Evaluation of the Paediatric Simulation Faculty Development Programme

Report at end of funding period

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Abbreviations

OSAD  Objective Structured Assessment of Debriefing
PSFDP  Paediatric Simulation Faculty Development Programme
1 Introduction

The London Deanery Speciality School of Paediatrics Simulation Faculty Development Programme (PSFDP) has four aims, namely to:

- Equip/train faculty to have the technical and other skills to deliver in situ simulation locally.
- Provide opportunities for faculty candidates to run simulations and learn experientially through a structured, modular programme.
- Develop a mentoring relationship with experienced faculty and receive feedback.
- Develop local simulation networks, ensuring that simulation is delivered in trusts outside of the simulation centres. (London Deanery, 2012, p1)

As expressed in its 2012 handbook for participants, the Programme has six objectives, viz:

- To develop a faculty of simulation trainers to help facilitate the integration of simulation into postgraduate teaching in all Trusts providing Paediatric training within the London School of Paediatrics.
- To train consultants, senior paediatric trainees, and allied health professionals working in paediatrics in simulation facilitation with a focus on feedback and debriefing skills.
- That the faculty development programme should be aligned with London Deanery Professional Development Framework
- To provide a vehicle for participants to develop competencies as medical educators against Academy of Medical Educator (AoME) standards
- To provide an opportunity for development of medical leadership competencies in the Medical Leadership Competency Framework
- To encourage reflective learning and self-assessment (Cooper et al., 2012, p4)

The Programme comprises six ‘modules’:

Module 1: Launch event
Module 2: Training the Trainer course (STeLI)
Module 3: Simulation facilitation practice on Paediatric ST3 courses at simulation centre, assessed by mentor feedback, participant feedback, OSAD (Objective Standardised Assessment of Debriefing) and self-evaluation
Module 4: Simulation facilitation at local paediatric unit, assessed by participant feedback, possibly mentor or simulation champion feedback, self-evaluation and, where possible OSAD
Module 5: Patient safety, latent errors and strengths module
Module 6: Appraisal and feedback

Each PSFDP candidate is allocated at least one mentor: an experienced simulation facilitator. Candidates complete reflective learning logs throughout the programme and undertake self-assessments against Professional Development, Medical Education and Leadership competencies and standards. Candidates and mentors should meet on at least three occasions: an initial meeting after Module 1, mainly to address candidates’ questions and concerns and agree learning needs and development plans; an interim meeting after Modules 2 and 3 to review candidates’ reflective logs and self-assessments, review Objective Structured Assessment of Debriefing (OSAD) records, revisit the agenda of the initial meeting and for mentors to elicit feedback on experiences of undertaking
the PSFDP; thirdly, a final review meeting (Module 6) after modules 4 and 5 with the same agenda as the interim meeting. Some candidates may meet their mentors more frequently. After the final review meeting candidates become approved London School of Paediatrics simulation trainers and meet with the School of Paediatrics Training Programme Director and the PSFDP co-leader to acknowledge their achievements, to provide an opportunity to discuss the Programme and to encourage on-going involvement in simulation. Ultimately, the aim is:

... to ensure Multiprofessional Team Training in DGHs becomes fully integrated into paediatric training in London. (Cooper et al., 2012, p5)

Two cohorts (2011 and 2012) have commenced the Programme, which takes between one and two years to complete. Cohort 1 comprised 30 doctors, while Cohort 2 comprised 14 doctors and 2 nurses (a deliberately reduced cohort to relieve pressure on mentors, in view of experience with Cohort 1). In addition to the modules listed above and support from mentors, Cohort 2 had the opportunity to participate in an action learning set, facilitated by an independent academic.

The evaluation was commissioned by the London Deanery for 2012-13. This report summarises findings from data analysed up to the end of the funding period. Cohort 2 had only been running for 10 months when data collection for the commissioned evaluation closed, so the data collection has not yet reached a logical conclusion. After discussion and agreement with the funder and PSFDP leads, we extended data collection until February 2013 to capture as much as possible. The trade-off was curtailed time for analysis before this report became due. Thus the findings reported here are restricted to PSFDP candidate’s perspectives and summarise initial sweeps through the data set. Beyond the funding period, analysis and triangulation of data from PSFDP candidates, completers and mentors will continue, resulting in a further report to the funder’s successor body. It is hoped that a peer reviewed publication will also follow. A summary of this evaluation and its key findings will be presented at the 2nd International Conference on Faculty Development in the Health Professions, Prague, August 2013.
2 Evaluation Approach, Data Collection and Analysis

The evaluation sought to elicit the experiences and perceptions of key groups of stakeholders, namely:

a) PSFDP candidates  
b) PSFDP completers  
c) PSFDP mentors  
d) Trust-based simulation champions  

There was some overlap between groups c) and d).

2.1 Ethical approval

The evaluation protocol, information for participants and data collection instruments were reviewed by a sub-board of the Queen Mary University of London Research Ethics Committee and granted ethical approval (QMREC2012/43).

2.2 Data collection

To build a longitudinal understanding of PSFDP candidates’ experiences, progress and evolving perceptions, a questionnaire (Appendix A) was emailed to all candidates believed to be continuing with the programme at five time points: May, July, September and November 2012, January 2013. A total of nine PSFDP candidates completed the questionnaire on at least one occasion, and six completed the questionnaire on multiple occasions. In addition, evaluators attended Module 1 in April 2012, made ethnographic field notes to describe the formal and informal interactions, and conducted a small number of short informal conversational interviews. Documents created or collated by the PSFDP team which summarised candidate’s activities and their feedback to the Programme team were collected for qualitative analysis.

When the evaluation began there were four PSFDP completers and one candidate has since completed. Four completers contributed telephone interviews (one was curtailed due to a clinical ‘bleep’ and this interview was completed with an email exchange). These interviews aimed to elicit perspectives on the PSFDP, looking back from the vantage point of completion within recent months, and also information about any continued involvement in simulation. Two completers provided their reflective learning logs for qualitative analysis. In addition documents summarising completers’ feedback were provided by the Programme team.

Six mentors contributed audio-recorded telephone interviews. One of the mentors was also a trust-based simulation champion, blurring the distinction between groups c) and d) in the list of stakeholders on the previous page. Just one further trust-based simulation champion contributed a telephone interview. Consequently the interview transcriptions were treated as a single data corpus, only noting the difference between mentor and simulation champion perspectives where this was pertinent. In addition, PMcI attended two Programme Reviews in November 2012 and February 2013, focusing his attention on the perspectives of PSFDP mentors and the Programme team, whose discussions were focused on Deanery changes, funding implications and how the programme might align with the newly emerging LETBs.
2.3 Data Analysis

In preparation for analysis, questionnaire responses were collected in a single document and also summarised in tabular form, while audio recordings were transcribed verbatim by a confidential transcription agency and the interview transcripts were checked by PMcl.

In recognition of the different perspectives held by different stakeholder groups, separate inductive thematic analyses (Boyatzis 1998) were prepared for PSFDP candidates, completers and one jointly for mentors and simulation champions. At this stage the analysis has focused on identifying commonalities across different types of data and extracting the strongest messages. Analysis needs to continue with searches for disconfirming cases, triangulation between different data sets and stakeholder groups, and checking the resonance of findings with stakeholders. The findings and recommendations must be regarded as provisional at this stage. Consequently, feedback from the readers of this report will be welcome.
3 Findings

In analysing the data a range of themes began to emerge. Some of these were consistent across the stakeholder groups (mentors and candidates for instance) while some were group-specific. Given that mentoring, training and clinical work takes place within the same environment this is to be expected, as whilst there will be overlapping experiences and perceptions, different participants are exploring the Programme’s success and challenges through different lenses and with different responsibilities. At this stage of the on-going analysis the findings have been grouped in the simple divisions of PSFDP candidates’ perspectives, PSFDP completers’ perspectives and mentors’ perspectives (Sections 3.1 to 3.3). Findings remain descriptive at this stage.

