappeared so you don’t get the same mentorship and the same apprenticeship that you used to be because you’re working with a number of different consultants depending on which day of the week it is and I think that’s one of the things that is difficult actually for the trainers is that they may not see a lot of the trainees to get the background sense of how a trainee actually is so that they can then provide meaningful input related to a specific case...” (Male Trainer, site 1)
CULTURAL	Organisational characteristics including presence (facilitator) or absence (inhibitor) of: safe learning and assessment culture; protected time for supervised practice including observation and feedback; rotations with adequate durations; team-orientation with availability of registrar, consultant and non-medical trainers (e.g. nurses); relevant tools for each specialty.	“I think the SLEs were a little bit easier [on my second rotation] because you got regs [registrars] to do it... the environment is very amenable to SLEs because you saw the same regs again and again and it’s easy to follow up versus another environment that’s less so, let’s say if you’re working in orthopaedics not so much because their rotas don’t exactly facilitate for seeing people on a regular basis and it’s a different, separate teams and very much the FY1 more on the wards and that’s why pretty much so it really is environment depended” (Male trainee, site 1)
TECHNOLOGICAL	Technological characteristics including presence (facilitator) or absence (inhibitor) of hardware (e.g. computers, smartphones) and software (e.g. online tools, Internet).	Int: How quickly do you complete their form, their e-Portfolio? MT: I tend to do them online at the time... primarily because I’m never more than two feet away from my iPad and so it’s easy to um get them to log in either on a terminal and send me a link (Male Trainer, site 3)

Box 1: "I'll actively hunt"

Int: ...okay well can you think of any more stories with your SLEs* because we've got different types I mean any DOPS maybe?

Helena: I don't find the DOPS very useful because one of the DOPS like taking blood or putting in a cannula we do that about a hundred times a day and obviously all our trainers know that we can do that and have seen that not sat and watched us put in a venflon but have seen all the venflons in the patients and they know that we put them in

Int: right

Helena: so they don't really take the time to stand and assess and watch us put it in because they've seen people toing and froing with our venflons in their arms so they're like "yeah I'll sign that off no problem I know you can do a venflon"

Int: okay so they're not really watching you they're just taking it on trust

Helena: yeah they can see the outcomes of the procedures that we've done rather than

Int: have you had an SLE like that?

Helena: yeah um like I mean fairly straightforward procedures that we do every day there's not often enough time for trainers to actually stand and watch us do something as basic as taking blood they know we can take blood else we wouldn't be able to survive on the wards ((laughs)) so it's kind of taken for granted that we can do that

Int: so when you got your SLE for that can you just tell me how that happened how did you go about getting the SLE for that?

Helena: um well just in the last job towards the end they always say "how are you doing with all the tick bo- have you got everything you need?" and I was a couple short on DOPS so my clinical fellow said "I obviously know you can do venflons I've sent you to go and [do] them and you've come back and said you've done them on numerous occasions I can easily sign that one off for you"

Int: okay so again they initiated it rather than you yourself is that right in this particular case?

Helena: Yeah it can be both because I'll think "oh deadline coming up I'm a few short of this and this" and I'll actively hunt to- to go and find somebody that needs what I'm missing ((laughs))...

Notes: *Although the trainee is repeated asked about a SLE experience, she provides a WPBA experience

Table 6: Suggested improvements to the SLE process

Level	Definition	Illustrative quotes
INDIVIDUAL	Suggestions included improving trainee/trainers' understandings of SLEs and their engagement with SLEs.	"I think that we would very much like to have a clearer idea about what it is we should be doing rather than having to make up what it is that we actually are doing" (Trainer, Site 3)
INTERPERSONAL	Suggestions included increased opportunities for trainers to receive feedback from trainees, more regular trainee-trainer meetings, and a developmental approach to the trainee-trainer relationship.	Trainee 1: the same way we have to get evidence that we've done these things, I think that they [trainers] should also have evidence... they have to show examples that they have given feedback ... so I think they should be required to do it as well Trainee 2: I think that's a great idea that we give feedback on their feedback ((says laughingly))" (Trainees, Site 1)
CULTURAL	Suggestions included increased recognition for the roles of clinical/educational supervisors, increased diversity among trainers able to do SLEs, improved continuity in processes across the continuum of postgraduate medical education, increased clarity around the initiation of SLEs, shifting away from tick-box culture and removing structures allowing for cheating.	"this is a tool ... which is meant to be used in conjunction with the training that goes on and if the training that goes on isn't happening... if consultants aren't able to come and watch you in the clinic...for an hour an hour and a half to actually observe what you're doing if they're not in a position to be able to do that then it doesn't matter how good the tool is ... I don't know how you make it better until you can actually release consultants and registrars and people to actually to give them time to say you know you're doing training" (Trainer, Site 1)
TECHNOLOGICAL	Suggestions included improving e-tools and platforms, and altering the system to reduce time spent chasing trainers to finalise the process.	"maybe if all the, all the feedback-ey things were right at the top of the form and the tickbox-ey things were further down... because the trouble with tick-boxes is, I've done it myself you know "yeah, yeah, yeah, yeah, yeah, fine, yeah, whatever"... you go into tick-box mode and and it's like "any further comment?" is "what, you want me to say MORE?!" ((laughs loudly))" (Trainee, Site 3)

BMJ Open

Supervised Learning Events in the Foundation Programme: A UK-wide narrative interview study

Journal:	<i>BMJ Open</i>
Manuscript ID:	bmjopen-2014-005980.R1
Article Type:	Research
Date Submitted by the Author:	11-Sep-2014
Complete List of Authors:	Rees, Charlotte; University of Dundee, Centre for Medical Education Cleland, Jennifer; University of Aberdeen, Dennis, Ashley; University of Dundee, Centre for Medical Education Kelly, Narcie; University of Exeter, University of Exeter Medical School Mattick, Karen; University of Exeter, University of Exeter Medical School Monrouxe, Lynn; Cardiff University, Institute of Medical Education
Primary Subject Heading:	Medical education and training
Secondary Subject Heading:	Qualitative research
Keywords:	EDUCATION & TRAINING (see Medical Education & Training), MEDICAL EDUCATION & TRAINING, QUALITATIVE RESEARCH

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3 **Supervised Learning Events in the Foundation Programme: A UK-wide narrative interview**
4 **study**
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5 **Key words:** Education, Medical; Feedback; Educational Measurement; Workplace;
6 Qualitative Research
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10 **Word count, excluding title page, abstract, references, figures and tables:** 5047
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For peer review only

ABSTRACT

Objectives: To explore Foundation trainees' and trainers' understandings and experiences of supervised learning events (SLEs), compared with workplace-based assessments (WPBAs), and their suggestions for developing SLEs.

Design: A narrative interview study based on 55 individual and 19 group interviews.

Setting: UK-wide study across three sites in England, Scotland and Wales.

Participants: Using maximum-variation sampling, 70 Foundation trainees and 40 trainers were recruited, shared their understandings and experiences of SLEs/WPBAs and made recommendations for future practice.

Methods: Data were analysed using thematic and discourse analysis and narrative analysis of one exemplar personal incident narrative.

Results: While participants volunteered understandings of SLEs as learning and assessment, they typically volunteered understandings of WPBAs as assessment. Trainers seemed more likely to describe SLEs as assessment and a 'safety net' to protect patients than trainees. We identified 333 personal incident narratives in our data (221 SLEs; 72 WPBAs). There was perceived variability in the conduct of SLEs/WPBAs in terms of their initiation, tools used, feedback and finalisation. Numerous factors at individual, interpersonal, cultural and technological levels were thought to facilitate/hinder learning. SLE narratives were more likely to be evaluated positively than WPBA narratives overall and by trainees specifically. Participants made sense of their experiences, emotions, identities and relationships through their narratives. They provided numerous suggestions for improving SLEs at individual, interpersonal, cultural and technological levels.

Conclusions: Our findings provide tentative support for the shift to formative learning with the introduction of SLEs, albeit raising concerns around trainees' and trainers' understandings about SLEs. We identify five key educational recommendations from our study. Additional research is now needed to explore further the complexities around SLEs within workplace learning.

ARTICLE SUMMARY

Strengths and limitations of the study

- This is the first study to explore Foundation Programme trainee and trainers' understandings and experiences of SLEs (compared with WPBAs)
- The large number of narratives collected across England, Scotland and Wales enhances the transferability of our findings to other UK locations
- We had relatively low numbers of GP and nurse trainers and trainees with GP and nurse trainer SLE/WPBA experiences so our findings are most relevant to SLEs conducted by hospital doctors

INTRODUCTION

If you are a clinical educator or trainee doctor in today's NHS in the United Kingdom, you will inevitably have participated in a 'supervised learning event' (SLE)[1]. SLEs review the personal development of trainee doctors, with an emphasis on patient safety [1]. They were introduced into the UK Foundation Programme (UKFP) in 2012. SLEs specifically address concerns raised in the Collins report [2] and previously published literature about assessment within the UKFP [3]; that trainees and trainers perceived workplace-based assessments (WPBAs) as excessive, onerous and therefore unvalued. Drawing on the same tools utilised within WPBAs (e.g. Mini Clinical Evaluation Exercise: Mini-CEX, Direct Observation of Procedural Skills: DOPS and Case-Based Discussion: CBD), SLEs are designed to: (1) highlight achievements and areas of excellence; (2) provide immediate feedback and suggest areas for further development; and (3) demonstrate engagement in the educational process [1, see pages 57-59 for more details]. Trainees are encouraged to complete a minimum number of SLEs spread evenly throughout their placements, with different trainers and covering diverse acute and long-term clinical problems [1]. In this way, SLEs aim to facilitate a strong formative component of trainee doctors' assessment.

Rather than indicating what a learner can/cannot do or knows (i.e. summative assessment), formative assessments indicate the 'gap' between the learner's actual level of performance and the required standard, providing an indication of how performance could be improved to reach the required standard. Therefore, SLEs are designed to enable the provision of timely feedback about the effectiveness of care and the trainee's interactions with others, with a focus on the trainee's performance and development, which may identify areas of weakness requiring support and reflection. SLEs thus have the potential to be more meaningful for learning, motivating learners to 'mastery goals' such as understanding, rather than 'performance goals' like passing an examination [4,5].

However, SLEs also have a summative role within the UKFP. Currently, evidence of SLEs must be included in every Foundation doctor's e-Portfolio, which in turn is a method of assessment of the Foundation doctor's success in achieving the outcomes described in the curriculum, and which educational supervisors use in the end of placement report. Thus, SLEs can be viewed broadly as information gathering activities that aim to benefit the

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3 quality of trainee learning, as well as monitoring their engagement with feedback for
4 accountability purposes.
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9 **Effectiveness of the assessment tools**

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11 Previous research has examined the effectiveness of the assessment tools (e.g. DOPS, Mini-
12 CEX, CBD) [6-8], drawing on van der Vleuten's utility equation [9]: educational impact x
13 validity x reliability x cost effectiveness x acceptability. Previous research has provided
14 mixed results regarding their efficaciousness in terms of acceptability, reliability and validity:
15 (1) the acceptability of WPBAs to trainees and trainers varies widely [2,8,10-13]; (2)
16 reliability for the tools is frequently sub-optimal [14]; and (3) the Mini-CEX and the 'clinical
17 encounter card' appears to have high criterion validity in terms of strong and significant
18 correlations with other assessment instruments [15]. However, the cost effectiveness and
19 educational impact of the tools have been largely neglected. Indeed, few published articles
20 have explored the educational impact of WPBA tools and there is therefore little evidence
21 that they lead to improvements in performance [3,15].
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33 **Effectiveness of WPBAs and SLEs**

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35 Research has also examined the effectiveness of WPBAs, albeit scant. What evidence there
36 is suggests that WPBAs are reasonably ineffective, attributed to issues such as the sub-
37 optimal use of the tools for feedback [16,17]. Some research suggests that the rating scales
38 often utilised within the tools such as the Mini-CEX introduce artificiality into the
39 assessment, concluding that open-ended comments may be more valuable as assessors are
40 able to provide feedback in more 'authentic' terms [18]. Additionally, there are issues with
41 sub-optimal learners being less likely to seek feedback [19]. Outcomes such as learning,
42 transfer of skills to new situations, or improved patient care are relatively unstudied, and
43 when they are, conclusions drawn are limited due to weak study designs.
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52 SLEs were introduced in 2012 to address these shortcomings but, so far, there has
53 been no evidence to evaluate their success in doing so. Given that SLEs comprise similar
54 tools to those used within the WPBAs but with fewer assessments and explicit formative
55 goals, it is important that aspects such as acceptability and the educational utility of SLEs as
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3 a form of feedback are explored as a matter of priority. Given that acceptability and
4 educational impact inter-relates with how trainees and trainers make sense of their
5 experiences, emotions, identities and relationships, we felt it crucial to employ a narrative
6 interview approach. We were therefore commissioned by the AOMRC to undertake an
7 independent evaluation of the impact of the transition from WPBAs to SLEs.
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14 **Aims and research questions**

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16 This study is the first exploration of SLEs within the UKFP and aims to answer four research
17 questions. (RQ1) What are participants' understandings of SLEs and WPBAs and how do
18 they differ between trainees and trainers? (RQ2) What are participants' experiences of SLEs
19 and WPBAs and how do they differ between trainees and trainers? (RQ3) How do
20 participants make sense of their experiences through narrative? (RQ4) What are
21 participants' suggestions for how SLEs should be developed?
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30 **METHODS**

31 **Study design**

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33 We conducted a qualitative study using group and individual interviews to elicit trainees'
34 and trainers' understandings and personal incident narratives (PINs) of their experiences.
35 We employed focus groups wherever possible because they can lead to richer data due to
36 group dynamics (e.g. synergism) but individual interviews were also utilised because of the
37 difficulties in getting groups of clinicians together [20]. Our study draws on social
38 constructionist epistemology suggesting that there are multiple interpretations of reality
39 and ways of knowing [21]. We consider the individual and socio-relational aspects of stories
40 of experience including how participants make sense of their SLE/WPBA experiences
41 through narrative and how they share those stories and in doing so construct identities and
42 trainee-trainer relationships [22].
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55 **Sampling and recruitment**

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3 Following Deanery and Medical School authorisation, ethical approval was established at
4 three sites in England, Scotland and Wales. Using maximum-variation sampling to attempt
5 to obtain a greater range of understandings and experiences, we recruited Foundation
6 doctors from Year 1 and Year 2 of the 2-year programme (F1s and F2s) with training
7 experiences in both hospital and general practice settings. We also recruited trainers across
8 hospital and general practice settings, including clinical and educational supervisors and
9 members of placement supervision groups such as specialist registrars, consultants and
10 nurses. Using advice from our clinical reference group (see acknowledgements), we
11 employed multiple recruitment strategies to maximise participation: (1) email; (2) physical
12 notice-boards; (3) leaflets in strategic places (e.g. medical libraries, common rooms); (4)
13 snowballing through participant and trainee organisations (e.g. BMA junior doctor
14 committee); (5) social networking (e.g. Facebook); and (6) face-to-face during formal
15 curricula. We interviewed 110 participants (34 F1s, 36 F2s, and 40 trainers: see Table 1 for
16 participants' characteristics). This overall sample and sub-samples far exceeded the
17 minimum sample size of 30 advocated by some qualitative scholars [23]. Furthermore, we
18 considered this to be the maximum number of participants we could feasibly interview
19 given the time and financial constraints of our grant, another pragmatic consideration
20 discussed by qualitative researchers [23].
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35 [Insert Table 1 about here]
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40 **Data collection**

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42 We conducted 55 individual and 19 group interviews (34 individual and 3 group interviews
43 with trainers; 21 individual and 16 group interviews with trainees). All focus groups bar two
44 were homogenous in terms of the type of study participant (i.e. trainer or year-specific
45 trainee groups). Interviews were recorded, transcribed and anonymised (mean length of
46 focus groups 45:43 minutes:seconds [range 31:50-63:47] and individual interviews 36:38
47 minutes:seconds [range 17:37-69:50]: total data around 46 hours). Participants completed
48 a personal details questionnaire, comprising demographic and education-related details
49 enabling classification of sample characteristics by group, site and entire study. An
50 interview schedule ensured consistency across multiple interviewers. Interviews began by
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3 exploring trainees' and trainers' understandings of SLEs and WPBAs. Using narrative
4 interviewing, we encouraged participants to articulate their personal incident narratives
5 (PINs) of SLEs and WPBAs by asking a series of prompts around their narratives: Can you tell
6 me about a memorable SLE/WPBA? What happened? Who was involved? Where did it
7 happen? What did you do and why? How did you feel? What was the impact of that
8 SLE/WPBA for trainee learning? We encouraged participants to narrate their SLE/WPBA
9 experiences so that their views were grounded in actual lived experiences and we could
10 understand how they made sense of those experiences, identities and relationships.
11 Interviews continued until participants felt they had shared their experiences sufficiently.
12 We then asked participants how they thought SLEs could be improved.
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23 **Data analysis**

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25 We employed multiple and complementary forms of analyses as per previously published
26 research [24]: thematic and discourse analyses and in-depth narrative analysis of one
27 exemplar personal incident narrative (PIN). We began with a primary level thematic analysis
28 of the data called Framework Analysis (involving data familiarisation, thematic framework
29 identification, indexing, charting, mapping and interpretation) to determine content- and
30 process-related themes (i.e. what participants said and how they said it respectively) [25].
31 The identification and coding of process-related themes was akin to discourse analysis i.e.
32 analysis of language-in-use in social interaction [26]. We employed qualitative data analysis
33 software (Atlas-Ti, Version 7.0) to facilitate multi-analyst coding of the data. This allowed us
34 to explore patterns across our data qualitatively, such as possible differences in
35 understandings between trainees and trainers, and sometimes quantitatively such as
36 exploring differences in trainee and trainers' SLE/WPBA experiences using descriptive (e.g.
37 frequencies and percentages) and univariate statistics (e.g. chi-squared tests). Finally, we
38 present an in-depth narrative analysis of one exemplar PIN in this paper to illustrate how
39 one trainee made sense of her workplace learning experiences, identities and relationships
40 [27]. We establish credibility in our study by describing our analytic methods, involving
41 multiple data analysts and using illustrative quotes [28]. Finally, we establish transferability
42 through our inclusion of a large number of narratives from a diverse sample of trainees and
43 trainers across three different UK countries [28].
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RESULTS

Our thematic framework analysis identified seven themes in the data: one theme relating to our first research question (understandings of SLEs/WPBAs); four themes relating to our second research question (contextual codes for the personal incident narratives, processes of SLEs/WPBAs, factors facilitating learning in SLEs/WPBAs, and factors inhibiting learning); one theme relating to our third research question (how participants narrate their experiences); and one theme relating to our fourth research question (suggestions for improving SLEs).

