

An evaluation of two practice based interprofessional initiatives for undergraduate healthcare students in North East England

Suzanne Powell and Lesley Scott

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i. EXECUTIVE SUMMARY

Introduction

- The Patient Safety Day (PSD) and Hard Day's Night (HDN) programmes were developed by North Tees and Hartlepool NHS Foundation Trust in response to a gap in the undergraduate curricula on the topic of patient safety. Both programmes are delivered to interprofessional student groups.
- The Patient Safety Day provides an opportunity to bring together healthcare students from nine different disciplines (medicine, nursing, radiography, physiotherapy, pharmacy, occupational therapy, podiatry, speech and language, dietetics) to improve their skills in patient safety, reduce errors, analyse complaints and understand each others' roles.
- Hard Day's Night is delivered through practice based simulation techniques to prepare students to enter the working environment. The sessions focus on key skills which are difficult to teach within a classroom setting by involving medical, adult and mental health nursing and pharmacy students in a ward-based simulation, with a pharmacy on site, in roles as Foundation Year 1 doctor on call and a preceptorship nurse in charge of 'the ward'.

Aim

- The overall aim of this evaluation was **to explore the impact of two specific practice based interprofessional educational initiatives**, Patient Safety Day (PSD) and Hard Day's Night (HDN).
- The evaluation objectives were:
 1. To examine the staff experience of organising and delivering each programme
 2. To investigate health and social care students' perceptions and attitudes
 - a) towards the programmes
 - b) towards interprofessional working
 - c) towards their own preparedness for the workplace

Methodology

- Pawson and Tilley's realistic evaluation was utilised to understand human action in terms of its location within different layers of social reality. More specifically, the evaluation methodology and design reflects the features of realistic evaluation, recognising the 'context + mechanism = outcome' processes within the delivery of the interprofessional medication safety seminars.

Methods

- Evaluators used a two-strand strategy of data collection to run in parallel, focusing on PSD and HDN as individual training programmes. Evaluators used a combination of observation, focus group, questionnaire and semi-structured interview to explore student experience and perspectives pre- and post-training.
- Patient Safety Day data collection included: semi-structured interviews with staff (3); focus group with staff (1, with 3 facilitators); observation of Patient Safety Day at each hospital site (2); student focus groups (3, with 19 students).
- Hard Day's Night data collection included: semi-structured interviews with staff (5); observations of Hard Day's Night (interprofessional) (2); observations of Hard Day's Night (uni-professional) (2); student focus groups (3, with 14 medical students).

Findings

Hard Day's Night

Perceptions and attitudes towards HDN

- The development of clinical scenarios focused on prioritisation, time management, team working and communication skills. An interprofessional staff team were responsible for designing scenarios, including midwifery, mental health nursing, physiotherapy and pharmacy.
- HDN offered students the opportunity to rehearse skills in a pressured environment and develop an understanding of the value of teamwork, communication, prioritisation and delegation, but in a safe setting.
- Equity for all professional groups was the main concern in organising and delivering HDN; suggestions for improvement included making attendance compulsory for all professional groups and scheduling HDN to run before students' final year of study.
- There were some concerns reported about the lack of an appropriate role for pharmacy students in a number of scenarios.
- Facilitation of HDN scenarios is key to engaging students and achieving learning outcomes. Facilitators were generally very good at performing their roles as patient/health professional and/or facilitator.
- The level of information given to students prior to HDN and during the briefing has been queried by staff and students alike, with concerns that students were not fully aware of the intended learning outcomes of the training, which affected their performance.
- The debrief was highlighted as significant to drawing out the learning opportunities offered to students by HDN. A number of students felt feedback was not adequate; in some cases, the lack of detail in the debriefing left students questioning their skills in terms of patient safety.
- The simulated nature of HDN, the variation in staffing, choice of scenarios, and different professional disciplines engaged make consistency of experience (standardization) difficult to achieve.
- Generally it was felt pharmacy students had not yet gained as much from the HDN experience as other professional disciplines
- Only medical students were offered the follow-up HDN session. The majority of medical students recommended it be undertaken more regularly as a very useful way to prepare for practice.