The findings of this evaluation perhaps require some degree of contextualisation (and we will also consider some limitations of the evaluation in Section 5). There is no doubt that Paediatric services, and consequently the multidisciplinary teams within, are working to full capacity. Therefore people are challenged not only to provide a frontline service, but also to support professional development and patient safety for themselves and others. This has been reflected in the evaluation’s low response rates (Section 2.2). This is not a criticism of those that have not responded, in fact it perhaps adds to some of our findings with regard to the timely completion of the programme and factors which appear to constrain the ability to complete within the projected time-frame.

PSFDP sits within this pressurised clinical environment and brings together a range of existing resources (simulation equipment; generic training for simulation faculty; simulation-based ST3 training; on-going simulation activities in simulation centres and in some clinical environments) under one umbrella. Thus PSFDP operates both through and in addition to what already exists.

Although the pattern of annual intakes perhaps generates an aspiration that PSFDP candidates will complete the Programme in one year, they are expected to operate as independent learners within complex learning and working environments. Consequently, the speed at which individual candidates progress varies widely, dependent on location, rotation, mentor and wider network support, training place availability (mainly simulation faculty ‘Train the Trainers’ courses- Module 2) and desire to complete the programme in timely fashion. Thus only a very small proportion of PSFDP candidates complete the programme within one year, and some gain all they wish from the experience without formally completing.

3.1 PSFDP candidates’ perspectives

Five themes, underpinned by subthemes, emerged from PSFDP candidates’ responses to the emailed questionnaires, which charted their progress through PSFDP at two monthly intervals and asked open questions to generate reflections. The repetition of the questionnaire survey allowed evolving issues to be tracked as PSFDP candidates made progress through the Programme’s six modules. There is some overlap and interaction between the themes summarised below, which will be examined more fully at the next stage of analysis. The main themes were classified as:

- Candidates’ expectations, experiences and developing conceptions of simulation
- *In situ* rehearsal to support patient safety
- Value added effects of simulation
Taking simulation forward
Factors relating to PSFDP participation and completion

3.1.1 Candidates’ expectations, experiences and developing conceptions of simulation

PSFDP candidates had a range of expectations relating to PSFDP programme outcomes (Section 3.1.1.1). They were very positive about their training during Modules 2 and 3 and identified specific learning which enhanced their ability to lead simulation-based learning (Section 3.1.1.2). Positive training experiences encouraged candidates to become more involved in leading simulations in other settings, while feedback from simulation participants helped candidates to reflect on their development as facilitators and aspirations for future involvement and development (Section 3.1.1.3). However, clinical areas varied in their acceptance of simulation and levels of participation (also reported in Section 3.1.1.3). PSFDP candidates’ conceptions of the role of simulation faculty and ways in which learning should be facilitated grew as they gained experience with facilitation, often mirroring the style of learning they were experiencing by participating in the Programme (Section 3.1.1.4) Candidates valued simulation as a ‘safe space’ in which to learn and to challenge others, although they identified some challenging aspects of debriefing simulations (Section 3.1.1.5).

3.1.1.1 Candidates’ expectations of PSFDP outcomes

PSFDP candidates expected to engagement with the Programme to improve:
- their confidence and competence in developing and leading simulations
- their clinical knowledge and day to day clinical practice, including interpersonal interactions
- the quality of care
- patient safety and
- their profile or network related to simulation.

Some of the comments which illustrated these aspects of candidates’ expectations have been reproduced below:

“To be more confident in using locally available simulation equipment to run local simulation teaching for trainees”.

“Own revision and reinforcement of procedures and emergency management”.

“Gain confidence in emergency management through teaching others”.

“Improved awareness of human factors and how they affect team dynamics”.

“Identification of human factors and latent errors”.

“Opportunity to work alongside well respected colleagues in emerging and exciting field”.

“I attended a Training the Trainer course in 2010, have facilitated in simulation teaching in several centres and am undertaking an MSc in simulation in healthcare. I hope this course adds to my simulation portfolio, allowing me to network with other simulation faculties, adding to my experience to be gained in modules 4 and 5”.

We will now turn to the realities that grew from these initial expectations.
3.1.1.2 Positive reactions to initial training as simulation faculty

Firstly, PSFDP candidates were very positive about their training during Modules 2 and 3, which was mainly generic simulation faculty development rather than specific training for paediatric simulations. Some candidates also benefitted from working in places with established local simulation training programmes, through which they could gain additional training as simulation faculty. Typical comments about initial training as simulation faculty included the following:

“No formal facilitation training prior to the training the trainers course. Very useful indeed and has allowed me to alter my methods for the better”.

“STELI is a great course, simulation is a fantastic way of safe learning which is more realistic”.

“STELI – improved understanding of how simulation can be used, starting to improve feedback skills”.

“Excellent training the trainers course. Very good to employ these news skills at sim sessions and gain feedback from faculty and mentor”.

“The LMQ simulation skills course held at UCH was excellent”.

“ST3 simulations at Royal Free and UCLH: friendly welcoming faculty who were a pleasure to work with”.

“Attendance at the 3 days of ST3 simulation/part task training at the central simulation centre. These days taught me a great deal but were also very enjoyable so motivated me to do more”.

“Successful local simulation programme running. Excellent feedback from trainees. Experience on variety of simulation days”.

However there were some frustrating training experiences during which simulation faculty who were not centrally engaged with PSFDP behaved in ways that undermined the aspirations of PSFDP, for example:

“Attending the ST3 training days. Experienced faculty who are not mentors not letting me lead as they wanted to do their session and were not happy to mentor me to do it: why? Then watching them debrief in a very different way to what we have been taught, i.e. just talking to the candidates about what went wrong!”

“Over the last 6 months I have helped set up simulations and part task training in my neonatal job, but the sessions were always run by the consultants who had quite fixed ideas about how to do things, which didn’t give me much opportunity to experiment or learn for myself. If I started to debrief I would usually only get 2-3 minutes in before one of the consultants took over, which I found frustrating and a bit undermining”.

The latter experience will be echoed by another reported in Section 3.1.2.2.1 ‘Working within complex systems and cultures’ and we will extend consideration of ‘mixed messages’ between the PSFDP Programme messages and peripheral contributor’s actions in Section 3.1.5.4.
Despite these occasional setbacks, the overall faculty training experience was positive and candidates identified specific learning which enhanced their ability to lead simulation-based learning, such as the following:

“Improved facilitation and feedback skills”.

“Understanding strengths and limitations of simulation as a tool”

“Learning how to debrief effectively to maximise the learning opportunity for candidates”.

“Development of facilitation skills, skills in running and designing successful scenarios. Building on feedback from faculty and candidates”.

“OSAD has provided deeper insight into my debriefing style”.

“I have more self-awareness of my own teaching/debriefing skills”.

“Built confidence that debrief is one of my strengths”.

Some candidates gave rich descriptions of their own learning in relation to simulation-based learning, as the following quotations show:

“Differences within myself: Within my own workplace, I have learnt how to find the necessary equipment and set up the simulation room for skills training of: intubation, surfactant administration and UAC/ UVC insertion, including obtaining real umbilical cord from labour ward with the signed consent of the mother. I have also learnt how to set up the simulation manikin for a simulated emergency scenario (but am still unsure of how to set up and run the associated computer program). I have now had experience of overall managing the session i.e. setting up the room, organising the candidates into groups, inviting them to attend, explaining what will happen and how it is confidential, time management during the session, and have attempted debriefing (in partnership with the consultants who are more experienced). The STeLI course I attended emphasized the importance of how to run a debrief in a non-judgmental manner and I have attempted to do this (although need a lot more practise!)”.

“I have also attended 3 sessions at the central simulation centre [name]. These taught me vast amounts especially technical aspects regarding resuscitation/part task skills, enabled me to help with the setup of sessions and gave me practice of debriefing communication and full-immersion scenarios”.

3.1.1.3 Beginning to work as simulation faculty

Positive training experiences encouraged candidates to become more involved in leading simulations in other settings, as the following comments illustrate.

“Feeling empowered that I now have some skills in simulation means I am now more likely to put myself forward for opportunities related to sim training”.

“Having now moved to [hospital], I would like to try and set up some neurology based scenarios, to run as sims on the neurology ward”.