RQ1: What are participants' understandings of SLEs and WPBAs and how do they differ between trainees and trainers?

Many trainees and trainers admitted to not knowing what SLEs were, and this uncertainty was emphasised through hesitations (errs and ums), pauses, hedges (e.g. "I guess") and laughter. Some participants (e.g. those new to training or new to the UK) were also unsure what WPBAs were but most seemed better able to explain WPBAs than SLEs.

Many trainers and F2s suggested that SLEs and WPBAs were conceptually and operationally the same. However, others did perceive them to be conceptually different, with SLEs having formative and WPBAs having summative aims. While participants volunteered a range of understandings for SLEs (e.g. as learning, as assessment), they almost exclusively volunteered understandings of WPBAs as assessment (see Table 2).

[Insert Table 2 about here]

Trainers seemed to volunteer understandings of SLEs as assessment and as a 'safety net' (i.e. a diagnostic tool to help identify trainees who were "struggling") more than trainees. However, only trainers defined WPBAs in this way. Another apparent difference we identified, was the extent of emotional talk (e.g. negative emotion talk) employed by trainees when attempting to define SLEs and WPBAs. Trainees sometimes felt the formative focus relieved the pressure to perform and reduced anxieties.

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5 **RQ2: What are participants' experiences of SLEs and WPBAs and how do they differ**
6 **between trainees and trainers?**
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9 We outline key findings associated with four of our fragmentary themes (i.e. themes that
10 cross-cut all narratives) here: one contextual theme (covering the timing, location of
11 SLEs/WPBAs, identity of trainer, type of tool, and participant evaluation including the
12 differences between trainees' and trainers' evaluations), and three conceptual themes all
13 pertaining to participants' lived experiences of SLEs/WPBAs (processes of SLEs and WPBAs;
14 and factors facilitating and inhibiting learning within SLEs/WPBAs). It is important to
15 indicate that narratives typically contain numerous elements including the narrator's
16 commentary on their experience: also known as the 'evaluation' [29]. As per the
17 interpretive approach, the analysts coded whole narratives to these codes depending on
18 what participants said and how they said it. For example, narratives including mostly
19 negative emotional talk (e.g. "it was quite alarming") would be coded to 'negative
20 evaluation' and narratives including mostly positive emotional talk (e.g. "it's nice to have
21 nice things said about you") would be coded to 'positive evaluation'.
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35 The context of SLE and WPBA narratives

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37 We identified 333 narratives in the data (221 SLEs, 72 WPBAs; see Table 3). Most SLEs and
38 WPBAs narrated took place in hospital settings (n=253) and involved F1 doctors (n=185).
39 Trainers within the incidents were usually hospital-based doctors (n=262), although some
40 non-medical specialists (e.g. nurses) also acted as trainers (n=15). CBD, DOPS and Mini-CEX
41 were the most common tools narrated (totalling n=276). Finally, SLEs were overall more
42 likely to be evaluated by the narrators positively (58%) than WPBA narratives (39%), and
43 were less likely to be evaluated negatively by the narrators (13%) compared with WPBAs
44 (22%: $X^2=5.344$, $df=1$, $p=.021$). The descriptive statistics presented in Table 3 illustrate more
45 similarities than differences between trainees and trainers. Although trainees seemed to
46 narrate more SLE experiences with positive evaluations (62%) compared with trainers (46%:
47 $X^2=.000$, $df=1$, $p=1.000$) and more WPBAs with negative evaluations (26%) compared with
48 trainers (18%: $X^2=.237$, $df=1$, $p=.627$), these relationships were not statistically significant.
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3 However, trainees were more likely to narrate their SLE experiences positively (62%)
4 compared with WPBAs (36%: $\chi^2=5.148$, $df=1$, $p=.023$).
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7 [Insert Table 3 about here]
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9 Processes of SLEs and WPBA

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11 SLEs and WPBAs were conducted in diverse ways, in terms of their initiation, tools
12 employed, educational processes used, and completion.
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15 *Initiating SLEs and WPBAs*

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18 WPBAs/SLEs were initiated by different parties, with different motivations and in different
19 contexts. While SLEs should be trainee-initiated, trainers occasionally also initiated them,
20 sometimes near the end of rotations (see Box 1 later). Trainees and trainers described some
21 trainees lacking proactivity to seek opportunities for SLEs/WPBAs. When trainees did initiate
22 them, at times, they strategically chose a trainer they knew. This was sometimes done to
23 enhance the learning experience, choosing someone they felt comfortable with, believed
24 would engage in the process, and/or thought would support them in a positive way. At
25 other times this was done with the intention of having a quick and easy experience where
26 the trainer would just 'tick the box'. Trainees often described feeling discomfort in asking
27 for SLE/WPBA supervision and were often grateful when trainers initiated them. The
28 initiation also varied in terms of the level of planning and organisation. Occasionally they
29 were planned ahead of time, and this sometimes involved an element of rehearsal
30 (particularly for the developing the clinical teacher tool: DCT). At other times, they were ad
31 hoc, with opportunistic clinical encounters recognised as an opportunity for an SLE. Finally,
32 they were sometimes initiated retrospectively, at times, long after the event, particularly
33 when trainees had completed insufficient tools during their placements (see Box 1).
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49 *Tools used*

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52 Participants talked about the unique aspects of tools, their preferences and their
53 'workability'. However, they were sometimes unsure or mistaken about what comprised an
54 SLE/WPBA assessment tool, or conflated tools (e.g. CBD with Mini-CEX). Participants
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3 discussed the practicalities of various tools, and suggested that some were less workable in
4 certain specialties (e.g. DOPS in psychiatry). Interestingly, many participants expressed clear
5 preferences and dislike for certain tools. For example, some clinicians expressed a
6 preference for Mini-CEX over CBD: Mini-CEX allowed them to observe 'real' performances of
7 trainees and identify 'struggling trainees', whereas CBDs gave trainees opportunities to
8 rehearse thereby masking potential difficulties. Other trainees expressed a preference for
9 CBD over DOPS: CBDs led to 'real learning', whereas DOPS were 'tick-box exercises', simply
10 signing off already-competent procedures.
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17 18 19 20 *Feedback*

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22 The educational activities highlighted included: (1) trainers' observation of the trainee; (2)
23 didactic teaching of knowledge/skills; (3) scaffolding trainees' learning through strategic
24 questioning; and (4) feedback (most commonly verbal feedback during the event and
25 written feedback afterwards). Feedback quality was thought to vary. Positive experiences
26 included personal, meaningful and constructive feedback for learning. Negative experiences
27 included generalised (non-specific), inadequate, inconsistent (e.g. contradictory verbal and
28 written feedback from the same trainer), unconstructive/abusive, or overly positive (and
29 therefore educationally unhelpful) feedback. Trainees often wanted formative feedback to
30 help improve their performance (i.e. feed-forward) rather than ticks (i.e. feed-back).
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41 *Finalising SLEs and WPBAs*

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43 Some participants described examples of trainers completing forms promptly, sometimes
44 during the SLE/WPBA itself, with the feedback being a dialogue. However, finalising the
45 SLE/WPBA process often involved chasing trainers to complete forms within e-Portfolios,
46 which trainees perceived as frustrating and awkward. Trainers were also frustrated if they
47 received the link to the form weeks after the SLE. Trainers and trainees described how
48 written e-Portfolio feedback could be inadequate: while some trainees used trainer
49 comments to promote reflection within their e-Portfolio, others seemed to lack motivation
50 to read their e-Portfolio feedback. Occasionally trainers relied on hearsay or having a
51 general overview of a trainee, rather than seeing events for themselves, signing trainees off
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3 without actually witnessing their performance, a sub-theme we called ‘manipulating the
4 system through short-cuts’ (see Box 1).
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7 [Insert Table 4 about here]
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11 Factors facilitating and inhibiting learning in SLE/WPBAs
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13 Participants described many factors that facilitated and inhibited learning throughout SLEs
14 and WPBAs at four different levels: individual (e.g. characteristics of individual trainees and
15 trainers), interpersonal (e.g. trainer-trainee relationships), cultural (e.g. protected time), and
16 technological (e.g. e-forms; see Table 5).
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21 [Insert Table 5 about here]
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26 **RQ3: How do participants make sense of their experiences through narrative?**

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28 Participants narrated their SLEs/WPBAs with interesting discourse features (e.g.
29 pronominal, metaphoric and emotional talk and laughter), revealing how they
30 constructed themselves, others and their relationships. In terms of pronouns,
31 participants often referred to the ‘other’ as “them”, illustrating adversarial trainer-
32 trainee relationships (e.g. “they need a certain amount completed so particularly
33 towards the end of placements you get a lot of reminders because you haven’t done it
34 ‘cause you haven’t had time um and they’re panicking ‘cause they need to get them”
35 (Trainer, site 3). Participants’ metaphoric talk also illustrated how they understood the
36 trainee-trainer relationship as adversarial, for example as war (e.g. “we get at least one
37 CBD... and questions get fired back and forward” (Trainee, site 2) and sport (e.g. “I think
38 it was... a win-win for both of us... they realised where they were with it, they
39 acknowledged that some of their deficiencies and I was able to form a game plan...”
40 (Male Trainer, site 2). Participants employed positive and negative emotional talk
41 throughout their narratives (e.g. “the supervisors don’t know their trainees because of
42 the way the rotations work, and that must be very difficult I think... yes it is very difficult”
43 (Female Trainer, site 2), and also laughter, in order to cope with the recounting of
44 difficult stories (e.g. “I’ll talk about a good one I’ve had, because then we’ll get on to the
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3 bad ones I've had ((laughs))" (Trainee, site 3).
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5 To illustrate these themes in more depth, we next present one narrative
6 exemplar from a trainee which demonstrates the complex interplay between what
7 participants say and *how* they narrate their experiences in order to make sense of them,
8 identities and relationships. We selected this narrative because it is fairly typical,
9 illustrates a range of themes already discussed in this paper, and includes interesting
10 discourse elements found across our data (see Rees et al. [30] for a further narrative
11 analysis). Helena (a pseudonym) is a female F2. She narrates a WPBA experience from
12 the end of her final F1 rotation. Her experience takes place in a medical setting within
13 the hospital and involves her clinical fellow trainer. She recounts a fairly typical
14 experience: "hunting" for outstanding WPBAs/SLEs near the end of rotations. In the
15 following narrative, Helena explains how her trainer offers to sign off 'inserting a
16 venflon' without observing her (see Box 1), thus clearly indicating how trainees and
17 trainers can manipulate the system through short cuts.
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28 She constructs her own identity and that of her clinical teaching fellow through
29 narrating her DOPS experience. Helena presents herself as a competent Foundation doctor
30 by emphasising her day-to-day participation in the medical work of the hospital: taking
31 blood and inserting venflons. She sees her competence in these procedures as without
32 question, emphasised by her repeated comments about trainers "knowing" that she and her
33 fellow Foundation doctors can insert venflons because they see evidence of them in
34 patients' arms. Helena suggests the obviousness of Foundation doctors' competence, in that
35 they would not be able to "survive on the wards" if they could not take blood. Helena
36 positions her clinical fellow (and other trainers) as having insufficient time "to actually stand
37 and watch" trainees do basic procedures that they are competent in. Helena presents her
38 trainer as knowledgeable and proactive because he checks she has completed her WPBAs
39 for the end of her rotation. While he is partly constructed as helpful for offering to sign off a
40 venflon insertion, he is simultaneously constructed as blasé in that her competence is
41 "taken for granted".
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53 There are various discourse elements in Helena's narrative that are worthy of
54 consideration, including her pronominal and metaphoric talk and laughter, all of which shed
55 light on how she makes sense of this DOPS experience. In terms of her pronominal talk, she
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3 repeatedly positions herself as 'we' throughout her narrative (meaning me and the other
4 Foundation doctors), and she repeatedly positions her clinical fellow as 'they' throughout
5 the narrative (meaning him and other trainers). This use of 'we' and 'they', rather than 'me'
6 and 'him', depersonalises and simultaneously generalises her experience, implying that all
7 Foundation doctors commonly experience this event [31]. Furthermore, this 'them and us'
8 language within the narrative implies an oppositional relationship between trainees and
9 trainers [31]. In terms of metaphoric talk, Helena explains that she is "hunting" for patients
10 in order to get DOPS signed off, and she is busy "surviving" on the wards by practising
11 procedures competently. This latter metaphoric linguistic expression, for example, implies
12 the common conceptual metaphor of MEDICINE AS WAR, and similar to the pronominal talk
13 implies oppositional relationships between trainees and trainers [32,33]. What is striking
14 about these metaphoric linguistic expressions are that they are both accompanied by
15 laughter, possibly for contextual coping (in the interactional moment of narrating the event)
16 and non-contextual coping (due to uncomfortable feelings around the nature of what it is
17 she's disclosing in her narrative) [34,35]. This laughter for coping suggests that experiences
18 such as this ("I don't find DOPS very useful") can have a negative impact on trainees'
19 emotional learning experiences.
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33 [Insert Box 1 about here]
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37 **RQ4: What are participants' suggestions for how SLEs should be developed?**

38 In response to our final question (how do you think SLEs could be improved?), participants
39 provided a range of suggestions at four different levels: individual (e.g. improving trainees'
40 and trainers' understanding and engagement), interpersonal (e.g. improving trainer-trainee
41 relationships), cultural (e.g. shifting away from tick-box summative culture), and
42 technological (e.g. improving e-tools: see Table 6).
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48 [Insert Table 6 about here]
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53 **DISCUSSION**

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3 This independent evaluation, commissioned by the AOMRC, is the first of its kind to explore
4 Foundation trainee and trainers' understandings and experiences of SLEs compared with
5 WPBAs since the introduction of SLEs in 2012.
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9 Confusion reigned amongst participants about what SLEs were and how they
10 differed from WPBAs. While participants ultimately volunteered diverse understandings of
11 SLEs (e.g. learning and assessment), they volunteered understandings of WPBAs that were
12 almost exclusively assessment-related. Trainers seemed more likely than trainees to
13 volunteer understandings of SLEs as assessment and a 'safety net' to protect patients. That
14 many trainers continue to understand SLEs as assessment means that they may continue to
15 treat them as such, thereby jeopardising trainee learning.
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22 The narratives illustrated that SLEs and WPBAs were conducted in diverse ways, with
23 issues raised about their initiation, tools used, feedback, and finalisation. Enthusiastic
24 trainers and trainees and good relationships facilitated learning within SLEs/WPBAs,
25 whereas time pressures and e-tools posed barriers to learning. SLE narratives were more
26 likely to be evaluated positively than WPBA narratives. Trainees narrated more SLE
27 experiences with positive evaluations and more narratives of WPBAs with negative
28 evaluations. Some of these findings extend the already mixed evidence for WPBA in terms
29 of its acceptability to trainees and trainers [2,10,36]. Previous research, for example,
30 indicates that feedback within the medical workplace can be sub-optimal and numerous
31 factors can hinder workplace learning, such as lack of protected time for the trainee-trainer
32 relationship [16,20,37-38].
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42 This study provides tentative support for the summative to formative shift in focus
43 from WPBAs to SLEs initiated by the AOMRC [1]. Furthermore, this study contributes to our
44 understanding of the lived experiences of trainers and trainees, and provides quantitative
45 data on differences in SLE/WPBA experiences between trainees and trainers. That trainees
46 were more likely to report positive evaluations of their SLE experiences (and trainers not)
47 suggests that trainees and trainers might want different things from SLEs/WPBAs (learning
48 vs. assessment respectively). Further, that participants constructed their own and others'
49 identities, and their relationships in numerous ways builds on other medical education
50 research at the undergraduate level emphasising potential conflictual relationships between
51 trainees and trainers [31-33,39].
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3 Key suggestions to improve the SLEs included improving trainees' and trainers'
4 understandings of SLEs, better trainee-trainer relationships through regular meetings and
5 closing the 'feedback loop', improving the culture of workplace learning through formative
6 learning rather than summative assessment, and improving the technology around SLEs,
7 extending previous research within medical education [16,20,37-43].
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14 **Methodological strengths and challenges of study**

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17 To our knowledge, this is the first study to explore Foundation trainee and trainers'
18 understandings of SLEs and WPBAs, and their lived experiences. The large number of
19 narratives collected, and our consistent findings across the three geographically dispersed
20 sites, suggests that our results are transferable to other UK locations. Although our sample
21 of trainees and trainers was intentionally diverse, we had relatively low numbers of GP and
22 nurse trainers in our study, and relatively few trainees with GP and nurse trainer SLE/WPBA
23 experiences. While this reflects the reality of training programme structures and processes,
24 we must use caution when extrapolating our findings to GP settings and to GP and nurse
25 trainers. Having employed qualitative methods, our sample is not necessarily
26 representative, nor does it intend to be representative, of all UK trainers and trainees.
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35 The geographical distance between sites and the need to collect large amounts of
36 qualitative data in a relatively short time-frame (around 6 months) required multiple
37 researchers across the three sites to undertake interviews and data analysis. Consistency
38 was maintained across the researchers through training, the use of a discussion guide,
39 regular meetings and use of a comprehensive coding framework. Finally, with around 46
40 hours of qualitative data it was pragmatic for us to adopt different methods of data analysis
41 to explore both the *breadth* and *depth* (and, therefore, the *what's* and *how's*) of
42 participants' experiences. Because of this voluminous data, we partly quantified it to
43 identify patterns across our narratives that would otherwise be invisible [44,45]. Some
44 methodological purists would find this combination of quantitative and qualitative analyses
45 problematic because of the different epistemologies underpinning these two approaches.
46 However, we retained a process-orientated qualitative approach to our interpretation of
47 numerical data [44,45].
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Implications for educational practice

Our recommendations are based on key findings from our research (both what works and what does not work) and comments from our clinical reference group (see acknowledgements). First, we need to improve trainee and trainers' understandings of SLEs. Both must understand the concepts of formative and summative assessment and be able to recognise good quality feedback; that feedback is a dialogic process; and how they can give, receive and seek feedback effectively within the workplace.[46] Both need to appreciate the diversity of processes for conducting SLEs; know the tools and how they differ; and comprehend factors facilitating and hindering learning within SLEs.

Second, trainee-trainer relationships need to be improved. Good quality relationships, characterised by knowledge of the other person, mutual respect and trust, should be possible through prolonged engagement including multiple trainee-trainer meetings throughout rotations. We recognise that the pressures of service delivery make this recommendation challenging.

Thirdly, the culture of workplace learning needs to be improved. The formative focus of SLEs could be emphasised further by re-thinking the structures around SLEs, and particularly those structures that imply a summative focus. For example, SLEs should be undertaken at regular intervals with a cumulative formative impact over the course of a rotation, thereby allowing trainees to conduct SLEs in a meaningful way that is beneficial to their own personal and professional development, rather than encouraging a system of "hunting" for SLEs at the end of a rotation to secure that "tick".

Fourth, tools employed for SLEs need to be improved to emphasise their formative focus (e.g. prioritising free-text comments) and making them easier to finalise (e.g. applications for smartphones and tablets) [5].

Finally, we need to develop, assess and recognise trainers for the work they do including the provision of trainee feedback to trainers to close the 'feedback loop' [46], and to be used as part of trainers' annual appraisals. Furthermore, this process of feedback could form the basis of a trainer recognition programme, thus valuing the important role of the educator.

Implications for further research

The introduction of any new workplace-based initiative will benefit from investigation using a range of approaches. Further interview research is required using wider sampling (e.g. capturing GP experiences) to more fully elucidate the themes identified in this paper. Also, additional qualitative (e.g. longitudinal audio-diary, video-reflexive ethnography) and quantitative methodologies (e.g. pragmatic cluster randomised trial) would be helpful to explore SLEs further. The latter could compare various outcomes (e.g. trainee and trainer satisfaction, metrics around form completion) for an intervention group of trainers and/or trainees who have received theory-based training in giving, receiving and seeking formative feedback, compared with those not receiving the educational intervention. Ultimately, without such further research, it may be impossible to fully understand the complexities surrounding SLEs within workplace learning.

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3 **Acknowledgements** We thank all the trainers and trainees who participated. We also thank
4 our administrative, academic, and clinical colleagues who helped us recruit participants. In
5 particular, we thank members of our clinical reference group, who advised us on the
6 recruitment of participants, and gave us feedback on our interpretations of the data and
7 developing educational recommendations. In alphabetical order these are: Professor Stuart
8 Carney, previously University of Exeter; Dr Ben Hannigan, Cardiff University; Professor Peter
9 Johnston, University of Aberdeen; Professor Jean Ker, University of Dundee; Dr David
10 Leeder, University of Exeter; Professor Graham Leese, University of Dundee; Dr Murray
11 Lough, previously NHS Education for Scotland; Dr Alan Stone, Cardiff University; Professor
12 Frank Sullivan, previously University of Dundee; and Professor Mike Watson, Previously NHS
13 Education for Scotland. We also thank Elaine Plenderleith at the Centre for Medical
14 Education, University of Dundee, for her administrative support throughout the course of
15 this project. Finally, we thank the Academy of Medical Royal Colleges for its contribution to
16 this project. In particular, we thank Dr Ed Neville, Chair of the Supervised Learning Events
17 Evaluation Working Group, and Dr David Kessel, Chair of the Academy Foundation
18 Programme Committee, for their contribution to the design of this project, advice about
19 recruitment of participants, thoughtful comments about the educational recommendations
20 for the project, and feedback on the preliminary draft of our end-of-award report.

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35 **Contributors** CR, JC, KM and LM designed the study and secured its funding. CR, KM, and LM
36 were site-specific leads and over-saw the work of AD and NK. JC and AD conducted the
37 literature review. CR, KM, LM, AD, and NK secured ethics approval for the three sites and
38 recruited participants. AD and NK did the bulk of the data collection (CR and LM facilitated
39 some interviews). All authors participated in a preliminary thematic analysis of selected
40 transcripts. CR, LM, AD and NK coded data using Atlas-Ti (the bulk of this was done by AD
41 and NK). LM and AD interrogated the coding using Atlas-Ti and CR conducted narrative
42 analyses. CR, JC, KM and LM wrote parts of this paper, and CR edited it. All authors
43 commented on various iterations. CR, JC and AD conducted this research on behalf of the
44 Scottish Medical Education Research Consortium (SMERC). CR is the Principal Investigator
45 for the project and overall guarantor.

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55 **Funding** This work was supported by the Academy of Medical Royal Colleges. The views
56 expressed in this paper are those of the authors and not necessarily of the funders.
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3 **Competing interests** This research was carried out independently of the study sponsor, who
4 had no input to the collection, analysis, and interpretation of data; and writing the report.
5
6 All authors had full access to all of the data in the study and take responsibility for the
7
8 integrity of the data and the accuracy of the data analysis.
9

10 **Ethics** The relevant ethics committees within each site approved this study, and additional
11 site-specific approvals were secured where necessary. Informed consent was obtained from
12 all participants, along with their right to withdraw from the study at any time without
13
14 penalty.
15

16 **Provenance and peer review** Not commissioned; externally peer reviewed.
17

18 **Data sharing statement** No additional data are available.
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REFERENCES

1. Academy of Medical Royal Colleges. The UK Foundation Programme Curriculum, July 2012: <http://www.foundationprogramme.nhs.uk/pages/foundation-doctors/training-and-assessment/fpcurriculum2012> (accessed June 2014).
2. Collins JP. Foundation for Excellence: An Evaluation of the Foundation Programme. Medical Education England; 2010. <http://hee.nhs.uk/wp-content/uploads/sites/321/2012/08/Foundation-for-excellence-report.pdf> (accessed June 2014).
3. Miller A, Archer J. Impact of workplace based assessment on doctors' education and performance: a systematic review. *Brit Med J* 2010;341:c5064.
4. Tunstall P. Teacher feedback to young children in formative assessment: A typology. *Brit Educ Res J* 1996;22:389-395.
5. Driessen E, Scheele F. What is wrong with assessment in postgraduate training? Lessons from clinical practice and educational research. *Med Teach* 2003;35:569-74.
6. Norcini J, Burch V. Workplace-based assessment as an educational tool: AMEE Guide No 31. *Med Teach* 2007;9:855-71.
7. Nair BR, Alexander HG, McGrath BP, et al. The mini clinical evaluation exercise (mini-CEX) for assessing clinical performance of international medical graduates. *Med J Aust* 2008;189:159-61.
8. Weller JM, Jones A, Merry AF, et al. Investigation of trainee and specialist reactions to the mini-clinical evaluation exercise in anaesthesia: implications for implementation. *Br J Anaesth* 2009;103:524-30.
9. van der Vleuten C. The assessment of professional competence: developments, research and practical implications. *Adv Health Sci Educ* 1996;1:41-67.
10. Pereira EA, Dean BJ. British surgeons' experiences of mandatory online workplace-based assessment. *J Royal Soc Med* 2009;102:287-93.
11. Ryland I, Brown J, O'Brien M, et al. The portfolio: how was it for you? Views of F2 doctors from the Mersey Deanery Foundation Pilot. *Clin Med* 2006;6:378-80.
12. Weston PSJ, Smith CA. The use of mini-CEX in UK foundation training six years following its introduction: Lessons still to be learned and the benefit of formal teaching regarding its utility. *Med Teach* 2014;36:155-63.

13. Wilkinson JR, Crossley JG, Wrag A, et al. Implementing workplace-based assessment across the medical specialties in the United Kingdom. *Med Educ* 2008;42:364-373.
14. Kogan JR, Holmboe ES, Hauer KE. Tools for direct observation and assessment of clinical skills of medical trainees: a systematic review. *JAMA* 2009;302:1316-26.
15. Pelgrim EAM, Kramer AWM, Mookink HGA, et al. In-training assessment using direct observation of single-patient encounters: a literature review. *Adv Health Sci Educ* 2010;16:131-142.
16. Fernando N, Cleland JA, McKenzie H, et al. Identifying the factors that determine feedback given to Undergraduate Medical Students following formative mini-CEX assessments. *Med Educ* 2008;42:89-95.
17. Holmboe ES, Yepes M, Williams F, et al. Feedback and the mini clinical evaluation exercise. *J Gen Int Med* 2004;19(5 Pt 2):558-56.
18. Yeates P, O'Neill P, Mann K, et al. Seeing the same thing differently: Mechanisms that contribute to assessor differences in directly-observed performance assessments. *Adv Health Sci Educ* 2013;18:325-41.
19. Sinclair H, Cleland JA. Medical undergraduate students – who seeks formative feedback? *Med Educ* 2007;41:580-582.
20. Mattick K, Kelly N, Rees C. A window into the lives of junior doctors: narrative interviews exploring antimicrobial prescribing experiences. *J Antimicrob Chemother* 2014; Apr 3: Epub ahead of print.
21. Crotty M. *The Foundations of Social Research. Meaning and Perspective in the Research Process*. London: Sage Publications; 2003.
22. Smith B, Sparkes AC. Contrasting perspectives on narrative selves and identities: an invitation to dialogue. *Qual Res* 2008;8:5-35.
23. Adler PA, Adler P. In: Baker SE, Edwards R, eds. How many qualitative interviews is enough? Expert voices and early career reflections on sampling and cases in qualitative research. Review Paper. Southampton: National Centre for Research Methods; 2012. http://eprints.ncrm.ac.uk/2273/4/how_many_interviews.pdf (accessed September 2014).

- 1
2
3 24. Monrouxe LV, Rees CE. "It's just a clash of cultures": emotional talk within medical
4 students' narratives of professionalism dilemmas. *Adv Health Sci Educ*
5 2012;17(5):671-701.
6
7
8 25. Ritchie J, Spencer L. Qualitative data analysis for applied policy research. In: Bryman
9 A, Burgess RG, eds. *Analysing Qualitative Data*. London: Routledge, 1994: 173-194.
10
11 26. Alvesson M, Kärreman D. Varieties of discourse: On the study of organizations
12 through discourse analysis. *Hum Relat* 2000;53(9):1125-1149.
13
14 27. Riessman CK. *Narrative Methods for the Human Sciences*. Thousand Oaks: Sage;
15 2008.
16
17 28. Côté L, Turgeon J. Appraising qualitative research articles in medicine and medical
18 education. *Med Teach* 2005;27(1):71-75.
19
20 29. Labov W, Waletzky J. Narrative analysis. Oral versions of personal experience. In:
21 Helm J, ed. *Essays on the Verbal and Visual Arts*. Seattle, WA: American Ethnological
22 Society, University of Washington Press; 1967:12-44.
23
24 30. Rees CE, Cleland J, Mattick K, Monrouxe LV, Dennis A, Kelly N. Supervised Learning
25 Events Qualitative Evaluation Project. Final Report to the Academy of Medical Royal
26 Colleges, May 2013.
27
28 31. Rees CE, Monrouxe LV. "Is it alright if I-um-we unbutton your pyjama top now?"
29 Pronominal use in bedside teaching encounters. *Commun Med* 2008;5(2):171-182.
30
31 32. Rees CE, Knight LV, Wilkinson CE. "Doctors being up there and we being down
32 here": a metaphorical analysis of talk about student/doctor-patient relationships.
33 *Soc Sci Med* 2007;65(4):725-737.
34
35 33. Rees CE, Knight LV, Cleland JA. Medical educators' metaphoric talk about their
36 assessment relationship with students: "You don't want to sort of be the one who
37 sticks the knife in them". *Assess Eval Higher Educ* 2009;34(4):455-467.
38
39 34. Wilkinson CE, Rees CE, Knight LV. "From the heart of my bottom": Negotiating
40 humour in focus group discussions. *Qual Health Res* 2007;17(3):411-422.
41
42 35. Rees CE, Monrouxe LV. Laughter for coping: Medical students narrating
43 professionalism dilemmas. In: C. Figley, P. Huggard, & C.E. Rees (Eds.). *First Do No
44 Self-Harm: Understanding and Promoting Physician Stress Resilience*. New York:
45 Oxford University Press; 2013:67-87.
46
47
48
49
50
51
52
53
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55
56
57
58
59
60

- 1
2
3 36. Overeem K, Wollersheim H, Driessen E, et al. Doctors' perceptions of why 360-
4 degree feedback does (not) work: a qualitative study. *Med Educ* 2009;43:874-882.
5
6
7 37. Cleland JA, Knight L, Rees C, et al. "Is it me or is it them?" Factors influencing
8 assessors' failure to report underperformance in medical students. *Med Educ*
9 2008;42:800-809.
10
11 38. Chikwe J, de Souza AC, Pepper JR. No time to train surgeons. *Brit Med J*
12 2004;328:418-419.
13
14 39. Urquhart LM, Rees CE, Ker JS. Making sense of feedback experiences: a multi-school
15 study of medical students' narratives. *Med Educ* 2014;48(2):189-203.
16
17 40. Bing-You RG, Trowbridge RL. Why medical educators may be failing at feedback.
18 *JAMA* 2009;302(12):1330-1331.
19
20 41. Veloski J, Boex JR, Grasberger MJ, et al. Systematic review of the literature on
21 assessment, feedback and physicians' clinical performance: BEME Guide No. 7. *Med*
22 *Teach* 2006;28(2):117-128.
23
24 42. Watling C, Lingard L. Toward meaningful evaluation of medical trainees: the
25 influence of participants' perceptions of the process. *Adv Health Sci Educ*
26 2012;17:183-194.
27
28 43. Watling C, Driessen E, van der Vleuten CPM, et al. Learning from clinical work: the
29 roles of learning cues and credibility judgements. *Med Educ* 2012;46(2):192-200
30
31 44. Maxwell J. Using numbers in qualitative research. *Qual Inq* 2010;16:475-82.
32
33 45. Rees CE, Monrouxe LV, McDonald LA. Narrative, emotion and action: Analysing
34 'most memorable' professionalism dilemmas. *Med Educ* 2013;47:80-96.
35
36 46. Boud D, Molloy E. Rethinking models of feedback for learning: the challenge of
37 design. *Assess Eval High Educ* 2012;E1-15.
38
39
40
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Table 1: Participant characteristics by group