“From Sept 11- March 12 there were no regular sessions for in-house neonatal doctors, due to restructuring within the department. Since April 2012 weekly simulation/part task training has restarted, which was likely the result of plenty of enthusiastic encouragement by
myself and a couple of other junior neonatal doctors who really wanted this teaching, and I was keen to develop my faculty skills”.

“I have debriefed teams and the feedback has been positive so hopefully the team is learning and developing. I have set up a regular SHO simulation session to aid their learning at their request”.

Once candidates become involved in facilitating simulations and debriefing they tended to report positive experiences, such as the following examples. The comment in parentheses at the end of the third comment also highlights perceived transferability of skills learnt through simulation to other types of workplace learning, mentorship, coaching or management (see also section 3.1.3.4).

“Understanding of how people learn and remember things have improved after running a few in-house scenarios”.

“Satisfaction that candidates get from debrief often realising that situation went much better than first thought. Actual running of sim equipment and scenario”.

“Fun to participate in such sessions, enjoy seeing others progress, I learn something from every interaction. Improving my ability to give feedback (not just in simulation)”.

Positive feedback from simulation participants was one of the ways in which PSFDP candidates calibrated their development as facilitators. For example, comments included:

“Receiving positive feedback from trainees on the course about the quality of my debrief and contribution to their course”.

“Feedback from trainees has been positive”

Nevertheless, gaining expertise to facilitate and debrief simulations was a difficult learning curve. For example one candidate commented:

“I find debriefing challenging, because it is important to not be over critical to demotivate candidates whilst also ensuring they realise their errors and explore why problems occurred and how to improve, to make it an effective teaching session”.

In addition, candidates had contrasting experiences in relation to the prevalence and acceptance of simulation in different clinical contexts, as these contrasting quotations illustrate:

“Simulation is increasingly becoming a part of our regular work ‘schedule’”

“People vary in their buy-in to simulation and how much they are interested in supporting its implementation”

Where simulation expertise and buy-in already existed it was easier for PSFDP candidates to contribute to expanding and sustaining local simulation activities. One candidate in this position wrote the following description:

“my current job as neonatal SPR at [hospital] already has consultants who are very experienced in facilitating simulation and all the necessary equipment to run neonatal scenarios and part task training. However Every Thursday afternoon we now have a 2-3 hour simulation/ skills training session. This has been very popular with junior doctors who have been able to practise their technical skills, get DOPS signed off, and improve confidence in resuscitating neonates. It is hard to assess whether this has lead to improved outcome for
our patients, but the simulation sessions are certainly appreciated by the doctors attending them”.

There were also motivating factors and challenges to learning along the way that were both exciting and difficult problems to solve. First, motivating factors:

“Seeing the benefits of your efforts in real life scenarios”

“Bringing the trainee on that journey with you so that they not only see what they could improve, but know how to do it and how they will do it... I believe this is possible in a short time if simulation is done well, but depends so much on the debriefer coming alongside the trainee and walking the journey with them facilitating reflection and learning. This is so difficult, but so powerful when it works”.

Secondly, problems to be solved:

“Engaging quieter members of the group or dealing with overconfident candidates with lack of insight in to their errors”.

“Still developing the skill of ‘deep’ rather than superficial debrief”.

Overall, the candidates’ experiences of beginning to facilitate simulation-based learning were motivating them and developing aspirations to maintain and develop a greater role in simulation-based learning in the future, illustrated by aspirations to:

“Lead communication simulation in the future”

“I hope to continue as faculty at the centres I am training with, and hope to lead simulation in other centres I will work at in the future”.

In addition, PSFDp candidates were also becoming more interested in the nature of learning and the transfer of learning between simulation and clinical practice. For example one commented:

“I am interested to learn more about the transferability of learning from simulation into work based learning”.

Other examples of a movement towards greater interest in wider aspects of learning and teaching will be provided in Section 3.1.3.4, which focuses on deepening interest in non-simulation education which complemented deepening understanding of simulation-based education.

3.1.1.4 Developing conceptions of the role of simulation faculty

When respondents were asked to consider their roles as educators there was evidence that they were reflecting on their abilities and the ways in which they could adapt to a more facilitative style as opposed to one of providing information, therefore allowing learning to occur more internally for trainees rather than through a directed approach. Responses included the following:

“Altering my facilitation skills and ensuring non-judgemental style”.

“Actively experiencing something leads to more long-term learning, ie Experiential Learning. Reflection on actions can lead to a change in mind sets (or internal frames)”.

“It is important that candidates understand what should be done and why, and improve their understanding of why they had difficulties or made particular decisions during a scenario. Self awareness of their own strengths and weaknesses and ongoing learning”.
The facilitative and experiential aspects of teaching and learning that faculty candidates were beginning to aim for in the learning experiences they facilitated, mirrored the learning processes they were engaged in themselves through participation in PSFDP, including the feedback they were receiving from mentors, experienced facilitators and simulation trainees. This is how Candidates described the processes supporting their own learning within PSFDP:

“Learning by observation, practice and feedback”.

“Learning about own behaviour, interactions and management of stressful situations”.

“Feedback and reflection”

“The experience”!

3.1.1.5 A ‘safe space’ for learning and challenge

PSFDP candidates valued simulation as a ‘safe space’ in which to learn and to challenge others. This is reflected in comments such as the following:

“Having the opportunity to ‘practise’ in a safe environment”.

“Teamworking and the opportunity to challenge in a safe environment”.

However some aspects of facilitating simulation were noted as challenging for the candidates; making them feel rather unsafe, particularly debriefing when they were not confident in their own knowledge and challenging practitioners with a higher or equal status to themselves.

“Debriefing on areas I am less confident clinically”.

“Debriefing when the candidates are senior or equivalent to me i.e. consultants or other SPRs, and have made mistakes. I don’t want to appear critical and undermine their position, but it is important to explore reasons behind the mistakes so that learning occurs”.

Arguably, the first example is relatively straight forward. This experience could become an effective prompt for follow-up learning. In addition, substantial learning for the novice facilitator may arise from the contributions of the debrief participants. At a deeper level, there may be times when facilitation and debriefing require certain sensitivities, particularly around creating peer dialogue as part of the debriefing process and remaining neutral and non-judgmental when errors have been made. The issue of directed learning versus shared learning is an important one, but even more so when facilitation is occurring with a group of peers or senior practitioners. Although this may be an uncomfortable experience initially, it is an important component for development and has particular emphasis on facilitation of dialogue as opposed to directive learning that may be necessary for junior staff.

3.1.1.6 Changing the way teams learn

Some PSFDP candidates felt that simulation (particularly interprofessional simulations) could change the way teams learn. For example one wrote:

“Simulation provides a very different style of learning to those that teams are traditionally used to. Rehearsal, debrief and improvement is not something we are used to except in the ‘live’ working environment. With time and exposure of all team members to quality simulation, the way teams learn will definitely alter. Simulation using all staff within a team
(nurses, doctors, various grades, other team specialists) will add further to the value of this simulated rehearsal”.

3.1.2 In situ rehearsal to support patient safety

Modules 4 and 5 prioritise in situ simulation. Module 5, in particular, is focused on patient safety and identifying latent strengths and latent errors. PSFDP candidates reported that rehearsal using in situ simulation was successful and worthwhile in terms of enabling a focus on patient safety, teamwork and learning needs (Section 3.1.2.1); although several candidates struggled to make in situ simulation happen in the clinical contexts where they were working (Section 3.1.2.2).

3.1.2.1 Focusing on learning needs and error reduction

Candidates valued in situ simulation as a means to detect latent errors and identify learning needs, enabling both to be addressed and thereby improving patient safety and service quality. One respondent suggested that rehearsal through simulation provides:

“Practical procedure confidence in controlled environment. Frequent identification of latent errors – unfamiliarity with equipment/location of protocols and drugs”.

Although Module 5 prompts candidates to identify what is done well, most responses focused on latent errors and learning needs, as the following quotations illustrate:

“Yes – to identify latent errors and identify learning needs”.

“Allows latent errors to be identified and prevents patient harm”.

“In situ simulation has highlighted latent errors which we have been able to investigate”.

In one case, rehearsal of practice when moving to a new hospital environment had raised issues not just about clinical practice but about crucial items not tested as part of the move:

“– exposes latent errors. E.g we realised that drug cupboard was not adequately stocked and call bells didn’t work”.

One candidate reported that a senior clinician with oversight of workplace learning for doctors in a wide range of clinical areas had prompted investigation of an unusual focus for in situ simulation activities:

“My educational supervisor would like this to be combined with efforts to reduce errors in computerised prescribing, so I am planning to liaise with a member of the risk reduction team and analyse the audit results of prescribing errors to see if this can be realistically done”.

3.1.2.2 Making things happen

Sometimes PSFDP candidates can join an ongoing programme of in situ simulation, but the Programme also encourages Candidates to establish simulation activities in contexts where these are not already occurring, or in ways that are different to current provision. This is no mean feat. Candidates must work within the complexities of existing systems and cultures for healthcare and workplace learning (Section 3.1.2.2.1), but networking and cooperation were seen as both motivating and helpful for making things happen (Section 3.1.2.2.2).
3.1.2.2.1 Working within complex systems and cultures

One of the major challenges for candidates is managing the complexities of simulation-based learning in busy clinical environments. Firstly, it is difficult to assemble a multidisciplinary team to create a realistic simulation of normal multidisciplinary clinical practice. One candidate reported severe difficulty in:

“Getting all members of multidisciplinary team to commit to sessions. (Easy to make excuses to cancel/postpone session)”

This difficulty is revisited in Section 3.1.5.3 and will be explored more fully in the Section xx, which reports mentors’ perspectives. The difficulty is not located solely in the domain of practitioners themselves: it is an inter-departmental and interprofessional issue, revealing differing priorities, tensions and criteria for staff release for professional development.

Some pre-existing cultures of simulation and debriefing presented challenges. For example, one respondent described struggling with:

“Seniors not understanding the reasons for doing simulation and debriefing in a negative way.”

Though perhaps not well articulated, this response is perhaps indicative of an environment based on uncovering deficits rather than what is working well. This leads to cultures where ‘what went wrong’ receives more focus on than ‘what went right’. The complexity and subtlety needed to manage a defensive culture creates real challenge to positive simulation-based learning, particularly when an inexperienced and relatively junior facilitator is pitted against senior colleagues who may have more traditional approaches to medical education (perhaps, in some cases, due to having completed their professional training and socialisation in a culture of ‘learning by humiliation’). We will revisit this type of culture when considering mixed messages between the PSFDP and some simulation contexts (Section 3.1.5.4).

3.1.2.2.2 Networking, cooperation and motivation

It is also worth noting under the ‘Making things happen’ heading that much can be and is achieved through networks. We will see in Section xx that PSFDP completers viewed networks and cooperation as important ways of making things happen. Candidates and completers perceived that networks and cooperation ease a more manageable route through the Programme and create more productive outcomes. At a more basic level, networks and cooperation provide opportunities to engage with other like-minded people, which is motivating and inspiring. For example candidates wrote:

“Good to meet everyone at the launch event”

“Opportunities to meet others who are doing/want to do the improvements I want to do”.

3.1.3 Value added effects of simulation

In addition to supporting the Programme’s emphasis on the value of simulation for identifying learning needs and detecting latent errors (Section 3.1.2.1), PSFDP candidates perceived that simulation ‘added value’ by improving teamwork and care (Section 3.1.3.1), improving clinical knowledge and skills (Section 3.1.3.2), personal and non-clinical workplace skills (Section 3.1.3.3).
and, as a by-product of improving simulation-based education, could enhance other aspects of professional education (Section 3.1.3.4).

3.1.3.1 Improved teamwork and care

PSFDP candidates provided some specific examples of improved care for patients and improved teamwork in clinical practice, which they attributed to learning gained through rehearsal in simulations. There were individual gains for the PSFDP candidates, as illustrated by this example in which the faculty candidate revisits an earlier phase of paediatric specialist training. The individual gain here is similar to the examples in the next section which focus on improvements in clinical knowledge or clinical skill while only implicitly linking this to improved care.

“Personally I attended an ST3 part task training day and within a few months was undertaking one of the tasks learnt (neonatal chest drain). The procedure was easier and safer for the baby as a result of the simulation day”.

Candidates also provided examples of improved teamwork and care, which they linked to rehearsal in simulations. Most of the simulations which prompted the examples provided below were in situ and, while some were workplace teaching sessions for doctors in training, most were interprofessional rehearsals of selected aspects of the workload in that clinical environment. The following examples address different aspects of practice but share a common thread of improved teamwork:

“I facilitated a simulation on a hypoxic baby and the debrief covered differentials and management. The following week, I was leading the team that went to a real life emergency with the same problem and my SHO listed the differentials and was able to tell me what we needed to do and why!!!”

“Seeing a difference in practice in a real life emergency which was the same scenario as I had done with the team the week before! Improved communication and that the aims were clearer to the team and they vocalised what needed to be done next!”

“Definitely, I have seen improved communication between teams and an identified leader”.

“Yes - helps team understand each other’s roles better. Helps familiarise with their own working environment better e.g knowing where things are kept and how to use equipment”.

3.1.3.2 Improved clinical knowledge and skills for self and others

Closely related to the previous subtheme, PSFDP candidates commented on improvements in clinical knowledge or clinical skills which they perceived in themselves or others and attributed to increased exposure to simulation-based learning. Some improvements related to updating prior knowledge, while others related to improving the execution of certain clinical skills discovering different ways to approach them, for example:

[Candidate’s] “improved technical ability regarding part task skills e.g. intubation, chest drain insertion, UVC/ UAC insertion”

“Update on adult resuscitation”!

“Revision of resuscitation skills – more realistic and applicable to real life than APLS”
“Within the neonatal department there are limited opportunities for experiencing full blown resuscitation, or certain technical skills, so it helps to learn these in a simulated way”.

“Learning new and improved ways of doing things that I have been taught previously”.

3.1.3.3 Improved personal skills and non-clinical workplace skills

Participating in facilitation of simulated learning had also affected personal skills and non-clinical workplace skills, for example developing:

“Time management and organisation and leadership skills”

3.1.3.4 Educational enhancements outside simulation

Although the primary aim of the PSFDP is to develop skills in developing and managing simulation, by-products of this include candidates’ increased capability and confidence in workplace learning and educational development more generally. For instance, candidates noted:

“Understanding of learning needs”

“Improvements in my ability to give feedback during simulation but also in general work”.

“Improved teaching skills”

“Further develop special interest in med ed”

Candidates also become more critically aware of the positive and negative aspects of specialty training. For example after participating in Module 3 (facilitating simulation as part of the Paediatric ST3 training programme) one PSFDP candidate wrote:

[It] “Made me reflect on how poorly prepared ST3s are for working at middle grade by the current training programme”

To some extent this concern was echoed in the telephone interviews with PSFDP mentors, and opens the opportunity to explore why this perception exists and how it might be addressed, perhaps though using simulation-based learning to fill some of the gaps within the current ST3 programme and also by improving learning opportunities and support structures outside simulation.

3.1.4 Taking simulation forward

This section concerns PSFDP candidates’ ambitions for continued involvement in various aspects of simulation-based learning (Subsection 3.1.4.1) and highlights the importance of taking simulation forward by building an evidence-base related to the use of simulation for various purposes (Subsection 3.1.4.2).

3.1.4.1 Ambitions for continued involvement in simulation

Although mostly unspecific about their plans, PSFDP candidates reported general ambitions to continue their involvement in simulation. At an early stage of this evaluation one candidate wrote:

“I still have many months left on the programme so have not yet got any specific plans. In September I move to a different hospital and speciality so hopefully there will be opportunities to further develop my simulation facilitation skills there”.

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Even later in the evaluation some candidates stated rather general and mostly unelaborated ambitions for continued involvement in simulation, writing comments such as the following:

“intend to use simulation as a paediatric educator in the future”

For some, the lack of specificity was a pragmatic response to uncertainty about the demands and opportunities of the candidate’s next job: a situation which affected all those candidates who were still working through the rotations of their specialist training and those in the process of applying for consultant posts. One candidate who was soon to rotate into a new training position wrote:

“On-going participation in programmes, extent will depend on next job”!