Characteristic	Trainees (N = 70)*	Trainers (N=40)*
Age		
20-30	65 (93%)	2 (5%)
31-40	2 (3%)	13 (32%)
41+	3 (4%)	24 (61%)
Gender		
Male	31 (44%)	24 (60%)
Female	39 (56%)	16 (40%)
Ethnicity		
White	57 (81%)	37 (93%)
Non-white	13 (19%)	3 (8%)
Language		
English	60 (86%)	36 (90%)
English as second language	10 (14%)	3 (8%)
Trainers' years since graduation		
0-10	-	8 (20%)
11-20	-	15 (38%)
21+	-	16 (41%)
Trainers' years of PGME experience		
0-10	-	26 (64%)
11-20	-	9 (23%)
21+	-	4 (11%)
Trainers' specialties		
Hospital (medical)**	-	16 (40%)
Hospital (surgical)	-	5 (13%)
Hospital (services)	-	8 (20%)
General Practice	-	5 (13%)
Nurse	-	4 (10%)
Number of SLEs conducted		
Median	8	6
Range	3-25	0-40
Had experience with tools as SLEs?†		
DOPS	42 (60%)	16 (40%)
Mini-CEX	46 (66%)	25 (63%)
CBD	45 (64%)	26 (65%)
DCT	10 (14%)	6 (15%)
Number of WPBA conducted		
Median	19.5	30
Range	8-28	0-40
Had experience with tools as WPBAs?†		
DOPS	24 (34%)	20 (50%)
Mini-CEX	24 (34%)	30 (75%)
CBD	24 (34%)	30 (75%)

NOTES: *these figures are rounded up to zero decimal places so may not always add up to 100%; ** Medical specialties included neurology, gastroenterology, rheumatology, anaesthesiology and psychiatry, surgical specialties includes ophthalmology and orthopaedics, and services specialties included infectious diseases and dermatology; †these figures represent a free-text question asking participants to outline which tools they had used so numbers are likely to be under-estimates; SLEs=Supervised Learning Events; WPBAs=Workplace-based assessments; DOPS=Direct Observation of Procedural Skills; Mini-CEX=Mini Clinical Evaluation Exercise; CBD=Case-based Discussion; DCT=Developing the Clinical Teacher.

Table 2: Participants' understandings of Supervised Learning Events/Workplace-based Assessments

Understandings	Description	Illustrative quote
SLE/WPBA as unknown	Understanding unclear.	"I didn't really understand what they [SLEs] meant ((laughs)) to be honest erm" (Female F1, site 3)
SLE/WPBA as summative tool	SLEs/WPBAs' purpose is to assess trainees' abilities, and give 'pass/fail' results.	"WPBA is more of a case of they've performed a task and have they understood what that task is or is it something you can sign off that they're competent to do" (Male Trainer, site 3)
SLE/WPBA as tick box exercise	SLEs/WPBAs demonstrate basic requirements are met with little educational value.	"It's still tempting for an assessor to say "I'm really busy, we'll do a WPBA and we'll just tick whether it was excellent or not"" (Female F2, site 1)
SLE/WPBA as safety net	SLEs/WPBAs' purpose is to ensure that trainees who struggle are identified.	"I initiated a Mini-CEX [Mini Clinical Evaluation Exercise] in a clinic to try and get some ideas about why the registrar was getting these complaints ... what it allowed me to do was to try and broach the subject of the complaints with the registrar but in a training environment" (Male Trainer, site 2)
SLE as formative tool	SLEs are a tool for developing, rather than assessing, trainees.	"It is a learning event and you should be giving them feedback on the process there and then, and that should be used as a learning tool" (Female Trainer, site 2)
SLE as a formalisation process	SLEs open up a legitimate route for trainees to ask seniors to engage in their learning, ensuring that training processes occur within the workplace.	"I think that's just formalising what we do normally, ward round teaching it's formalising that but also making it more time consuming because you have to write it all down" (Female Trainer, site 1)
SLE as individual assessments	An opportunity to assess competencies and knowledge at a single time-point.	"Problem is it's just, the supervised learning events is just a one off thing, it's just like a little snapshot" (Female F1, site 2)
SLE as formal progression	SLEs demonstrate trainee progression, evidencing skill acquisition over time.	"My understanding of the SLEs are they are opportunities to um, view and um, assess a trainee's um, progress, whether that's examination skills, whether that's clinical reasoning..." (Male Trainer, site 3)
SLE as developmental process	SLEs provide trainees with an opportunity for holistic development. Unlike 'formal progression', the focus is on trainees' personal perceptions of development.	"she [consultant] was there all the time, she, when she wasn't there, you know, the first thing she said to me when she got back onto the ward on Monday morning, was "What does the latest gas show? What are you gonna do...? Are you gonna treat this...?", so, so the whole thing was just this massive learning experience" (Female F2, site 3)
SLE as engagement opportunity	SLEs are an opportunity for trainers and trainees to have one-to-one time that may not otherwise happen.	"the fact it's compulsory ... that gives you something you can say to seniors "look, I need to do this, I'm sorry, but I have to do it" ... it does mean you sit down and hopefully spend half an hour talking in a bit more detail... it does mean you've got an excuse to have that face-to-face..." (Male F2, site 2)
WPBA as a gut feeling	WPBAs are poorly defined and therefore assessing whether a trainee had passed is a 'judgement call'.	"because also like last year, somebody would give you all these meets or meets it more, but it's such a subjective thing" (Female F2, site 1)
Understandings linked with emotion	Understandings articulated with emotion talk.	"I think it's six of one half-dozen of the other, I am not somebody who excels at that kind of assessment... erm and I get very anxious, I get very uptight and I don't shine... and it feeds into all my

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anxieties and insecurities about myself... and I think that probably skews my perception of them [SLE/WPBAs]..." (Female F2, site 3)

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Table 3: Overview of personal incident narratives of Supervised Learning Events and Workplace-based Assessments by participants: Frequencies (%)

	Overall* 333	SLEs**			WPBAs**		
		Total 221	Trainee 167	Trainer 54	Total 72	Trainee 39	Trainer 33
Where							
Hospital	253	170 (76)	123 (73)	47 (84)	58 (81)	31 (79)	27 (82)
GP Practice	20	17 (8)	12 (7)	5 (9)	2 (3)	0 (0)	2 (6)
Other	3	1 (0)	1 (1)	0 (0)	1 (1)	0 (0)	1 (3)
When							
FY1	185	130 (59)	104 (62)	26 (48)	50 (69)	39 (100)	11 (33)
FY2	84	76 (34)	62 (37)	14 (26)	5 (7)	0 (0)	5 (15)
ST	10	4 (2)	0 (0)	4 (7)	2 (3)	0 (0)	2 (6)
Who (trainer)							
Hospital Dr	262	176 (79)	139 (83)	37 (67)	57 (79)	29 (74)	28 (85)
Community Dr	26	21 (9)	12 (8)	9 (16)	3 (4)	0 (0)	3 (9)
Non-medical	15	11 (5)	4 (2)	7 (13)	3 (4)	2 (5)	1 (3)
No trainer	2	0 (0)	0 (0)	0 (0)	2 (3)	2 (5)	0 (0)
Which tool***							
CBD	106	78 (34)	59 (34)	19 (35)	16 (22)	5 (13)	11 (32)
Mini-CEX	85	61 (27)	47 (27)	14 (25)	17 (23)	9 (23)	8 (24)
DOPS	85	57 (25)	46 (27)	11 (20)	20 (27)	13 (33)	7 (21)
DCT	28	12 (5)	9 (5)	3 (5)	13 (18)	11 (28)	2 (6)
Other (e.g. MSF)	6	2 (1)	1 (1)	1 (2)	2 (3)	0 (0)	2 (6)
Evaluation****							
Positive	173	128 (58)	103 (62)	25 (46)	28 (39)	14 (36)	14 (42)
Negative	56	29 (13)	23 (14)	6 (11)	16 (22)	10 (26)	6 (18)
Neutral	36	28 (13)	16 (10)	12 (22)	8 (11)	3 (8)	5 (15)
Contradictory	20	12 (5)	7 (4)	5 (9)	6 (8)	4 (10)	2 (6)

Notes: *Note that frequencies for SLEs (Supervised Learning Events) and WPBAs (Workplace-based assessments) across rows do not add up to the overall total because unclear narratives are excluded; **Percentages are calculated within each group/column i.e. total, trainee, trainer. These also fall short of 100% because 'unclear' narratives are excluded; ***CBD=Case-based discussion; Mini-CEX=Mini Clinical Evaluation Exercise; DOPS=Direct Observation of Procedural Skills; DCT=Developing the Clinical Teacher; MSF=Multi-source Feedback; ****As per the interpretive approach, analysts coded whole narratives to these codes depending on what participants said and how they said it (e.g. narratives including mostly negative emotional talk e.g. "it was quite alarming" would be coded to 'negative evaluation').

Table 4: Issues around Supervised Learning Events/Workplace-based Assessments

Issue	<i>Illustrative quote</i>
Initiation	"I've done catheter insertion and I did that for the first time as a DOPS [Direct Observation of Procedural Skills] because while I was on call a lady needed to be catheterised and the SHO [Senior House Officer] said to me "have you done a catheter before? Do you want to do it as a DOPS for me?" (Female F1, site 1).
Tools used	"... probably the Mini-CEX [Mini Clinical Evaluation Exercise] has been the most useful, I say that because we have a trainee who's currently in difficulty and we had an extra assessment for her a couple of months ago and it became clear that she could swat up for the CBD and was actually quite good at the CBD [Case-based Discussion] but in the Mini-CEX when you're in a clerk situation the patient is there you're seeing the whole package... it was the most valuable tool for us in this particular trainee because it seemed to pick out where the gaps were and it was quite alarming ((laughs)) where the gaps were ((said with laughter)) and that's the best tool we found for that particular trainee ..." (Female Trainer, site 1).
Feedback	"there's no point somebody sitting down and filling in a form that takes you know a minute to complete and and all they say is "very good carry on"... because that fine it's nice to have nice things said about you but it doesn't really help in terms of training or feedback... give them something to reflect on" (Male Trainer, site 1).
Finalising	"I'm still waiting and that was about a month, maybe a month ago ((laughs))... I sent her [trainer] some erm reminder e-mails and I think probably... next week I'm gonna have to go up to her and say "Oh I sent you an e-mail, have I got your right e-mail address?" kind of thing but I don't really like chasing people... it's a bit uncomfortable kind of situation" (Female F2, site 3).

Table 5: Factors facilitating/inhibiting learning through Supervised Learning Events/Workplace-based

Assessments

Levels	Definition	Illustrative quotes
INDIVIDUAL	Trainee/trainer characteristics including the presence (facilitator) or absence (inhibitor) of: enthusiasm, motivation, and engagement; understanding of SLE/WPBAs; teaching/learning competence; self-reflection and self-awareness; organisational skills and confidence.	“but it seems to be sort of confusing the seniors as well because they’re not too sure what’s required of us... they’re not too sure what the requirements are and to be honest when we first started it didn’t seem like the academic office was too sure of the requirements either... so no one had a clue sort of how many we all needed...” (Female F2, site 1)
INTERPERSONAL	Trainee-trainer relationship characterised by presence (facilitator) or absence (inhibitor) of: knowledge of the other person and continuity of relationship; mutual respect; like, warmth, and trust; an identification with the ‘other’ and a sense of connectedness; connection to the ‘team’ with shared goals.	“In a way it’s needed really because of the way postgraduate medical training has been condensed and continuity of training has disappeared so you don’t get the same mentorship and the same apprenticeship that you used to be because you’re working with a number of different consultants depending on which day of the week it is and I think that’s one of the things that is difficult actually for the trainers is that they may not see a lot of the trainees to get the background sense of how a trainee actually is so that they can then provide meaningful input related to a specific case...” (Male Trainer, site 1)
CULTURAL	Organisational characteristics including presence (facilitator) or absence (inhibitor) of: safe learning and assessment culture; protected time for supervised practice including observation and feedback; rotations with adequate durations; team-orientation with availability of registrar, consultant and non-medical trainers (e.g. nurses); relevant tools for each specialty.	“I think the SLEs were a little bit easier [on my second rotation] because you got regs [registrars] to do it... the environment is very amenable to SLEs because you saw the same regs again and again and it’s easy to follow up versus another environment that’s less so, let’s say if you’re working in orthopaedics not so much because their rotas don’t exactly facilitate for seeing people on a regular basis and it’s a different, separate teams and very much the FY1 more on the wards and that’s why pretty much so it really is environment depended” (Male trainee, site 1)
TECHNOLOGICAL	Technological characteristics including presence (facilitator) or absence (inhibitor) of hardware (e.g. computers, smartphones) and software (e.g. online tools, Internet).	Int: How quickly do you complete their form, their e-Portfolio? MT: I tend to do them online at the time... primarily because I’m never more than two feet away from my iPad and so it’s easy to um get them to log in either on a terminal and send me a link (Male Trainer, site 3)

Box 1: "I'll actively hunt"

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4 Int: ...okay well can you think of any more stories with your SLEs [Supervised Learning
5 Events]* because we've got different types I mean any DOPS [Direct Observation of
6 Procedural Skills] maybe?
7 Helena: I don't find the DOPS very useful because one of the DOPS like taking blood or putting in
8 a cannula we do that about a hundred times a day and obviously all our trainers know
9 that we can do that and have seen that not sat and watched us put in a venflon but have
10 seen all the venflons in the patients and they know that we put them in
11 Int: right
12 Helena: so they don't really take the time to stand and assess and watch us put it in because
13 they've seen people toing and froing with our venflons in their arms so they're like "yeah
14 I'll sign that off no problem I know you can do a venflon"
15 Int: okay so they're not really watching you they're just taking it on trust
16 Helena: yeah they can see the outcomes of the procedures that we've done rather than
17 Int: have you had an SLE like that?
18 Helena: yeah um like I mean fairly straightforward procedures that we do every day there's not
19 often enough time for trainers to actually stand and watch us do something as basic as
20 taking blood they know we can take blood else we wouldn't be able to survive on the
21 wards ((laughs)) so it's kind of taken for granted that we can do that
22 Int: so when you got your SLE for that can you just tell me how that happened how did you
23 go about getting the SLE for that?
24 Helena: um well just in the last job towards the end they always say "how are you doing with all
25 the tick bo- have you got everything you need?" and I was a couple short on DOPS so my
26 clinical fellow said "I obviously know you can do venflons I've sent you to go and [do]
27 them and you've come back and said you've done them on numerous occasions I can
28 easily sign that one off for you"
29 Int: okay so again they initiated it rather than you yourself is that right in this particular case?
30 Helena: Yeah it can be both because I'll think "oh deadline coming up I'm a few short of this and
31 this" and I'll actively hunt to- to go and find somebody that needs what I'm missing
32 ((laughs))...