However some candidates had begun to formulate more specific ambitions, encompassing additional development of themselves as educators, setting up new simulation-based learning opportunities as well as supporting ongoing simulation programmes, interprofessional learning and ensuring that investments in simulation technology over recent years are put to good use and shared. The following quotations illustrate these themes.

“Ongoing simulation experiences, further progress with my MSc, more in situ team simulation”.

“I plan to set up and participate in a local simulation teaching programme”.

“I will soon be applying for consultant post and intend to run regular sim centre and in situ simulation for trianees and nursing staff. Hope to continue to facilitate regularly on nursing and ST training days”.

“I hope to ensure any sim equipment in a given hospital is utilised well and shared. I have seen some departments where I work (outside of paediatrics) where quality sim equipment is guarded by one department and barely ever used”.

The focus of the final quotation in this group is both encouraging and concerning. If a fundamental aim of the programme is to ‘make a difference’ then the quality and tenacity of candidates recruited is important to making change (see also ‘Making things happen’, Section 3.1.2.2).

We note that, up to the point where we were able to follow the development of candidate’s ambitions for future engagement in simulation-based education, none had developed the ambition to become a PSFDP mentor.

3.1.4.1.1 Greater emphasis on in situ simulation within ambitions for the future

Whilst PSFDP candidates’ survey responders were unanimously positive about their experiences of Train the Trainers courses in simulation centres during Module 2 (see section 3.1.1.2) and they valued facilitation experience they gained in simulation centres or clinical skills laboratories during Module 3 (see Section 3.1.1.3), it was noticeable that candidates placed greater emphasis on in situ simulation when asked about their plans for the future. They tended to see their roles in simulation-based education as being primarily within the workplace. This is encouraging for the programme, and validates the approach taken, which encourages in-situ simulation despite the obvious and real challenges to this for candidates. For instance, respondent’s intentions were to:

“Ensure that in situ simulation becomes a regular aspect of my work”.

“Continue in house training of all the interested medical and nursing staff on a regular basis”
“Run in situ simulations embedded in my departmental teaching programme in the future”.

3.1.4.2 Providing evidence

The final area for consideration under this theme is that of providing evidence of the success or limitations of simulation, not just as a learning tool but as a contributor to better patient safety. Justifying simulation as part of the ‘what works?’ agenda is difficult for lack of convincing and well-focused evidence; not least because simulation has been enacted as a potential contributor to patient safety alongside a range of other interventions which also aim to contribute to patient safety. Isolating the effects of complex simulations in complex environments is extremely challenging, although anecdotally, simulation has been highlighted as making a difference (this evaluation is a case in point – see section 3.1.2.1). One candidate noted a challenging ambition related to taking simulation forward by contributing to building its evidence-base:

“Think critically about how the impact of simulation can be evaluated. This seems challenging but vital”.

3.1.5 Factors relating to Programme participation and completion

As with any programme of professional development, there are practical and logistical matters which must be navigated to enable participation and completion: PSFDP was no exception. Some candidates joined the Programme with insufficient understanding of its demands and the availability of its learning opportunities (Sections 3.1.5.1 and 3.1.5.2). All candidates struggled to balance competing demands (Section 3.1.5.3), some were unsettled by experiencing unclear or mixed messages (Section 3.1.5.4), while a few highlighted variation in the quality of mentorship (Section 3.1.5.5).

3.1.5.1 Inadequate prior appreciation of the demands of the Programme

Some PSFDP candidates reported that they commenced the Programme with an inadequate appreciation of its demands. In some cases this seems to have occurred because they applied in a hurry. There were suggestions that the application periods for both Cohorts 1 and 2 were too short, or advertising was insufficiently prominent and targeted. For example, one candidate wrote:

“The programme was not particularly well advertised. I only heard about it from a chance email which I received a week before the application deadline, and several of my colleagues have said they would have liked to do this too, but never knew anything about it or how to apply.”

At present the evaluators do not have triangulating data about the means of Programme advertisement and the durations of the applications periods for Cohorts 1 and 2, but we are aware that the availability of PSFDP training places is linked to the funding of ST3 simulation training programme. If the funding announcement for the ST3 simulation training programme occurs late in one financial year, for implementation early in the next, it becomes likely that PSFDP places will be advertised only a short time before places are allocated (normally in April) and the Programme begins (normally in May).
Another aspect of inadequate appreciation of the demands of the Programme related to perceptions of insufficient prior information about the demands and timetable of the Programme. At one level this was simply about obtaining a clear understanding of expectations:

“more information about exactly what programme entails at time of application. This was rather vague and it was only through colleagues who had done the programme previously that I understood what it was about”

At another level, all candidates needed to juggle participation in the Programme with demanding work commitments and, in many cases, with domestic responsibilities. Some felt that better prior information would have helped them to make informed decisions at the outset, as the following quotations illustrate:

[The most challenging aspect of the Programme to date was …] “combining the programme with other commitments. It would have been helpful if all the course dates had been available at the time of application as I may well have not applied as it has been impossible to attend as much as I would have liked”.

“I didn’t really feel that it was made clear when the programme was advertised what would be involved – e.g. the need to attend a number of days at a centre possibly far away from where you live that the days were very long – 8-630 - means I need to pay for extra childcare and in addition there was no mention of the need to commit to 3 evening action learning sets¹ which I will also have to pay for extra childcare to cover”.

These experiences suggest that it may be useful to develop an information sheet ‘flyer’ that outlines the programme and the kinds of commitments expected. We will return to competing demands in Section 3.1.5.3.

3.1.5.2 Training challenges encountered in modules 2 and 3

Candidates reported limited course availability, which slowed their progress through Modules 2 and 3, and consequently the remainder of the Programme. For example two candidates wrote the following in relation to Module 2 and Module 3 respectively:

“Was initially difficult to get a place on ‘train the trainer’ course as not many available”.

“Despite my local centre being one of the central ones, there were not many ST3 days occurring each 6 months so it would be great to get some more”.

In some cases, difficulties booking a Train the Trainers course for Module 2 seemed to reside more in uncertainty about when and where to look for information.

[The most challenging aspect of the Programme to date was …] “booking a train the trainers course (not well advertised on website as promised)”

¹ The action learning set was an optional part of the Programme introduced for Cohort 2 and facilitated by an academic practice developer rather than a member of the PSFDP faculty. It was poorly attended as a stand-alone event, stopped and reintroduced as part of the Programme’s series of half day events which brought together candidates and faculty to review progress and the development of the PSFDP Programme. Time was provided within the half day programme for candidates to participate in the facilitated action learning set while PSFDP faculty worked on Programme development.
One candidate’s competing demands had resulted in not being available for simulation experiences allocated to develop facilitation expertise during Module 3. A good solution had been negotiated but there were residual fears about the potential for compromised communication between simulation trainers and the candidate’s PSFDP mentor:

“I am unable to facilitate on the part task days allocated to me as I will be out of the country. I am therefore joining a different trust for their part task days so feedback from the trainers to my mentor may be compromised”.

Competing demands are the focus of the next subsection.

3.1.5.3 Competing demands; own and other’s availability

Of course PSFDP candidates juggle a great deal alongside participation in the Programme, such as demanding clinical loads, adjusting to unfamiliar work environments each time they rotate, relatively inflexible shift patterns, family commitments and time-consuming travel. Some candidates were unable to undertake their PSFDP work during their work time, which generated extra pressure on candidates’ already strained attempts to maintain an acceptable work-life balance. For example, two candidates identified the most difficult challenges linked to participating in PSFDP as follows:

“Time to commit due to rota shortages. Most simulation done on days off as lack of staff. Having observation of current practice”.

“Time! Work/life balance”

Even those granted study leave (or work time for in situ simulations) struggled to schedule release from work with patients to match PSFDP commitments. They commented on the challenges of:

“timetabling my attendance at simulations”

“Obtaining study leave on the appropriate days so I can attend simulation days (I am on a very complex difficult rota)”.

“Organising (time factor) and scheduling simulation in the teaching programme”.