33 Notes: *Although the trainee is repeated asked about a Supervised Learning Event (SLE) experience, she
34 provides a Workplace-based Assessment (WPPBA) experience
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Table 6: Suggested improvements to the Supervised Learning Event process

Level	Definition	Illustrative quotes
INDIVIDUAL	Suggestions included improving trainee/trainers' understandings of SLEs and their engagement with SLEs.	"I think that we would very much like to have a clearer idea about what it is we should be doing rather than having to make up what it is that we actually are doing" (Trainer, Site 3)
INTERPERSONAL	Suggestions included increased opportunities for trainers to receive feedback from trainees, more regular trainee-trainer meetings, and a developmental approach to the trainee-trainer relationship.	Trainee 1: the same way we have to get evidence that we've done these things, I think that they [trainers] should also have evidence... they have to show examples that they have given feedback ... so I think they should be required to do it as well Trainee 2: I think that's a great idea that we give feedback on their feedback ((says laughingly))" (Trainees, Site 1)
CULTURAL	Suggestions included increased recognition for the roles of clinical/educational supervisors, increased diversity among trainers able to do SLEs, improved continuity in processes across the continuum of postgraduate medical education, increased clarity around the initiation of SLEs, shifting away from tick-box culture and removing structures allowing for cheating.	"this is a tool ... which is meant to be used in conjunction with the training that goes on and if the training that goes on isn't happening... if consultants aren't able to come and watch you in the clinic...for an hour an hour and a half to actually observe what you're doing if they're not in a position to be able to do that then it doesn't matter how good the tool is ... I don't know how you make it better until you can actually release consultants and registrars and people to actually to give them time to say you know you're doing training" (Trainer, Site 1)
TECHNOLOGICAL	Suggestions included improving e-tools and platforms, and altering the system to reduce time spent chasing trainers to finalise the process.	"maybe if all the, all the feedback-ey things were right at the top of the form and the tickbox-ey things were further down... because the trouble with tick-boxes is, I've done it myself you know "yeah, yeah, yeah, yeah, yeah, fine, yeah, whatever"... you go into tick-box mode and and it's like "any further comment?" is "what, you want me to say MORE?!" ((laughs loudly))" (Trainee, Site 3)

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7 **Supervised Learning Events in the Foundation Programme: A UK-wide narrative interview**
8 **study**
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8 **Key words:** Education, Medical; Feedback; Educational Measurement; Workplace;
9 Qualitative Research

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ABSTRACT

Objectives: To explore Foundation trainees' and trainers' understandings and experiences of supervised learning events (SLEs), compared with workplace-based assessments (WPBAs) and their suggestions for developing SLEs.

Design: A narrative interview study based on 55 individual and 19 group interviews.

Setting: UK-wide study across three sites in England, Scotland and Wales.

Participants: Using maximum-variation sampling, 70 Foundation trainees and 40 trainers were recruited, shared their understandings and experiences of SLEs/WPBAs and made recommendations for future practice.

Methods: Data were analysed using ~~qualitative and quantitative~~ thematic and discourse analysis and ~~narrative analysis of one exemplar personal incident narrative.~~

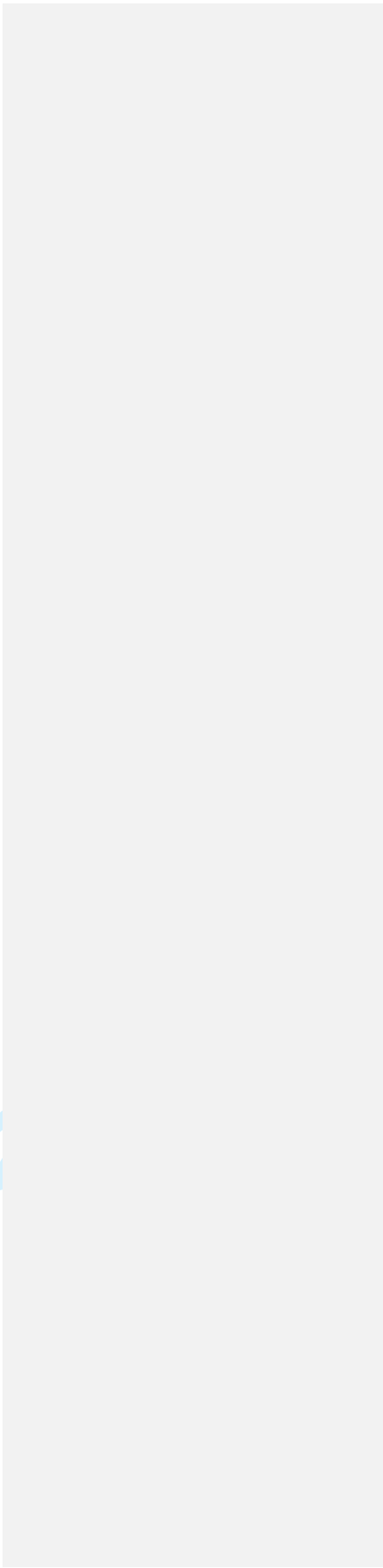
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Results: While ~~participants volunteered understandings of SLEs were conceptualised as learning and assessment, they typically volunteered understandings of WPBAs were typically understood as assessment. Trainers were seemed more likely than trainees to describe conceptualise SLEs as assessment and a 'safety net' to protect patients than trainees.~~ We identified 333 personal incident narratives in our data (221 SLEs; 72 WPBAs). There was perceived variability in the conduct of SLEs/WPBAs in terms of their initiation, tools used, feedback and finalisation. Numerous factors at individual, interpersonal, cultural and technological levels were thought to facilitate/hinder learning. SLE narratives were more likely to be evaluated positively than WPBA narratives ~~overall and by trainees specifically. Trainees narrated more positive evaluations of their SLEs and more negative evaluations of their WPBAs compared with trainers.~~ Participants made sense of their experiences, emotions, identities and relationships through their narratives. They provided numerous suggestions for improving SLEs at individual, interpersonal, cultural and technological levels.

Conclusions: Our findings provide tentative support for the shift to formative ~~assessment learning~~ with the introduction of SLEs, albeit raising concerns around trainees' and trainers' understandings about SLEs. We identify five key educational recommendations from our study. Additional research is now needed to explore further the complexities around SLEs within workplace learning.

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ARTICLE SUMMARY

Strengths and limitations of the study

- This is the first study to explore Foundation Programme trainees and trainers' understandings and experiences of SLEs (compared with WPBAs)
- The large number of narratives collected [across](#) England, Scotland and Wales enhances the transferability of our findings to other UK locations
- We had relatively low numbers of GP and nurse trainers [and trainees with GP and nurse trainer SLE/WPBA experiences](#) so our findings are most relevant to SLEs conducted by hospital doctors

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INTRODUCTION

If you are a clinical educator or trainee doctor in today's NHS [in the United Kingdom](#), you will inevitably have participated in a 'supervised learning event' (SLE)[1]. SLEs review the personal development of trainee doctors, with an emphasis on patient safety [1]. They were introduced into the UK Foundation Programme (UKFP) in 2012. SLEs specifically address concerns raised in the Collins report [2] and previously published literature about assessment within the UKFP [3]; that trainees and trainers perceived workplace-based assessments (WPBAs) as excessive, onerous and therefore unvalued. Drawing on the same tools utilised within WPBAs (e.g. Mini Clinical Evaluation Exercise: [Mini-CEX](#), Direct Observation of Procedural Skills: [DOPS](#) and Case-Based Discussion: [CBD](#)), SLEs are designed to: (1) highlight achievements and areas of excellence; (2) provide immediate feedback and suggest areas for further development; and (3) demonstrate engagement in the educational process [\[1, see pages 57-59 for more details\]](#). [Trainees are encouraged to complete a minimum number of SLEs spread evenly spread throughout their placements, with different trainers and covering diverse acute and long-term clinical problems \[1\]](#). In this way, [SLEs](#) ~~they~~ aim to facilitate a strong formative component of trainee doctors' assessment.

Rather than indicating what a learner can/cannot do or knows (i.e. summative assessment), formative assessments indicate the 'gap' between the learner's actual level of performance and the required standard, providing an indication of how performance could be improved to reach the required standard. Therefore, SLEs are designed to enable the provision of timely feedback about the effectiveness of care and the trainee's interactions with others, with a focus on the trainee's performance and development, which may identify areas of weakness requiring support and reflection. SLEs thus have the potential to be more meaningful for learning, motivating learners to 'mastery goals' such as understanding, rather than 'performance goals' like passing an examination [4,5].

However, SLEs also have a summative role within the UKFP. Currently, evidence of SLEs must be included in every Foundation doctor's e-Portfolio, which in turn is a method of assessment of the Foundation doctor's success in achieving the outcomes described in the curriculum, and which educational supervisors use in the end of placement report. Thus, SLEs can be viewed broadly as information gathering activities that aim to benefit the

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7 quality of trainee learning, as well as monitoring their engagement with feedback for
8 accountability purposes.
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12 **Effectiveness of the assessment tools**

14 Previous research has examined the effectiveness of the assessment tools (e.g. DOPS, Mini-
15 CEX, CBD) [6-8], drawing on van der Vleuten's utility equation [9]: educational impact x
16 validity x reliability x cost effectiveness x acceptability. Previous research has provided
17 mixed results regarding their efficaciousness in terms of acceptability, reliability and validity:
18 (1) the acceptability of WPBAs to trainees and trainers varies widely [2,8,10-13]; (2)
19 reliability for the tools is frequently sub-optimal [14]; and (3) the Mini-CEX and the 'clinical
20 encounter card' appears to have high criterion validity in terms of strong and significant
21 correlations with other assessment instruments [15]. However, the cost effectiveness and
22 educational impact of the tools have been largely neglected. Indeed, few published articles
23 have explored the educational impact of WPBA tools and there is therefore little evidence
24 that they lead to improvements in performance [3,15].
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33 **Effectiveness of WPBAs and SLEs**

35 Research has also examined the effectiveness of WPBAs, albeit scant. What evidence there
36 is suggests that WPBAs are reasonably ineffective, attributed to issues such as the sub-
37 optimal use of the tools for feedback [16,17]. Some research suggests that the rating scales
38 often utilised within the tools such as the Mini-CEX introduce artificiality into the
39 assessment, concluding that open-ended comments may be more valuable as assessors are
40 able to provide feedback in more 'authentic' terms [18]. Additionally, there are issues with
41 sub-optimal learners being less likely to seek feedback [19]. Outcomes such as learning,
42 transfer of skills to new situations, or improved patient care are relatively unstudied, and
43 when they are, conclusions drawn are limited due to weak study designs.
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49 SLEs were introduced in 2012 to address these shortcomings but, so far, there has
50 been no evidence to evaluate their success in doing so. Given that SLEs comprise similar
51 tools to those used within the WPBAs but with [fewer assessments and explicit](#) formative
52 goals, it is important that aspects such as acceptability and the educational utility of SLEs as
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7 a form of feedback are explored as a matter of priority. Given that acceptability and
8 educational impact inter-relates with how trainees and trainers make sense of their
9 experiences, emotions, identities and relationships, we felt it crucial to employ a narrative
10 [interview](#) approach. We were therefore commissioned by the AOeMRC to undertake an
11 independent evaluation of the impact of the transition from WPBAs to SLEs.
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14 15 16 17 **Aims and research questions**

18 This study is the first exploration of SLEs within the UKFP and aims to answer four research
19 questions: (RQ1) What are participants' understandings of SLEs and WPBAs and how do
20 they differ between trainees and trainers? (RQ2) What are participants' experiences of SLEs
21 and WPBAs and how do they differ between trainees and trainers? (RQ3) How do
22 participants make sense of their experiences through narrative? (RQ4) What are
23 participants' suggestions for how SLEs should be developed?
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28 29 30 **METHODS**

31 32 **Study design**

33 We conducted a qualitative study using group and individual interviews to elicit trainees'
34 and trainers' understandings and personal incident narratives (PINs) of their experiences.
35 [We employed focus groups wherever possible because they can lead to richer data due to](#)
36 [group dynamics \(e.g. synergism\) but individual interviews were also utilised because of the](#)
37 [difficulties in getting groups of clinicians together \[20\].](#)—Our study draws on social
38 constructionist epistemology suggesting that there are multiple interpretations of reality
39 and ways of knowing [21]. We consider the individual and socio-relational aspects of
40 stories of experience including how participants make sense of their SLE/WPBA experiences
41 through narrative and how they share those stories and in doing so construct identities and
42 trainee-trainer relationships [22].
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50 51 52 **Sampling and recruitment**

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7 Following Deanery and Medical School authorisation, ethical approval was established at
8 three sites in England, Scotland and Wales. Using maximum-variation sampling to [attempt](#)
9 [to](#) obtain a greater range of understandings and experiences, we recruited Foundation
10 doctors from Year 1 and Year 2 of the 2-year programme (F1s and F2s) with training
11 experiences in both hospital and general practice settings. We also recruited trainers across
12 hospital and general practice settings, including clinical and educational supervisors and
13 members of placement supervision groups such as specialist registrars, consultants and
14 nurses. Using advice from our clinical reference group (see acknowledgements), we
15 employed multiple recruitment strategies to maximise participation: (1) email; (2) physical
16 notice-boards; (3) leaflets in strategic places (e.g. medical libraries, common rooms); (4)
17 snowballing through participant and trainee organisations (e.g. BMA junior doctor
18 committee); (5) social networking (e.g. Facebook); and (6) face-to-face during formal
19 curricula. We interviewed 110 participants [\(34 F1s, 36 F2s, and 40 trainers: see Table 1 for](#)
20 [participants' characteristics\)](#). [This overall sample and sub-samples far exceeded the](#)
21 [minimum sample size of 30 advocated by some qualitative scholars \[23\]. Furthermore, we](#)
22 [considered this to be the maximum number of participants we could feasibly interview](#)
23 [given the time and financial constraints of our grant, another pragmatic consideration](#)
24 [discussed by qualitative researchers \[23\]: 34 F1s, 36 F2s, and 40 trainers \(see Table 1 for](#)
25 [participants' characteristics\)](#).

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37 [Insert Table 1 about here]
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40 Data collection

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42 We conducted 55 individual and 19 group interviews [\(34 individual and 3 group interviews](#)
43 [with trainers; 21 individual and 16 group interviews with trainees\)](#). [All focus groups bar two](#)
44 [were homogenous in terms of the type of study participant \(i.e. trainer or year-specific](#)
45 [trainee groups\)](#). Interviews were recorded, transcribed and anonymised (mean length of
46 focus groups 45:43 minutes:seconds [range 31:50-63:47] and individual interviews 36:38
47 minutes:seconds [range 17:37-69:50]: total data around 46 hours). Participants completed
48 a personal details questionnaire, comprising demographic and education-related details
49 enabling classification of sample characteristics by group, site and entire study. An
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7 interview schedule ensured consistency across multiple interviewers. Interviews began by
8 exploring trainees' and trainers' understandings of SLEs and WPBAs. Using narrative
9 interviewing, we encouraged participants to articulate their personal incident narratives
10 (PINs) of SLEs and WPBAs by asking a series of prompts around their narratives: Can you tell
11 me about a memorable SLE/WPBA? What happened? Who was involved? Where did it
12 happen? What did you do and why? How did you feel? What was the impact of that
13 SLE/WPBA for trainee learning? We encouraged participants to narrate their SLE/WPBA
14 experiences so that their views were grounded in actual lived experiences and we could
15 understand how they made sense of those experiences, identities and relationships.
16 Interviews continued until participants felt they had shared their experiences sufficiently.
17 We then asked participants how they thought SLEs could be improved.
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26 Data analysis

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28 We employed multiple and complementary forms of analyses [as per previously published](#)
29 [research \[24\]: thematic and discourse analyses and in-depth narrative analysis of one](#)
30 [exemplar personal incident narrative \(PIN\)](#). We began with a primary level thematic [analysis](#)
31 [of the data called](#) Framework Analysis (involving data familiarisation, thematic framework
32 identification, indexing, charting, mapping and interpretation) to determine content- and
33 process-related themes (i.e. what participants said and how they said it [respectively](#)) [22,25].
34 [The identification and coding of process-related themes was akin to discourse analysis i.e.](#)
35 [analysis of language-in-use in social interaction \[26\]](#). -We employed qualitative data analysis
36 software (Atlas-Ti, Version 7.0) to facilitate multi-analyst coding of the data. [This allowed us](#)
37 [to explore](#) patterns across our data [qualitatively](#), such as [possible](#) differences in
38 understandings [and experiences](#) between trainees and trainers, [and sometimes](#)
39 [quantitatively such as exploring differences in trainee and trainers' SLE/WPBA experiences](#)
40 [using descriptive \(e.g. frequencies and percentages\) and univariate statistics \(e.g. chi-](#)
41 [squared tests\)](#). Finally, we present an in-depth narrative analysis of one exemplar PIN in this
42 paper to illustrate how [this one](#) trainee made sense of [their her](#) workplace learning
43 experiences, identities and relationships [27]. -We establish credibility in our study by
44 describing our analytic methods, involving multiple data analysts and using illustrative
45 quotes [23,28]. Finally, we establish transferability through our inclusion of a large number
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of narratives from a diverse sample of trainees and trainers ~~in~~across three different UK countries [2328].

RESULTS

Our thematic framework analysis identified seven themes in the data: one theme relating to our first research question (conceptualisations-understandings of SLEs/WPBAs); four themes relating to our second research question (contextual codes for the personal incident narratives, processes of SLEs/WPBAs, factors facilitating learning in SLEs/WPBAs, and factors inhibiting learning); one theme relating to our third research question (how participants narrate their experiences); and one theme relating to our fourth research question (suggestions for improving SLEs).

RQ1: What are participants' understandings of SLEs and WPBAs and how do they differ between trainees and trainers?

Many trainees and trainers admitted to not knowing what SLEs were, and this uncertainty was emphasised through hesitations (errs and ums), pauses, hedges (e.g. "I guess") and laughter. Some participants (e.g. those new to training or new to the UK) were also unsure what WPBAs were but the majority most seemed better able to explain WPBAs than SLEs.