The final quotation in the group above shows that time constraints within a teaching programme added to personal time constraints. Similarly, the following quotation highlights that clinicians who were needed for meaningful multidisciplinary in situ simulations were not always able or willing to prioritise participation in these simulations (something which we also touched upon in Section 3.1.2.2.1). Here the candidate describes the challenges of:

“Engaging all members of multidisciplinary team and keep momentum going e.g nursing lead may decide to cancel sim if not many nurses around; don’t always have buy in from anaesthetic team”.

The challenges of competing demands restricting candidates’ and other’s availability for aspects of the Programme should not necessarily be regarded as wholly negative: if the intention of the Programme is to provide learning opportunities to encourage candidates to develop their simulation and leadership expertise and expand simulation provision, the challenges faced are in themselves learning experiences. They expose the realities of working within complex interprofessional, inter-departmental and even inter-organisational systems, within which demands and objectives are just as often mismatched as they are aligned.
3.1.5.4 Receiving unclear and mixed messages

PSFDP candidates reported receiving unclear and mixed messages. Whilst we might view this as inevitable, ‘that’s life’, or indeed as providing valuable additional learning for candidates (see also subsection above); it was still helpful that candidates highlighted their confusion and the discrepancies they experienced. Their accounts permit consideration of whether any of the issues raised can and should be addressed. The following quotation is a sophisticated analysis of the potential role and some impacts of unclear messages:

“The stated objectives are not very specific, and although I can understand that this may well be done on purpose to be more appropriate for adult learners, to not limit the learning etc, the fact is that the programme is rather large and unwieldy and it is difficult to really get a feel for how one is doing.”

Other candidates provided less balanced criticism which focused on their desires for greater structure and clarity: improvements which they indicated should be the role of PSFDP faculty rather than a joint endeavour with candidates.

“Develop the course handbook to provide more accurate information and standards for candidates. It all feels rather vague at times”.

“Some lack of clarity in course handbook about what we are expected to achieve eg how many of each ST3 simulation must we attend? How much written feedback do we need”?  

While some candidates had ideas about their plans post-PSFDP (see Section 3.1.4, focused on taking simulation forward), others may have no real vision of what they may be able to do. They may require some support and guidance. Indeed one candidate requested a:

“Plan of what happens when we have finished the course”.

Candidates also expressed frustration about mixed messages and variation in the way simulation centres and facilitators interpreted their roles in relation to the programme. For some candidates mixed messages appeared to be more difficult to address than unclear messages:

“I think that maybe an improved understanding of what we need to achieve needs to be given to those people who facilitate but are not part of the programme”.

This comment was more vividly illustrated in experiences of facilitators who are not part of the core PSFDP faculty who (seemingly inadvertently) undermine PSFDP’s key messages about positive approaches to facilitation and debriefing. In these examples PSFDP candidates were prevented from practising the style of facilitation they had been taught and needed practice to develop; this frustration being compounded by additional frustration of having to observe a replacement debriefing built around ‘what went wrong’ (see Sections 3.1.1.2 and 3.1.2.2.1). A further lack of alignment between the perceived messages of PSFDP and candidates’ experiences in a variety of simulation and clinical environments is highlighted in the quotation below:

“Considerable variation in expectations of different sim centres/mentors in what should be achieved by candidates/how to approach. Seems at odds with what we were told in launch event. No one using OSAD at my centre: has not been mentioned to me beyond the launch day.”

This last point is echoed in the less measured note below.
“Make sure that a tool like OSAD is actually going to be used in practice or don’t bother spending time on it, I think there are other things I would rather have gained from the launch event.”

It is understandable that OSAD is a tool that has not been rolled out across all simulation centres, but it may be advisable to clarify for candidates that while OSAD is in use, candidates cannot expect it to be in use in all settings.

### 3.1.5.5 Variable mentorship

One of the issues that featured periodically in survey responses was that of mentorship, particularly variation in mentors’ approaches. It was sometimes difficult to discern whether comments on mentorship related to a candidate’s main PSFDP mentor or those with smaller mentorship roles, who were expected to help candidates to gain experience and expertise in simulation facilitation and debriefing.

> “Train them more thoroughly. Do they have any peer review process”?

> “Set standards and objectives for mentors”.

> “It seems that the quality of mentorship is not very consistent, so perhaps more training for them would enable more clarity without compromising on the principles behind the objectives”.

These issues are also contained within the ‘mentor’ section, but it is important to separate out any concerns over mentor competence from variation in mentor practice and knowledge of the programme. It is very much the latter which is noted by candidates. Given the limits of time and logistics of practice, it is possibly unrealistic to provide mentorship ‘training’ specific to the programme. It would be useful however to explore ways of providing mentor information and updates as required.

### 3.2 Completers’ perspectives

Though the completers to the programme were surveyed at regular intervals (3 monthly for the duration of the evaluation) we received no completed surveys for analysis. As alternative strategies we worked with the PSFDP team to gather reflective components and telephone interviews from completed candidates. At the point of analysis we are aware that five candidates have completed the programme, four of whom contributed to this evaluation. The thematic analysis of completers’ data will be reported in the evaluation’s final report.

### 3.3 Mentors’ perspectives

Establishing mentor roles and activities specifically in relation to the PSFDP has been a variable experience. A range of approaches have been used to support candidates, from assigned mentors at one end of the spectrum to peer-to-peer mentoring at the other. Mentors themselves have found
differing strategies to provide support, developing one-to-one relationships where possible and feasible, to creating a network or cluster of mentors to support a number of candidates located in a Hospital Trust’s various services. Given that the PSFDP is a programme created out of a range of provision already in place (Train the Trainers programmes, ST3 Training, and in-situ/sim centre simulation activity) it is likely that candidates will also come into contact with others who can also act as ad-hoc mentors. Indeed this has been the case for some candidates who have sought out observations and feedback from colleagues in simulated learning. Mentors and PSFDP leaders have encouraged this as part of the wider learning experience, often facilitating simulation opportunities outside of paediatrics to gain greater skill. Mentoring therefore, and the experience of being mentored, differs across the programme and as a consequence there are differing perceptions of its effectiveness.

The thematic analysis of mentors’ data will be reported in the evaluation’s final report.
4 Discussion

The material in grey is a provisional draft of part of the discussion, presented here in anticipation of it being useful to Programme developers in the period until the final report is available. However, please note that the draft discussion is likely to evolve considerably as the analysis and checking proceed.

Taking the various data as a whole, there emerges a complex picture of benefits and tensions associated with the Paediatric Simulation Faculty Development Programme. The benefits are clear in terms of the candidate’s learning and for those who participate in that candidate’s learning as trainees themselves. However, the programme operates within a complex healthcare system where individual hospital trusts operate independently; where perceptions of training needs and types vary; and where individual departments within trusts gatekeep access to cpd. On the one hand this requires the PSFDP to maintain its openness and flexibility to enable candidates to emerge successfully from the programme and to operate effectively across the range of service provision. On the other hand, because it has no accreditation or legitimacy as a form of training (in an approved sense) it may be seen as a luxury that cannot be afforded as part of any trainee or faculty development job plan. This extends beyond medical training and into allied professions where again simulation is not an accredited form of CPD, therefore making release for MDT scenarios developed by faculty candidates sometimes difficult.

Whilst the programme itself is not accredited in any formal way, some of the components of the training are recognised as such and funded accordingly. These include the Train The Trainers programmes, which trainees are required to undertake as part of successful completion, and the Paediatric ST3 simulation training days. The programme is connected both to their funding and their training, which operate under a PSFDP Umbrella of resources through which candidates progress. It is therefore possible for clinicians to follow an independent path to achieve the same learning as available under the PSFDP but this may not be as structured or have mentor support in the way it has been developed by the programme.