Many ~~participants' experiences (i.e. trainers and F2s)~~ suggested that SLEs and WPBAs were conceptually and operationally the same. However, others did perceive them to be conceptually different, with SLEs having formative and WPBAs having summative aims. While participants demonstrated volunteered a range of conceptualisations understandings for SLEs (e.g. as learning, as assessment), they almost exclusively volunteered understandings of WPBAs ~~were understood almost exclusively~~ as assessment (see Table 2).

[Insert Table 2 about here]

Trainers seemed to more commonly volunteer understandings of conceptualised SLEs as assessment and as a 'safety net' (i.e. a diagnostic tool to help identify trainees who were

“struggling”) more than trainees. However, only trainers defined conceptualised WPBAs in this way. Another apparent striking difference we identified, was the extent of emotional talk (e.g. negative emotion talk) employed by trainees when attempting to define SLEs and WPBAs. Trainees sometimes felt the formative focus relieved the pressure to perform and reduced anxieties.

RQ2: What are participants’ experiences of SLEs and WPBAs and how do they differ between trainees and trainers?

We outline key findings associated with four of our fragmentary themes (i.e. themes that cross-cut all narratives)-here: one contextual theme (covering the timing, location of SLEs/WPBAs, identity of trainer, type of tool, and participant evaluation including the differences between trainees’ and trainers’ evaluations), and three conceptual themes all pertaining to participants’ lived experiences of SLEs/WPBAs (processes of SLEs and WPBAs; and factors facilitating and inhibiting learning within SLEs/WPBAs). It is important to indicate that narratives typically contain numerous elements including the narrator’s commentary on their experience: also known as the ‘evaluation’ [29]. As per the interpretive approach, the analysts coded whole narratives to these codes depending on what participants said and how they said it. For example, narratives including mostly negative emotional talk (e.g. “it was quite alarming”) would be coded to ‘negative evaluation’ and narratives including mostly positive emotional talk (e.g. “it’s nice to have nice things said about you”) would be coded to ‘positive evaluation’.

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The context of SLE and WPBA narratives

We identified 333 narratives in the data (221 SLEs, 72 WPBAs; see Table 3). Most SLEs and WPBAs narrated took place in hospital settings (n=253) and involved F1 doctors (n=185). Trainers within the incidents were usually hospital-based doctors (n=262), although some non-medical specialists (e.g. nurses) also acted as trainers (n=15). CBD, DOPS and Mini-CEX were the most common tools narrated (totalling n=276). Finally, SLEs narratives were overall more likely to be evaluated by the narrators positively (58%) than WPBA narratives (39%), and were less likely to be evaluated negatively by the narrators (13%) compared with

WPBAs narratives (22%; $\chi^2=5.344, df=1, p=.021$). The descriptive statistics presented in Table 3 illustrate more similarities than differences between trainees and trainers. ~~Although~~ ~~tr~~ ~~However, trainees~~ ~~seemed to~~ narrate more SLE experiences with positive evaluations (62%) compared with trainers (46%; $\chi^2=.000, df=1, p=1.000$) and, ~~but~~ more WPBAs narratives with negative evaluations (26%) compared with trainers (18%; $\chi^2=.237, df=1, p=.627$), these relationships were not statistically significant). However, trainees were more likely to narrate their SLE experiences positively (62%) compared with WPBAs (36%; $\chi^2=5.148, df=1, p=.023$).

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[Insert Table 3 about here]

Processes of SLEs and WPBA

SLEs and WPBAs were conducted in diverse ways, in terms of their initiation, tools employed, educational processes used, and completion.

Initiating SLEs and WPBAs

WPBAs/SLEs were initiated by different parties, with different motivations and in different contexts. While SLEs should be trainee-initiated, trainers ~~sometimes-occasionally~~ also initiated them ~~throughout trainees' rotations~~, sometimes near the end of rotations (see Box 1 later). Trainees and trainers described some trainees lacking proactivity to seek opportunities for SLEs/WPBAs. When trainees did initiate them, ~~at times~~, they ~~sometimes~~ strategically chose a trainer they knew. This was sometimes done to enhance the learning experience, choosing someone they felt comfortable with, believed would engage in the process, and/or thought would support them in a positive way. At other times this was done with the intention of having a quick and easy experience where the trainer would just 'tick the box'. Trainees often described feeling discomfort in asking for SLE/WPBA supervision and were often grateful when trainers initiated them. The initiation also varied in terms of the level of planning and organisation. ~~Sometimes-Occasionally~~ they were planned ahead of time, and this ~~occasionally-sometimes~~ involved an element of rehearsal (particularly for the developing the clinical teacher tool: DCT). At other times, they were ad hoc, with opportunistic clinical encounters recognised as an opportunity for an SLE. Finally, they were sometimes initiated retrospectively, ~~sometimes-at times~~, long after the event,

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7 particularly when trainees had completed insufficient tools during their placements (see Box
8 1).
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10 11 *Tools used*

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14 Participants talked about the unique aspects of tools, their preferences and their
15 'workability' of tools. However, they were sometimes unsure or mistaken about what
16 comprised an SLE/WPBA assessment tool, or conflated tools (e.g. CBD with Mini-CEX).
17 Participants discussed the practicalities of various tools, and suggested that some were less
18 workable in certain specialties (e.g. DOPS in psychiatry). Interestingly, many participants
19 expressed clear preferences and dislike for certain tools. For example, some clinicians
20 expressed a preference for Mini-CEX over CBD: Mini-CEX allowed them to observe 'real'
21 performances of trainees and identify 'struggling trainees', whereas CBDs gave trainees
22 opportunities to rehearse thereby masking potential difficulties. Other trainees expressed a
23 preference for CBD over DOPS: CBDs led to 'real learning', whereas DOPS were 'tick-box
24 exercises', simply signing off already-competent procedures.
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33 *Feedback*

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35 The educational activities highlighted included: (1) trainers' observation of the trainee; (2)
36 didactic teaching of knowledge/skills; (3) scaffolding trainees' learning through strategic
37 questioning; and (4) feedback (most commonly verbal feedback during the event and
38 written feedback afterwards). Feedback quality was thought to vary. Positive experiences
39 included personal, meaningful and constructive feedback for learning. Negative experiences
40 included generalised (non-specific), inadequate, inconsistent (e.g. contradictory verbal and
41 written feedback from the same trainer), unconstructive/abusive, or overly positive (and
42 therefore educationally unhelpful) feedback. Trainees often wanted formative feedback to
43 help improve their performance (i.e. feed-forward) rather than ticks (i.e. feed-back).
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51 *Finalising SLEs and WPBAs*

Some participants described examples of trainers completing forms promptly, sometimes during the SLE/WPBA itself, with the feedback being a dialogue. However, finalising the SLE/WPBA process often involved chasing trainers to complete forms within trainees' e-Portfolios, which trainees was perceived as frustrating and awkward by trainees. Trainers were also frustrated if they received the link to the form weeks after the SLE. Trainers and trainees described how written e-Portfolio feedback could be inadequate: while some trainees used trainer comments to promote reflection within their e-Portfolio, others seemed to lack motivation to read their e-Portfolio feedback. Occasionally trainers relied on hearsay or having a general overview of a trainee, rather than seeing events for themselves, signing trainees off without actually witnessing their performance, a sub-theme we called 'manipulating the system through short-cuts' (see Box 1).

[Insert Table 4 about here]

Factors facilitating and inhibiting learning in SLE/WPBAs

Participants described many factors that facilitated and inhibited learning throughout SLEs and WPBAs at four different levels: individual (e.g. characteristics of individual trainees and trainers), interpersonal (e.g. trainer-trainee relationships), cultural (e.g. protected time), and technological (e.g. e-forms; see Table 5).

[Insert Table 5 about here]

RQ3: How do participants make sense of their experiences through narrative?

Participants narrated their SLEs/WPBAs with interesting discourse features (e.g. pronominal, metaphoric and emotional talk and laughter), revealing how they constructed themselves, others and their relationships. In terms of pronouns, participants often referred to the 'other' as "them", illustrating adversarial trainer-trainee relationships (e.g. "they need a certain amount completed so particularly towards the end of placements you get a lot of reminders because you haven't done it 'cause you haven't had time um and they're panicking 'cause they need to get them" (Trainer, site 3). Participants' metaphoric talk also illustrated how they understood the

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trainee-trainer relationship as adversarial, for example as war (e.g. “we get at least one CBD... and questions get fired back and forward” (Trainee, site 2) and sport (e.g. “I think it was... a win-win for both of us.... they realised where they were with it, they acknowledged that some of their deficiencies and I was able to form a game plan...” (Male Trainer, site 2). Participants employed positive and negative emotional talk throughout their narratives (e.g. “the supervisors don’t know their trainees because of the way the rotations work, and that must be very difficult I think... yes it is very difficult” (Female Trainer, site 2), and also laughter, in order to cope with the recounting of difficult stories (e.g. “I’ll talk about a good one I’ve had, because then we’ll get on to the bad ones I’ve had ((laughs))” (Trainee, site 3).

To illustrate these themes in more depth, so far, we have presented themes that were identified across narratives. Here, we next present one narrative exemplar from a trainee to which illustrate demonstrates the themes and their complex interplay between what participants say and with how this participant they -narrates their their experiences in order to make sense of them them, their identities and relationships. We selected this narrative because it is fairly typical, illustrates a range of themes already discussed in this paper, and includes interesting discourse elements found across our data (see Rees et al. [30] for a further narrative analysis).

Helena (a pseudonym) is a female F2. She narrates a WPBA experience from the end of her final F1 rotation. Her experience takes place in a medical setting within the hospital and involves her clinical fellow trainer. She recounts a fairly typical experience: “hunting” for outstanding WPBAs/SLEs near the end of rotations. In the following narrative, Helena explains how her trainer offers to sign off ‘inserting a venflon’ without observing her (see Box 1), thus clearly indicating how trainees and trainers can manipulate the system through short cuts.

She constructs her own identity and that of her clinical teaching fellow through narrating her DOPS experience. Helena presents herself as a competent Foundation doctor by emphasising her day-to-day participation in the medical work of the hospital: taking blood and inserting venflons. She sees her competence in these procedures as without question, emphasised by her repeated comments about trainers “knowing” that she and her fellow Foundation doctors can insert venflons because they see evidence of them in

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7 patients' arms. Helena suggests the obviousness of Foundation doctors' competence, in that
8 they would not be able to "survive on the wards" if they could not take blood. Helena
9 positions her clinical fellow (and other trainers) as having insufficient time "to actually stand
10 and watch" trainees do basic procedures that they are competent in. Helena presents her
11 trainer as knowledgeable and proactive because he checks she has completed her WPBAs
12 for the end of her rotation. While he is partly constructed as helpful for offering to sign off a
13 venflon insertion, he is simultaneously constructed as blasé in that her competence is
14 "taken for granted".
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20 There are various discourse elements in Helena's narrative that are worthy of
21 consideration, including her pronominal and metaphoric talk and laughter, all of which shed
22 light on how she makes sense of this DOPS experience. In terms of her pronominal talk, she
23 repeatedly positions herself as 'we' throughout her narrative (meaning me and the other
24 Foundation doctors), and she repeatedly positions her clinical fellow as 'they' throughout
25 the narrative (meaning him and other trainers). This use of 'we' and 'they', rather than 'me'
26 and 'him', depersonalises and simultaneously generalises her experience, implying that all
27 Foundation doctors commonly experience this event [24,31]. Furthermore, this 'them and
28 us' language within the narrative implies an oppositional relationship between trainees and
29 trainers [24,31]. In terms of metaphoric talk, Helena explains that she is "hunting" for
30 patients in order to get DOPS signed off, and she is busy "surviving" on the wards by
31 practising procedures competently. This latter metaphoric linguistic expression, for
32 example, implies the common conceptual metaphor of MEDICINE AS WAR, and similar to the
33 pronominal talk implies oppositional relationships between trainees and trainers
34 [32,33,25,26]. What is striking about these metaphoric linguistic expressions are that they
35 are both accompanied by laughter, possibly for contextual coping (in the interactional
36 moment of narrating the event) and non-contextual coping (due to uncomfortable feelings
37 around the nature of what it is she's disclosing in her narrative) [34,35,27,28]. This laughter
38 for coping suggests that experiences such as this ("I don't find DOPS very useful") can have a
39 negative impact on trainees' emotional learning experiences.
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50 [Insert Box 1 about here]
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54 **RQ4: What are participants' suggestions for how SLEs should be developed?**
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7 In response to our final question (how do you think SLEs could be improved?), participants
8 provided a range of suggestions at four different levels: individual (e.g. improving trainees'
9 and trainers' understanding and engagement), interpersonal (e.g. improving trainer-trainee
10 relationships), cultural (e.g. shifting away from tick-box summative culture), and
11 technological (e.g. improving e-tools: see Table 6).
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15 [Insert Table 6 about here]
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18 DISCUSSION

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20 This independent evaluation, commissioned by the AOeMRC, is the first of its kind to
21 explore Foundation trainee and trainers' ~~conceptualisations understandings~~ and
22 experiences of SLEs compared with WPBAs [since the introduction of SLEs in 2012](#).
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26 Confusion reigned amongst participants about what SLEs were and how they
27 differed from WPBAs. While ~~participants ultimately volunteered diverse understandings of~~
28 SLEs ~~were conceptualised in diverse ways~~ (e.g. learning and assessment), ~~they volunteered~~
29 ~~understandings of~~ WPBAs ~~that were almost exclusively were typically understood as~~
30 ~~assessment-related~~. Trainers ~~were-seemed~~ more likely than trainees to ~~volunteer~~
31 ~~conceptualise understandings of~~ SLEs as assessment and a 'safety net' to protect patients.
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33 That many trainers continue to understand SLEs as assessment means that they may
34 continue to treat them as such, thereby jeopardising trainee learning.
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39 The narratives illustrated that SLEs and WPBAs were conducted in diverse ways, with
40 issues raised about their initiation, tools used, feedback, and finalisation. Enthusiastic
41 trainers and trainees and good relationships facilitated learning within SLEs/WPBAs,
42 whereas time pressures and e-tools posed barriers to learning. SLE narratives were more
43 likely to be evaluated positively than WPBA narratives. Trainees narrated more SLE
44 experiences with positive evaluations and more narratives of WPBAs with negative
45 evaluations ~~compared with trainers~~. Some of these findings extend the already mixed
46 evidence for WPBA in terms of its acceptability to trainees and trainers [2,10,2936].
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48 Previous research, for example, indicates that feedback within the medical workplace can
49 be sub-optimal and numerous factors can hinder workplace learning, such as lack of
50 protected time for the trainee-trainer relationship [16,20,37-3830-32].
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7 This study provides tentative support for the summative to formative shift in focus
8 from WPBAs to SLEs initiated by the ~~AoMRC-AOMRC [1](2012)~~. Furthermore, this study
9 contributes to our understanding of the lived experiences of trainers and trainees, and
10 provides quantitative data on differences in SLE/WPBA experiences between trainees and
11 trainers. That trainees were more likely to report positive evaluations of their SLE
12 experiences ~~(and trainers not) compared with trainers, and trainers more likely to report~~
13 ~~positive evaluations of their WPBA experiences compared with trainees,~~ suggests that
14 trainees and trainers might want different things from SLEs/WPBAs (learning vs. assessment
15 respectively). Further, that participants constructed their own and others' identities, and
16 their relationships in numerous ways builds on other medical education research at the
17 undergraduate level emphasising potential conflictual relationships between trainees and
18 trainers ~~[24-26,3331-33,39]~~.

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Key suggestions to improve the SLEs included improving trainees' and trainers' understandings of SLEs, better trainee-trainer relationships through regular meetings and closing the 'feedback loop', improving the culture of workplace learning through formative learning rather than summative assessment, and improving the technology around SLEs, extending previous research within medical education [16,20,37-4330-37].

Methodological strengths and challenges of study

To our knowledge, this is the first study to explore Foundation trainee and trainers' understandings of SLEs and WPBAs, and their lived experiences, ~~through narrative~~. The large number of narratives collected, and our consistent findings across the three geographically dispersed sites, suggests that our results are transferable to other UK locations. Although our sample of trainees and trainers was intentionally diverse, we ~~had~~ relatively low numbers of GP and nurse trainers in our study, and relatively few trainees with GP and nurse trainer SLE/WPBA experiences. While this reflects the reality of training programme structures and processes, we must use caution when extrapolating our findings to GP settings and to GP and nurse trainers. ~~Having employed qualitative methods, our sample is not necessarily representative, nor does it intend to be representative, of all UK trainers and trainees.~~

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7 The geographical distance between sites and the need to collect large amounts of
8 qualitative data in a relatively short time-frame (around 6 months) required multiple
9 researchers across the three sites to undertake interviews and data analysis. Consistency
10 was maintained across the researchers through training, the use of a discussion guide,
11 regular meetings and use of a comprehensive coding framework. Finally, with around 46
12 hours of qualitative data it was pragmatic for us to adopt different methods of data analysis
13 to explore both the *breadth* and *depth* (and, therefore, the *what's* and *how's*) of
14 participants' experiences. Because of this voluminous data, we partly quantified it to
15 identify patterns across our narratives that would otherwise be invisible [44,45,38,39]. Some
16 methodological purists would find this combination of quantitative and qualitative analyses
17 problematic because of the different epistemologies underpinning these two approaches.
18 However, we retained a process-orientated qualitative approach to our interpretation of
19 numerical data [38,39,44,45].
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29 Implications for educational practice

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31 Our recommendations are based on key findings from our research (both what works and
32 what does not work) and comments from our clinical reference group (see
33 acknowledgements). First, we need to improve trainee and trainers' understandings of
34 SLEs. Both must understand the concepts of formative and summative assessment and be
35 able to recognise good quality feedback; that feedback is a dialogic process; and how they
36 can give, receive and seek feedback effectively within the workplace.[46] Both need to
37 appreciate the diversity of processes for conducting SLEs; know the tools and how they
38 differ; and comprehend factors facilitating and hindering learning within SLEs.
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44 Second, trainee-trainer relationships need to be improved. Good quality
45 relationships, characterised by knowledge of the other person, mutual respect and trust,
46 should be possible through prolonged engagement including multiple trainee-trainer
47 meetings throughout rotations. We recognise that the pressures of service delivery make
48 this recommendation challenging.
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52 Thirdly, the culture of workplace learning needs to be improved. The formative
53 focus of SLEs could be emphasised further by re-thinking the structures around SLEs, and
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7 particularly those structures that imply a summative focus. For example, SLEs should be
8 undertaken at regular intervals with a cumulative formative impact over the course of a
9 rotation, thereby allowing trainees to conduct SLEs in a meaningful way that is beneficial to
10 their own personal and professional development, rather than encouraging a system of
11 “hunting” for SLEs at the end of a rotation to secure that “tick”.
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15 Fourth, tools employed for SLEs need to be improved to emphasise their formative
16 focus (e.g. prioritising free-text comments) and making them easier to finalise (e.g.
17 applications for smartphones and tablets) [5].
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19
20 Finally, we need to develop, assess and recognise trainers for the work they do
21 including the provision of trainee feedback to trainers to close the ‘feedback loop’ [469],
22 and to be used as part of trainers’ annual appraisals. Furthermore, this process of feedback
23 could form the basis of a trainer recognition programme, thus valuing the important role of
24 the educator.
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27 28 29 30 **Implications for further research**

31
32 The introduction of any new workplace-based initiative will benefit from investigation using
33 a range of approaches. Further interview research is required using wider sampling (e.g.
34 capturing GP experiences) to more fully elucidate the themes identified in this paper. Also,
35 additional to explore SLEs using qualitative (e.g. longitudinal audio-diary, video-reflexive
36 ethnography) and quantitative methodologies (e.g. pragmatic cluster randomised trial)
37 would be helpful to explore SLEs further. The latter could compare various outcomes (e.g.
38 trainee and trainer satisfaction, metrics around form completion) for an intervention group
39 of trainers and/or trainees who have received theory-based training in giving, receiving and
40 seeking formative feedback, compared with those not receiving the educational
41 intervention. Ultimately, without such further research, it may be impossible to fully
42 understand the complexities surrounding SLEs within workplace learning.
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7 **Acknowledgements** We thank all the trainers and trainees who participated. We also thank
8 our administrative, academic, and clinical colleagues who helped us recruit participants. In
9 particular, we thank members of our clinical reference group, who advised us on the
10 recruitment of participants, and gave us feedback on our interpretations of the data and
11 developing educational recommendations. In alphabetical order these are: Professor Stuart
12 Carney, previously University of Exeter; Dr Ben Hannigan, Cardiff University; Professor Peter
13 Johnston, University of Aberdeen; Professor Jean Ker, University of Dundee; Dr David
14 Leeder, University of Exeter; Professor Graham Leese, University of Dundee; Dr Murray
15 Lough, previously NHS Education for Scotland; Dr Alan Stone, Cardiff University; Professor
16 Frank Sullivan, previously University of Dundee; and Professor Mike Watson, Previously NHS
17 Education for Scotland. We also thank Elaine Plenderleith at the Centre for Medical
18 Education, University of Dundee, for her administrative support throughout the course of
19 this project. Finally, we thank the Academy of Medical Royal Colleges for its contribution to
20 this project. In particular, we thank Dr Ed Neville, Chair of the Supervised Learning Events
21 Evaluation Working Group, and Dr David Kessel, Chair of the Academy Foundation
22 Programme Committee, for their contribution to the design of this project, advice about
23 recruitment of participants, thoughtful comments about the educational recommendations
24 for the project, and feedback on the preliminary draft of our end-of-award report.

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35 **Contributors** CR, JC, KM and LM designed the study and secured its funding. CR, KM, and LM
36 were site-specific leads and over-saw the work of AD and NK. JC and AD conducted the
37 literature review. CR, KM, LM, AD, and NK secured ethics approval for the three sites and
38 recruited participants. AD and NK did the bulk of the data collection (CR and LM facilitated
39 some interviews). All authors participated in a preliminary thematic analysis of selected
40 transcripts. CR, LM, AD and NK coded data using Atlas-Ti (the bulk of this was done by AD
41 and NK). LM and AD interrogated the coding using Atlas-Ti and CR conducted narrative
42 analyses. CR, JC, KM and LM wrote parts of this paper, and CR edited it. All authors
43 commented on various iterations. CR, JC and AD conducted this research on behalf of the
44 Scottish Medical Education Research Consortium (SMERC). CR is the Principal Investigator
45 for the project and overall guarantor.

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52 **Funding** This work was supported by the Academy of Medical Royal Colleges. The views
53 expressed in this paper are those of the authors and not necessarily of the funders.
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7 **Competing interests** This research was carried out independently of the study sponsor, who
8 had no input to the collection, analysis, and interpretation of data; and writing the report.
9
10 All authors had full access to all of the data in the study and take responsibility for the
11 integrity of the data and the accuracy of the data analysis.
12

13 **Ethics** The relevant ethics committees within each site approved this study, and additional
14 site-specific approvals were secured where necessary. Informed consent was obtained from
15 all participants, along with their right to withdraw from the study at any time without
16 penalty.
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19 **Provenance and peer review** Not commissioned; externally peer reviewed.
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21 **Data sharing statement** No additional data are available.
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REFERENCES

1. Academy of Medical Royal Colleges. The UK Foundation Programme Curriculum, July 2012: <http://www.foundationprogramme.nhs.uk/pages/foundation-doctors/training-and-assessment/fpcurriculum2012> (accessed June 2014).
2. Collins JP. Foundation for Excellence: An Evaluation of the Foundation Programme. Medical Education England; 2010. <http://hee.nhs.uk/wp-content/uploads/sites/321/2012/08/Foundation-for-excellence-report.pdf> (accessed June 2014).
3. Miller A, Archer J. Impact of workplace based assessment on doctors' education and performance: a systematic review. *Brit Med J* 2010;341:c5064.
4. Tunstall P. Teacher feedback to young children in formative assessment: A typology. *Brit Educ Res J* 1996;22:389-395.
5. Driessen E, Scheele F. What is wrong with assessment in postgraduate training? Lessons from clinical practice and educational research. *Med Teach* 2003;35:569-74.
6. Norcini J, Burch V. Workplace-based assessment as an educational tool: AMEE Guide No 31. *Med Teach* 2007;9:855-71.
7. Nair BR, Alexander HG, McGrath BP, et al. The mini clinical evaluation exercise (mini-CEX) for assessing clinical performance of international medical graduates. *Med J Aust* 2008;189:159-61.
8. Weller JM, Jones A, Merry AF, et al. Investigation of trainee and specialist reactions to the mini-clinical evaluation exercise in anaesthesia: implications for implementation. *Br J Anaesth* 2009;103:524-30.
9. van der Vleuten C. The assessment of professional competence: developments, research and practical implications. *Adv Health Sci Educ* 1996;1:41-67.
10. Pereira EA, Dean BJ. British surgeons' experiences of mandatory online workplace-based assessment. *J Royal Soc Med* 2009;102:287-93.
11. Ryland I, Brown J, O'Brien M, et al. The portfolio: how was it for you? Views of F2 doctors from the Mersey Deanery Foundation Pilot. *Clin Med* 2006;6:378-80.
12. Weston PSJ, Smith CA. The use of mini-CEX in UK foundation training six years following its introduction: Lessons still to be learned and the benefit of formal teaching regarding its utility. *Med Teach* 2014;36:155-63.

- 1
2
3
4
5
6
7 13. Wilkinson JR, Crossley JG, Wrag A, et al. Implementing workplace-based assessment
8 across the medical specialties in the United Kingdom. *Med Educ* 2008;42:364-373.
9
10 14. Kogan JR, Holmboe ES, Hauer KE. Tools for direct observation and assessment of
11 clinical skills of medical trainees: a systematic review. *JAMA* 2009;302:1316-26.
12
13 15. Pelgrim EAM, Kramer AWM, Mokkink HGA, et al. In-training assessment using direct
14 observation of single-patient encounters: a literature review. *Adv Health Sci Educ*
15 2010;16:131-142.
16
17 16. Fernando N, Cleland JA, McKenzie H, et al. Identifying the factors that determine
18 feedback given to Undergraduate Medical Students following formative mini-CEX
19 assessments. *Med Educ* 2008;42:89-95.
20
21 17. Holmboe ES, Yepes M, Williams F, et al. Feedback and the mini clinical evaluation
22 exercise. *J Gen Int Med* 2004;19(5 Pt 2):558-56.
23
24 18. Yeates P, O'Neill P, Mann K, et al. Seeing the same thing differently: Mechanisms
25 that contribute to assessor differences in directly-observed performance
26 assessments. *Adv Health Sci Educ* 2013;18:325-41.
27
28
29
30 19. Sinclair H, Cleland JA. Medical undergraduate students – who seeks formative
31 feedback? *Med Educ* 2007;41:580-582.
32
33 19-20. [Mattick K, Kelly N, Rees C. A window into the lives of junior doctors: narrative](#)
34 [interviews exploring antimicrobial prescribing experiences. *J Antimicrob Chemother*](#)
35 [2014; Apr 3: Epub ahead of print.](#)
36
37
38 ~~20-~~
39
40 21. Crotty M. *The Foundations of Social Research. Meaning and Perspective in the*
41 *Research Process.* London: Sage Publications; 2003.
42
43 22. Smith B, Sparkes AC. Contrasting perspectives on narrative selves and identities: an
44 invitation to dialogue. *Qual Res* 2008;8:5-35.
45
46 23. Adler PA, Adler P. In: Baker SE, Edwards R, eds. [How many qualitative interviews is](#)
47 [enough? Expert voices and early career reflections on sampling and cases in](#)
48 [qualitative research. Review Paper. Southampton: National Centre for Research](#)
49 [Methods; 2012. \[http://eprints.ncrm.ac.uk/2273/4/how_many_interviews.pdf\]\(http://eprints.ncrm.ac.uk/2273/4/how_many_interviews.pdf\)](#)
50 [\(accessed September 2014\).](#)
51
52
53
54
55

24. Monrouxe LV, Rees CE. "It's just a clash of cultures": emotional talk within medical students' narratives of professionalism dilemmas. *Adv Health Sci Educ* 2012;17(5):671-701.

~~22.~~

25. Ritchie J, Spencer L. Qualitative data analysis for applied policy research. In: Bryman A, Burgess RG, eds. *Analysing Qualitative Data*. London: Routledge, 1994: 173-194.

26. Alvesson M, Kärreman D. Varieties of discourse: On the study of organizations through discourse analysis. *Hum Relat* 2000;53(9):1125-1149.

~~23-27.~~ Riessman CK. Narrative Methods for the Human Sciences. Thousand Oaks: Sage; 2008.

28. Côté L, Turgeon J. Appraising qualitative research articles in medicine and medical education. *Med Teach* 2005;27(1):71-75.

29. Labov W, Waletzky J. Narrative analysis. Oral versions of personal experience. In: Helm J, ed. *Essays on the Verbal and Visual Arts.* Seattle, WA: American Ethnological Society, University of Washington Press; 1967:12-44.

30. ~~Rees CE, Cleland J, Mattick K, Monrouxe LV, Dennis A, Kelly N.~~ Supervised Learning Events Qualitative Evaluation Project. Final Report to the Academy of Medical Royal Colleges, May 2013.

~~24.~~

~~25-31.~~ Rees CE, Monrouxe LV. "Is it alright if I-um-we unbutton your pyjama top now?" Pronominal use in bedside teaching encounters. *Commun Med* 2008;5(2):171-182.

~~26-32.~~ Rees CE, Knight LV, Wilkinson CE. "Doctors being up there and we being down here": a metaphorical analysis of talk about student/doctor-patient relationships. *Soc Sci Med* 2007;65(4):725-737.

~~27-33.~~ Rees CE, Knight LV, Cleland JA. Medical educators' metaphoric talk about their assessment relationship with students: "You don't want to sort of be the one who sticks the knife in them". *Assess Eval Higher Educ* 2009;34(4):455-467.

~~28-34.~~ Wilkinson CE, Rees CE, Knight LV. "From the heart of my bottom": Negotiating humour in focus group discussions. *Qual Health Res* 2007;17(3):411-422.

~~29-35.~~ Rees CE, Monrouxe LV. Laughter for coping: Medical students narrating professionalism dilemmas. In: C. Figley, P. Huggard, & C.E. Rees (Eds.). *First Do No*

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2
3
4
5
6
7 Self-Harm: Understanding and Promoting Physician Stress Resilience. New York:
8 Oxford University Press; 2013:67-87.
9
- 10 ~~30-36.~~ Overeem K, Wollersheim H, Driessen E, et al. Doctors' perceptions of why
11 360-degree feedback does (not) work: a qualitative study. Med Educ 2009;43:874-
12 882.
13
- 14 ~~31-37.~~ Cleland JA, Knight L, Rees C, et al. "Is it me or is it them?" Factors influencing
15 assessors' failure to report underperformance in medical students. Med Educ
16 2008;42:800-809.
17
- 18 ~~32-38.~~ Chikwe J, de Souza AC, Pepper JR. No time to train surgeons. Brit Med J
19 2004;328:418-419.
20
- 21 ~~33-39.~~ ~~Mattick K, Kelly N, Rees C. A window into the lives of junior doctors: narrative
22 interviews exploring antimicrobial prescribing experiences. J Antimicrob Chemother
23 2014; Apr 3. Epub ahead of print.~~
24
- 25 ~~34-40.~~ Urquhart LM, Rees CE, Ker JS. Making sense of feedback experiences: a
26 multi-school study of medical students' narratives. Med Educ 2014;48(2):189-203.
27
- 28 ~~35-41.~~ Bing-You RG, Trowbridge RL. Why medical educators may be failing at
29 feedback. JAMA 209;302(12):1330-1331.
30
- 31 ~~36-42.~~ Veloski J, Boex JR, Grasberger MJ, et al. Systematic review of the literature on
32 assessment, feedback and physicians' clinical performance: BEME Guide No. 7. Med
33 Teach 2006;28(2):117-128.
34
- 35 ~~37-43.~~ Watling C, Lingard L. Toward meaningful evaluation of medical trainees: the
36 influence of participants' perceptions of the process. Adv Health Sci Educ
37 2012;17:183-194.
38
- 39 ~~38-44.~~ Watling C, Driessen E, van der Vleuten CPM, et al. Learning from clinical
40 work: the roles of learning cues and credibility judgements. Med Educ
41 2012;46(2):192-200
42
- 43 ~~39-45.~~ Maxwell J. Using numbers in qualitative research. Qual Inq 2010;16:475-82.
44
- 45 ~~40-46.~~ Rees CE, Monrouxe LV, McDonald LA. Narrative, emotion and action:
46 Analysing 'most memorable' professionalism dilemmas. Med Educ 2013;47:80-96.
47
- 48 ~~41-47.~~ Boud D, Molloy E. Rethinking models of feedback for learning: the challenge
49 of design. Assess Eval High Educ 2012;E1-15.
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Table 1: Participant characteristics by group

Characteristic	Trainees (N = 70)*	Trainers (N=40)*
Age		
20-30	65 (93%)	2 (5%)
31-40	2 (3%)	13 (32%)
41+	3 (4%)	24 (61%)
Gender		
Male	31 (44%)	24 (60%)
Female	39 (56%)	16 (40%)
Ethnicity		
White	57 (81%)	37 (93%)
Non-white	13 (19%)	3 (8%)
Language		
English	60 (86%)	36 (90%)
English as second language	10 (14%)	3 (8%)
Trainers' years since graduation		
0-10	-	8 (20%)
11-20	-	15 (38%)
21+	-	16 (41%)
Trainers' years of PGME experience		
0-10	-	26 (64%)
11-20	-	9 (23%)
21+	-	4 (11%)
Trainers' specialties		
Hospital (medical)**	-	16 (40%)
Hospital (surgical)	-	5 (13%)
Hospital (services)	-	8 (20%)
General Practice	-	5 (13%)
Nurse	-	4 (10%)
Number of SLEs conducted		
Median	8	6
Range	3-25	0-40
Had experience with <u>SLE tools as SLEs?</u>[†]		
DOPS	42 (60%)	16 (40%)
Mini-CEX	46 (66%)	25 (63%)
CBD	45 (64%)	26 (65%)
DCT	10 (14%)	6 (15%)
Number of WPBA conducted		
Median	19.5	30
Range	8-28	0-40
Had experience with <u>WPBA tools as WPBAs?</u>[†]		
DOPS	24 (34%)	20 (50%)
Mini-CEX	24 (34%)	30 (75%)
CBD	24 (34%)	30 (75%)

NOTES: *these figures are rounded up to zero decimal places so may not always add up to 100%; ** Medical specialties included neurology, gastroenterology, rheumatology, anaesthesiology and psychiatry, surgical specialties includes ophthalmology and orthopaedics, and services specialties included infectious diseases and dermatology; [†]these figures represent a free-text question asking participants to outline which tools they had used so numbers are likely to be under-estimates; SLEs=Supervised Learning Events; WPBAs=Workplace-based assessments; DOPS=Direct Observation of Procedural Skills; Mini-CEX=Mini Clinical Evaluation Exercise; CBD=Case-based Discussion; DCT=Developing the Clinical Teacher.