One of the crucial issues of the programme, which is already recognised by its management team, is that of module 5; in-situ simulation in DGH. This problem has relevance to the two discussions above in that where there are issues of challenge to in-situ simulation, be they logistical (such as forming a MDT) or situational (such as a DGH where simulation has little buy-in) a simulation champion or mentor may be of use in getting a simulation started in collaboration with the candidate (it should of course be recognised that this should not detract from the candidate’s learning of negotiating and enacting an in-situ scenario). Some candidates have circumvented this problem by virtue of an expansive network of colleagues to call upon for support and have therefore successfully negotiated this problem. For those with little networks available this has been more challenging and proved a substantial block to progression. The consequent effect of this has been limited completers to the programme and a potential bottleneck of candidates causing only small throughput, and this inevitably puts pressures on the management team as the numbers begin to create a backlog. This potentially has bearing on the programme if throughput cannot be demonstrated in the timescale anticipated (at present 1 year). At the moment the programme is effectively ‘free’ as funding is attached to ST3 Training, to which it attaches. However, in future it may be commissioned by the area LETB’s, so will need to demonstrate a degree of rigour in relation to completion. The question in relation to limited numbers of completers this far is due to an unrealistic completion timescale
and should be lengthened, or as a mentor above suggests, shortening the programme so that it is completed in a more condensed 3-6 month period.

4.1 Benefits of the programme to candidates

The respondents to the surveys note two main attributes developed whilst undertaking the programme: Skills development internal to simulated learning: debriefing, feedback and facilitation: Skills development external to simulated learning where skills are transferred into other educational settings such as supervision, feedback and teaching more generally. Thus the PSFDP is enhancing the learning and teaching skills of candidates in ways that not only support them in their simulation faculty development but also in any clinical and educational supervisor activities they currently have or will have in the future. It is possible therefore that one of the questions outlined in the initial programme evaluation brief concerned with influence of it on departmental learning culture stretches beyond the effects of simulation centre and in-situ simulation and into the wider arena of clinical/educational supervision and support of more junior doctors in training. Certainly, as a result of engagement with the programme, candidates are far more equipped to carve out a role for themselves in simulation faculty development, and this crosses the various sectors of simulation centre general faculty development, Paediatric ST3 simulation and in-situ simulation. A number of respondents comment on how in-situ simulation has led to them running regular simulations at the request of SHO’s etc. Whether candidates ultimately complete the programme or not it has prepared them for greater simulation activity in their future roles.

The way in which mentors have in the main tried to facilitate a range of experiences has been helpful to candidates. Though differing mentoring approaches have been used they have been considered in terms of context and situation. This has meant that for some mentors a close relationship with their candidate(s) has been cultivated to create a mutual learning experience. For others a mentor network which can distribute appropriate experiences for candidates across a service has been created to widen their exposure to a range of practice and knowledge. For some, access into a broad range of simulation for their candidates has been more straightforward, so candidates have been involved in Foundation Year and other simulation as well as Paediatric ST3. For others, time and resources have meant more targeted use of simulation. Though all different, no one model can be described as best as they need to be situated within the context of organisational and personal resources of the mentor. Access to and exposure of differing forms of simulation through Train the Trainers, ST3 training, and in-situ simulation has led to productive and ongoing simulation work for candidates now and in their aspirations for the future, and this is primarily due to the way that the programme has been structured to nurture this development.

A point of note which is interesting as an outcome is the conclusion that the current ST3 training is inadequate for working at middle grade. This is interesting for two main reasons: Firstly that alongside the process of learning is a by-product that creates a better understanding of previous and current approaches to general training and the ability to be able to critique that learning, and:
Secondly if this can be exploited, the possibility of opening up doors to increased simulation activity at critical training points. The question as to the lack of preparation for middle grades has not been answered as part of this evaluation, but it may be worth further exploration so that education/training (through simulation) can be developed to fill the gap.
One of the areas discussed by faculty candidates in the surveys is the importance of ensuring that simulations are aligned and mapped against practice. Whilst some areas of clinical procedure remain relatively static, there are also regular updates and changes to trust policies and procedures. Simulation activity needs to be aware of and respond to these changes in order to rehearse scenarios and learn as a result of previous error. Furthermore, rehearsal may also uncover latent errors that are a result of not keeping pace with change. Mapping outcomes against current practice requirements and aligning learning to these outcomes may maintain and increase buy-in by the clinical practitioners and teams because it may offer a practical way of keeping updated. The findings and anecdotes provided by respondents suggest that buy-in following simulated learning definitely improves, with junior doctors requesting further simulated activities and nursing staff feeding back to their departments about its usefulness. There needs therefore to be regular updating of simulation scenarios and learning to ensure that they are mapped to the current needs of practitioners. A particular feature of simulated learning is its immediacy as a learning tool, and these do not need to be high-tech to be effective, as low technology/high fidelity simulations have proved effective in simulation centres and as mobile aids in-service. In-service simulation in particular may well have potential in terms of sustainability because of this immediacy and relevance to practice (as noted by the respondent who illustrated an SHO listing differentials and requirements for a hypoxic baby emergency following a previous simulation). However this sustainability is dependent on individual trusts and their own buy-in to simulation as a cpd aid. Evidence of how simulation is aligned to practice and the impact this has on patient safety and outcome is therefore something that needs to be worked on as the programme develops. Maintaining the skills and expertise held in simulation centres is important too, as this is where in-situ skills are first developed and honed prior to transfer into the clinical setting. Both in-situ and centre-based simulation is therefore important in the mutual delivery of practitioner development. These evidences need to take account of both the technical and non-technical aspects of practice, so technical skills improvement/development and greater understanding of human factors and their application to practice need to be considered in relation to patient safety and improved patient outcome. The issue then becomes one of the uses of work-based learning opportunities over more traditional forms of learning and training. Framing simulation within the field of work-based learning therefore places it within an established body of literature to which it can contribute and utilise in strengthening its position as necessary practice alongside other forms of learning. ‘Keeping it real’ therefore becomes transitory, bridging the theory-practice gap, deepening understanding of simulation as an applied learning tool and as a theoretical discipline in health care.

This then leads us on to the role of mentors and champions linked to the programme. Champions and mentors can and often do provide as much as they are able to, given the commitments they have to their clinical responsibilities, and this is over and above those as there is no time allocated in any job plan to the psfdp. Mentors have therefore evolved ways of supporting candidates that work most effectively for them and the organisations they work in. This means that some prefer to work on a 1-1 basis while others work at arms length and utilise the range of facilities and people available to them. We see in these approaches different forms of collaborative and team learning emerging. The sharing of candidates across specialists and services gives them access to a team of people who have a wide range of skills and knowledge while the relationships between a mentor and candidate
on a 1-1 basis creates a collaborative learning context where both parties gain. Though the form of mentorship arrangement does not appear to have any quantitative or qualitative difference in terms of outcome, candidates did have some queries regarding the extent to which mentors are prepared for this specific programme, and consequently the expectations to which they were required to inform mentors about aims and outcomes of the programme.

Though it is appropriate given the levels at which candidates function that they operate under a flexible and self-motivated model for the psfdp, this needs to be considered alongside information that they and those supporting them require in order to do this effectively. If they and mentors are fully informed as to the requirements and limitations of the programme and ways of achieving outcomes then it is likely that anxieties will be lessened and there will be less pressure on the PSFDP lead team in responding to queries. These current anxieties may be compounded by mentors not being fully aware of what is acceptable and achievable within the programme requirements that may at its worst result in a lack of confidence in the programme. A more informative handbook which outlines ways in which problems can be managed may be helpful, as might some clarity at launch day regarding potential stumbling blocks and how they can be overcome, such as DGH in-situ simulation in module 5. It may also be useful to consider how mentor updates can be shared as efficiently as possible without impinging on already precious time. It is primarily important that mentors can be confident in the information they provide to candidates in order for candidates to feel confident in the programme’s integrity. Emailing of mentor updates or providing mentor updates as part of review meetings may be useful in managing this. It may also be useful for mentors to present their experiences of mentorship from differing perspectives – i.e. distance mentoring, 1-1 mentoring, etc. and the successes and pitfalls in using these approaches. The concern of some mentors is connected to the vision and aims of the programme, which they feel unclear about, so it may be valuable for the PSFDP leaders to consider these and develop a mission statement that can be communicated across the mentor team. The current situation does not mean that mentors are likely to give less to the programme than other simulation learning they are involved in but it may increase their interest in it if they feel more fully informed as to its intentions and its ‘fit’ within the wider simulation education strategy.