Table 2: Participants' ~~conceptualisations~~ ~~understandings~~ of Supervised Learning Events/Workplace-based Assessments/PBAs

Conceptualisation Understandings	Description	Illustrative quote
SLE/WPBA as unknown	Conceptualisation Understanding unclear.	"I didn't really understand what they [SLEs] meant ((laughs)) to be honest erm" (Female F1, site 3)
SLE/WPBA as summative tool	SLEs/WPBAs' purpose is to assess trainees' abilities, and give 'pass/fail' results.	"WPBA is more of a case of they've performed a task and have they understood what that task is or is it something you can sign off that they're competent to do" (Male Trainer, site 3)
SLE/WPBA as tick box exercise	SLEs/WPBAs demonstrate basic requirements are met with little educational value.	"It's still tempting for an assessor to say "I'm really busy, we'll do a WPBA and we'll just tick whether it was excellent or not"" (Female F2, site 1)
SLE/WPBA as safety net	SLEs/WPBAs' purpose is to ensure that trainees who struggle are identified.	"I initiated a Mini-CEX [<u>Mini Clinical Evaluation Exercise</u>] in a clinic to try and get some ideas about why the registrar was getting these complaints ... what it allowed me to do was to try and broach the subject of the complaints with the registrar but in a training environment" (Male Trainer, site 2)
SLE as formative tool	SLEs are a tool for developing, rather than assessing, trainees.	"It is a learning event and you should be giving them feedback on the process there and then, and that should be used as a learning tool" (Female Trainer, site 2)
SLE as a formalisation process	SLEs open up a legitimate route for trainees to ask seniors to engage in their learning, ensuring that training processes occur within the workplace.	"I think that's just formalising what we do normally, ward round teaching it's formalising that but also making it more time consuming because you have to write it all down" (Female Trainer, site 1)
SLE as individual assessments	An opportunity to assess competencies and knowledge at a single time-point.	"Problem is it's just, the supervised learning events is just a one off thing, it's just like a little snapshot" (Female F1, site 2)
SLE as formal progression	SLEs demonstrate trainee progression, evidencing skill acquisition over time.	"My understanding of the SLEs are they are opportunities to um, view and um, assess a trainee's um, progress, whether that's examination skills, whether that's clinical reasoning..." (Male Trainer, site 3)
SLE as developmental process	SLEs provide trainees with an opportunity for holistic development. Unlike 'formal progression', the focus is on trainees' personal perceptions of development.	"she [consultant] was there all the time, she, when she wasn't there, you know, the first thing she said to me when she got back onto the ward on Monday morning, was "What does the latest gas show? What are you gonna do...? Are you gonna treat this...?", so, so the whole thing was just this massive learning experience" (Female F2, site 3)
SLE as engagement opportunity	SLEs are an opportunity for trainers and trainees to have one-to-one time that may not otherwise happen.	"the fact it's compulsory ... that gives you something you can say to seniors "look, I need to do this, I'm sorry, but I have to do it" ... it does mean you sit down and hopefully spend half an hour talking in a bit more detail... it does mean you've got an excuse to have that face-to-face..." (Male F2, site 2)
WPBA as a gut feeling	WPBAs are poorly defined and therefore assessing whether a trainee had passed is a 'judgement call'.	"because also like last year, somebody would give you all these meets or meets it more, but it's such a subjective thing" (Female F2, site 1)
Understandings linked with	Conceptualisations Understandings articulated with	"I think it's six of one half-dozen of the other, I am not somebody who excels at that kind of

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assessment... errm and I get very anxious, I get very uptight and I don't shine... and it feeds into all my anxieties and insecurities about myself... and I think that probably skews my perception of them [SLE/WPBAs]..." (Female F2, site 3)

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Table 3: Overview of personal incident narratives of Supervised Learning Events and Workplace-based Assessments/PBAs by participants: Frequencies (%)

	Overall* 333	SLEs**			WPBAs**		
		Total 221	Trainee 167	Trainer 54	Total 72	Trainee 39	Trainer 33
Where							
Hospital	253	170 (76)	123 (73)	47 (84)	58 (81)	31 (79)	27 (82)
GP Practice	20	17 (8)	12 (7)	5 (9)	2 (3)	0 (0)	2 (6)
Other	3	1 (0)	1 (1)	0 (0)	1 (1)	0 (0)	1 (3)
When							
FY1	185	130 (59)	104 (62)	26 (48)	50 (69)	39 (100)	11 (33)
FY2	84	76 (34)	62 (37)	14 (26)	5 (7)	0 (0)	5 (15)
ST	10	4 (2)	0 (0)	4 (7)	2 (3)	0 (0)	2 (6)
Who (trainer)							
Hospital Dr	262	176 (79)	139 (83)	37 (67)	57 (79)	29 (74)	28 (85)
Community Dr	26	21 (9)	12 (8)	9 (16)	3 (4)	0 (0)	3 (9)
Non-medic	15	11 (5)	4 (2)	7 (13)	3 (4)	2 (5)	1 (3)
No trainer	2	0 (0)	0 (0)	0 (0)	2 (3)	2 (5)	0 (0)
Which tool***							
CBD	106	78 (34)	59 (34)	19 (35)	16 (22)	5 (13)	11 (32)
Mini-CEX	85	61 (27)	47 (27)	14 (25)	17 (23)	9 (23)	8 (24)
DOPSS	85	57 (25)	46 (27)	11 (20)	20 (27)	13 (33)	7 (21)
DCT	28	12 (5)	9 (5)	3 (5)	13 (18)	11 (28)	2 (6)
Other (e.g. MSF)	6	2 (1)	1 (1)	1 (2)	2 (3)	0 (0)	2 (6)
Evaluation****							
Positive	173	128 (58)	103 (62)	25 (46)	28 (39)	14 (36)	14 (42)
Negative	56	29 (13)	23 (14)	6 (11)	16 (22)	10 (26)	6 (18)
Neutral	36	28 (13)	16 (10)	12 (22)	8 (11)	3 (8)	5 (15)
Contradictory	20	12 (5)	7 (4)	5 (9)	6 (8)	4 (10)	2 (6)

Notes: *Note that frequencies for SLEs (Supervised Learning Events) and WPBAs (Workplace-based assessments)- (across rows) do not add up to the overall total because unclear narratives are excluded; **Percentages are calculated within each group/column i.e. total, trainee, trainer. These also fall short of 100% because 'unclear' narratives are excluded; ***CBD=Case-based discussion; Mini-CEX=Mini Clinical Evaluation Exercise; DOPS=Direct Observation of Procedural Skills; DCT=Developing the Clinical Teacher; MSF=Multi-source Feedback; ****As per the interpretive approach, analysts coded whole narratives to these codes depending on what participants said and how they said it (e.g. narratives including mostly negative emotional talk e.g. "it was quite alarming", would be coded to 'negative evaluation').

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Table 4: Issues around Supervised Learning Events/Workplace-based Assessments/PBA processes

Issue	Illustrative quote
Initiation	"I've done catheter insertion and I did that for the first time as a DOPS [Direct Observation of Procedural Skills] because while I was on call a lady needed to be catheterised and the SHO [Senior House Officer] said to me "have you done a catheter before? Do you want to do it as a DOPS for me?" (Female F1, site 1).
Tools used	"... probably the Mini-CEX [Mini Clinical Evaluation Exercise] has been the most useful, I say that because we have a trainee who's currently in difficulty and we had an extra assessment for her a couple of months ago and it became clear that she could swat up for the CBD and was actually quite good at the CBD [Case-based Discussion] but in the Mini-CEX when you're in a clerk situation the patient is there you're seeing the whole package... it was the most valuable tool for us in this particular trainee because it seemed to pick out where the gaps were and it was quite alarming ((laughs)) where the gaps were ((said with laughter)) and that's the best tool we found for that particular trainee ..." (Female Trainer, site 1).
Feedback	"there's no point somebody sitting down and filling in a form that takes you know a minute to complete and and all they say is "very good carry on"... because that fine it's nice to have nice things said about you but it doesn't really help in terms of training or feedback... give them something to reflect on" (Male Trainer, site 1).
Finalising	"I'm still waiting and that was about a month, maybe a month ago ((laughs))... I sent her [trainer] some erm reminder e-mails and I think probably... next week I'm gonna have to go up to her and say "Oh I sent you an e-mail, have I got your right e-mail address?" kind of thing but I don't really like chasing people... it's a bit uncomfortable kind of situation" (Female F2, site 3).

Table 5: Factors facilitating/inhibiting learning through Supervised Learning Events/Workplace-based Assessments/PBAs

Levels	Definition	Illustrative quotes
INDIVIDUAL	Trainee/trainer characteristics including the presence (facilitator) or absence (inhibitor) of: enthusiasm, motivation, and engagement; understanding of SLE/WPBAs; teaching/learning competence; self-reflection and self-awareness; organisational skills and confidence.	“but it seems to be sort of confusing the seniors as well because they’re not too sure what’s required of us... they’re not too sure what the requirements are and to be honest when we first started it didn’t seem like the academic office was too sure of the requirements either... so no one had a clue sort of how many we all needed...” (Female F2, site 1)
INTERPERSONAL	Trainee-trainer relationship characterised by presence (facilitator) or absence (inhibitor) of: knowledge of the other person and continuity of relationship; mutual respect; like, warmth, and trust; an identification with the ‘other’ and a sense of connectedness; connection to the ‘team’ with shared goals.	“In a way it’s needed really because of the way postgraduate medical training has been condensed and continuity of training has disappeared so you don’t get the same mentorship and the same apprenticeship that you used to be because you’re working with a number of different consultants depending on which day of the week it is and I think that’s one of the things that is difficult actually for the trainers is that they may not see a lot of the trainees to get the background sense of how a trainee actually is so that they can then provide meaningful input related to a specific case...” (Male Trainer, site 1)
CULTURAL	Organisational characteristics including presence (facilitator) or absence (inhibitor) of: safe learning and assessment culture; protected time for supervised practice including observation and feedback; rotations with adequate durations; team-orientation with availability of registrar, consultant and non-medical trainers (e.g. nurses); relevant tools for each specialty.	“I think the SLEs were a little bit easier [on my second rotation] because you got regs [registrars] to do it... the environment is very amenable to SLEs because you saw the same regs again and again and it’s easy to follow up versus another environment that’s less so, let’s say if you’re working in orthopaedics not so much because their rotas don’t exactly facilitate for seeing people on a regular basis and it’s a different, separate teams and very much the FY1 more on the wards and that’s why pretty much so it really is environment depended” (Male trainee, site 1)
TECHNOLOGICAL	Technological characteristics including presence (facilitator) or absence (inhibitor) of hardware (e.g. computers, smartphones) and software (e.g. online tools, Internet).	Int: How quickly do you complete their form, their e-Portfolio? MT: I tend to do them online at the time... primarily because I’m never more than two feet away from my iPad and so it’s easy to um get them to log in either on a terminal and send me a link (Male Trainer, site 3)

Box 1: "I'll actively hunt"

Int: ...okay well can you think of any more stories with your SLEs [\[Supervised Learning Events\]](#)* because we've got different types I mean any DOPS [\[Direct Observation of Procedural Skills\]](#) maybe?

Helena: I don't find the DOPS very useful because one of the DOPS like taking blood or putting in a cannula we do that about a hundred times a day and obviously all our trainers know that we can do that and have seen that not sat and watched us put in a venflon but have seen all the venflons in the patients and they know that we put them in

Int: right

Helena: so they don't really take the time to stand and assess and watch us put it in because they've seen people toing and froing with our venflons in their arms so they're like "yeah I'll sign that off no problem I know you can do a venflon"

Int: okay so they're not really watching you they're just taking it on trust

Helena: yeah they can see the outcomes of the procedures that we've done rather than

Int: have you had an SLE like that?

Helena: yeah um like I mean fairly straightforward procedures that we do every day there's not often enough time for trainers to actually stand and watch us do something as basic as taking blood they know we can take blood else we wouldn't be able to survive on the wards ((laughs)) so it's kind of taken for granted that we can do that

Int: so when you got your SLE for that can you just tell me how that happened how did you go about getting the SLE for that?

Helena: um well just in the last job towards the end they always say "how are you doing with all the tick bo- have you got everything you need?" and I was a couple short on DOPS so my clinical fellow said "I obviously know you can do venflons I've sent you to go and [do] them and you've come back and said you've done them on numerous occasions I can easily sign that one off for you"

Int: okay so again they initiated it rather than you yourself is that right in this particular case?

Helena: Yeah it can be both because I'll think "oh deadline coming up I'm a few short of this and this" and I'll actively hunt to- to go and find somebody that needs what I'm missing ((laughs))...

Notes: *Although the trainee is repeatedly asked about a [Supervised Learning Event \(SLE\)](#) experience, she provides a [Workplace-based Assessment \(WPPBA\)](#) experience

Table 6: Suggested improvements to the Supervised Learning Event process

Level	Definition	Illustrative quotes
INDIVIDUAL	Suggestions included improving trainee/trainers' understandings of SLEs and their engagement with SLEs.	"I think that we would very much like to have a clearer idea about what it is we should be doing rather than having to make up what it is that we actually are doing" (Trainer, Site 3)
INTERPERSONAL	Suggestions included increased opportunities for trainers to receive feedback from trainees, more regular trainee-trainer meetings, and a developmental approach to the trainee-trainer relationship.	Trainee 1: the same way we have to get evidence that we've done these things, I think that they [trainers] should also have evidence... they have to show examples that they have given feedback ... so I think they should be required to do it as well Trainee 2: I think that's a great idea that we give feedback on their feedback ((says laughingly))" (Trainees, Site 1)
CULTURAL	Suggestions included increased recognition for the roles of clinical/educational supervisors, increased diversity among trainers able to do SLEs, improved continuity in processes across the continuum of postgraduate medical education, increased clarity around the initiation of SLEs, shifting away from tick-box culture and removing structures allowing for cheating.	"this is a tool ... which is meant to be used in conjunction with the training that goes on and if the training that goes on isn't happening... if consultants aren't able to come and watch you in the clinic...for an hour an hour and a half to actually observe what you're doing if they're not in a position to be able to do that then it doesn't matter how good the tool is ... I don't know how you make it better until you can actually release consultants and registrars and people to actually to give them time to say you know you're doing training" (Trainer, Site 1)
TECHNOLOGICAL	Suggestions included improving e-tools and platforms, and altering the system to reduce time spent chasing trainers to finalise the process.	"maybe if all the, all the feedback-ey things were right at the top of the form and the tickbox-ey things were further down... because the trouble with tick-boxes is, I've done it myself you know "yeah, yeah, yeah, yeah, fine, yeah, whatever"... you go into tick-box mode and and it's like "any further comment?" is "what, you want me to say MORE?!" ((laughs loudly))" (Trainee, Site 3)