A further issue to consider is that of sustainability as touched on earlier. If the programme has potential to act as a catalyst for change through affecting departmental learning culture, then currently one of the factors problematic to this is the rotation of candidates as specialty trainees. This means that candidates are in most cases passing through services in which they develop simulation rather than occupying substantive posts. There are some exceptions to this (such as neonatal nurses), but unless they occupy consultant posts (nursing or medical) they are unlikely to effect change in the longer term. A key element to consider is then how any simulation inroads made by candidates can be sustained once they have left their post and moved on. This is something that may need to be considered by trust simulation faculty and champions in terms of how any simulation developments can be handed over and maintained post-candidate rotation.
5 Limitations

To date there have only been 44 PSFDP candidates, most of whom have not yet completed the Programme. Therefore it is rather early to discern the impacts of PSFDP on clinical practice, the supply of paediatric simulation faculty, the prevalence of in situ paediatric simulations across the full spectrum of paediatric clinical environments, impacts on individuals’ professional practice and career trajectories, or clinical outcomes for patients.

Only 27% of past and current PSFDP candidates contributed reflective questionnaire responses, interviews or reflective logs and a little more data was extracted from collated feedback to the Programme team and field notes from observing PSFDP meetings during which some brief conversational interviews with additional candidates arose. We cannot be certain that the data we have analysed and reported adequately captures the diverse perspectives of the remaining PSFDP candidates. In particular, despite efforts to do so, we did not secure data from the small number of candidates who reported to the Programme Team or the evaluators that they had withdrawn from the programme. Similarly, a minority of mentors contributed to the evaluation and we had limited success in identifying trust-based simulation champions and securing their participation in the evaluation. The data therefore represents to some extent the experiences, expectations and challenges for candidates, the perceptions of the programme for mentors and simulation champions. Greater concerns about selection bias would have occurred if contributions had been uniformly positive or uniformly negative. However, we received a mixture of responses. Three out of four PSFDP completers provided rich and extensive reflections on their experiences during the programme and outlined their expectations for involvement in future simulation practice, so coverage is better with this stakeholder group.

6 Conclusions

Although the data set includes contributions from a minority of PSFDP candidates, mentors and trust-based simulation champions, raising some concerns about breadth and generalisability, the data gives a picture of the course as it has been implemented and developed in the previous two years and provides some early indicators for course development.

7 Recommendations

Recommendations will be developed in the closing stages of the analysis.
Appendix A: Questionnaire for current Faculty Candidates

Dear Faculty Candidate,

We have been commissioned to undertake an evaluation of the PSFDP. This questionnaire is for candidates who started the programme in April 2012 and candidates from the 2011 cohort who are continuing with the programme (there is a separate questionnaire for former candidates who have completed or withdrawn from the programme). The wider evaluation focuses on three areas:

1) In what ways, if any, has the PSFDP influenced the culture of learning in the participating trusts?
2) Is the PSFDP sustainable and effectively meeting the needs of all stakeholders (candidates, trainers, mentors, multidisciplinary clinical teams) for professional development?
3) How might future studies measure programme implementation, changes in learning culture, and impact on patient safety?

We would like to build up a picture of how the PSFDP is used in different trust settings; how it is experienced by trainers, facilitators, candidates, and mentors, and where possible, healthcare professionals who participate in or support simulation activities developed by PSFDP trainees.

For your part in this evaluation, periodically, we would like to ask you a series of questions which track your progress, thoughts, and experiences during the programme. Starting in May 2012, we will send out this questionnaire every two months for ten months, so you will receive it five times (May, July, September, November 2012 and January 2013) unless you complete or withdraw from the Programme. We aim to reduce the time it takes to complete the questionnaire by suggesting that you to save your current submission and simply add to it next time, although it is fine if you want to start a new document each time.
Although participation in this evaluation is voluntary, we would certainly like to encourage you to take part, as high levels of participation will strengthen the evaluation findings and better inform the future development of the PSFDP and similar programmes. If you do not wish to participate, your involvement in the programme will be unaffected and your decision will be respected. If you participate (or don’t) on one occasion, you may make a different decision on another occasion.

**Guidance for completion of questionnaire:** Just in case you send different documents on different occasions we will need a way to link your responses over the ten month period (see anonymity and data security below). Please add your name in the space below, or if you prefer, any pseudonym or identifier that you will be able to remember to use each time: we suggest the post code of your previous (not current) address. ________________

The first part of the questionnaire is a grid to identify what point you have reached in the programme. This will help us track across the cohort and identify any particular ‘sticking points’ in the programme. The second component is a series of questions to which you can respond as freely as you wish: you may write as much or as little as you need to.

**Anonymity and data security:** Before any responses are stored, questionnaires will be made anonymous. They will be stored on an encrypted hard drive which is not connected to the university network. Individuals will not be named in any reports or other publications which may arise from this questionnaire.

Please return your completed questionnaire to Dr Paul McIntosh by email at p.mcintosh@qmul.ac.uk or by post to

Dr Paul McIntosh, Centre for Medical Education, Queen Mary University London, Garrod Building (Rm 315), Turner Street, London E1 2AD

Thank you for considering this information,

Prof Della Freeth (d.freeth@qmul.ac.uk) and Dr Paul McIntosh.
1. Please mark your current stage of progress through the Simulation Faculty Development Programme by ticking (or placing a cross in) as many boxes as apply in each row

<table>
<thead>
<tr>
<th>Module/ Activity</th>
<th>Not planning to do</th>
<th>Not yet started</th>
<th>Planning underway</th>
<th>Activity underway</th>
<th>Activity complete</th>
<th>Reflective log &amp; self-assessment forms completed</th>
<th>Discussed with mentor</th>
<th>Copy of reflective log sent to Paul McIntosh</th>
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<tbody>
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<td>1. Launch event</td>
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<td>3a. Facilitation practices at a simulation centre</td>
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<td>3b. Feedback from experienced member of the simulation group</td>
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<td>3c. Use of OSAD or another (please name) structure for reviewing debriefing</td>
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<td>4b. Work in partnership with local simulation leads</td>
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<td>5a. Patient Safety: Facilitate and debrief in-situ paediatric simulation scenarios</td>
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<td>5b. Identify latent errors and strengths</td>
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<td>5c. Facilitate actions to prevent recurrence of errors</td>
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<td>Participation in action learning set</td>
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1 Please provide a brief comment below, if you place a tick in this column.
We would like to include data from the in-Programme reflective logs for modules 1-6, if you are willing to share these with us. These can be sent to the Research Fellow, Dr Paul McIntosh with your questionnaire responses or when you complete each log. His email and postal addresses can be found on the previous and final pages of this document. Your reflective logs will be made anonymous before we store the content as part of the data set for the Programme Evaluation.

Space for any comments you wish to make about your entries in the table above:
Please type your answers to the following questions in the space below each one. You can be as expansive or concise as you wish. The questions cover the duration of the Paediatric Simulation Faculty Development Programme and the questionnaire will be sent out in May, July, September, November and January. Please respond to as many of the questions as seem appropriate at your current stage of the programme. You can add to your previous responses the next time the questionnaire is circulated.

2. What differences do you hope will result from participation in the Programme? (To your own expertise and the way things happen at work)

3. What, if any, differences have arisen so far? (In your own expertise, professional development and/or influencing learning and practice within teams and workplaces)

4. What have been the most positive aspects of the programme so far?

5. What have been the most challenging aspects so far?

6. Do you have any suggestions about the programme for subsequent years? We welcome comments on any aspect and we are particularly interested in sustainability.

7. Three questions for those who have begun to lead simulations or debriefing:
   a) What kinds of learning do you aim to achieve through simulation?
b) What do you enjoy the most?

c) What do you find the most difficult?

8. Do you think simulation makes any difference to the way paediatric teams work or learn? If possible, illustrate your response with examples.

9. Do you think simulation makes a difference to patient safety in daily practice? If possible, illustrate your response with examples.

10. What post-Programme plans, if any, do you have about continuing to apply what you have learnt?

Thank you for completing this questionnaire, please send it to p.mcintosh@qmul.ac.uk or by post,

Dr Paul McIntosh, Centre for Medical Education, Queen Mary University London, Garrod Building (Rm 315), Turner Street, London E1 2AD

You may wish to keep a copy of this document so you can add to it when we circulate the questionnaire again in two months (final circulation January 2013)
8 References