Perceptions and attitudes towards interprofessional learning

- For some students, HDN is the first opportunity they have had to work interprofessionally and engage with students from other professional disciplines. HDN helped students to realise that they share skills with other professionals and delegation is important.
- Generally as the student groups continue through the scenario rotations, the group dynamic builds and they begin to recognise one another's strengths, roles and responsibilities
- Some students focused their skills development on the prioritisation aspect of the training, partly because they were not briefed in detail but also because not every station had a facilitator present to observe performance.
- If additional disciplines are engaged within the HDN programme, the scenarios must be refreshed and/or designed to reflect their particular learning needs, role and responsibilities.

Preparedness for the workplace

- HDN offers students a safe, simulated environment in which to practice their particular role and responsibilities and rehearse real-life situations under pressure. The majority of students highlighted this aspect of the training as particularly beneficial.
- The realism offered by HDN is one of the main benefits identified by students; they recognise the value of this chaotic simulated environment in testing their skills and knowledge. Some students suggested HDN scenarios were as realistic as they could be in a simulated environment.
- There were some issues around medical students being paired up in the first session of HDN. For some students the pressure of HDN was such that they benefitted from the paired work and shared burden. Other students preferred lone working as it was a more realistic reflection of their professional role.
- Students and staff identified the following skills deficits following attendance at HDN: prescribing, mental health, dealing with difficult patients, and taking bloods.

Patient Safety Day

Perceptions and attitudes towards PSD

- The PSD is designed to highlight issues of patient safety, communication, documentation, and understanding others' roles and responsibilities. Creating an interprofessional environment encourages students to engage with one another to examine root causes of patient safety incidents/errors, learning about one another's roles in the process.
- Staff and students had different perceptions and expectations of the training. Knowledge amongst facilitators about actual learning outcomes differed. Some students had little understanding of what the training would achieve therefore were not prepared for the learning experience itself.
- Organisers of the PSD felt preparation prior to delivering each round of the training was not demanding as it was well established.
- This process of recruiting an interprofessional student group can be difficult due to the timing of the PSD within their curricula.
- Attendance by all students is voluntary, with the exception of medical students who must attend as part of their 'Preparation for Practice' module.
- The hospital setting for PSD was described as generally positive. Pharmacy students in particular were keen to highlight the positive effect of offering the PSD in a hospital.
- Those responsible for developing and organising the PSD had attended a three day training course to become a key trainer in delivering root cause analysis. None of the facilitators attended training in facilitation skills for interprofessional student groups. New facilitators were encouraged to pair up with experienced PSD facilitators during the PSD in order to learn how to conduct the training.
- The lack of training in interprofessional facilitation skills could be responsible for the uncertainty around the role of facilitator during IPL opportunities with health and social care students.
- There were some concerns about the content and delivery of the programme. Students felt that whilst the DVD (NPSA film) was interesting and stimulating, the lecture was 'dry' and 'theory-heavy'. For a number of students, the lecture did not succeed in sharing the clinical governance message effectively.

- The NPSA DVD appeared to be effective in bringing home the message about the significance of effective interprofessional working in terms of patient safety.
- Students suggested scheduling additional sessions of PSD, increasing the amount of small group work during the training and a brief summary of the key learning points around clinical governance to use during the group work.

Perceptions and attitudes towards interprofessional learning

- All students participating in this evaluation (medics and pharmacists) reported having experienced no or minimal IPL. Staff felt students' previous experience of IPL and their 'readiness' for IPL had an impact upon their learning experience, particularly their ability to engage with other healthcare students and benefit from IPL experiences.
- The PSD was particularly effective in breaking down (perceived) barriers between students of different disciplines; working with other healthcare students on set tasks offered a valuable opportunity to learn about one another's roles and responsibilities within the team.
- This process of IPL was supported by effective facilitation during the small group work tasks, which were usually initiated with icebreakers
- Many students commented on the benefits accrued when working together as a team, pooling skills and knowledge to respond to group tasks.
- Some students appeared surprised at their own and/or others' knowledge during group work, and sharing this knowledge often brought up important patient safety issues previously unnoticed. Other students talked about boundaries, limits and specific responsibilities in relation to each health professional in the team, which included having adequate knowledge of their own and others' roles in order to avoid making an error.
- Some students discussed how showing appreciation of others' roles supported a positive interprofessional working environment and that this would influence their behaviour in practice.

Preparedness for the workplace

- The combination of the NPSA DVD on medication error and opportunities to undertake small interprofessional group work offered a valuable opportunity to prepare for their post-qualification practice.
- The NPSA DVD was generally well-received by students who described subsequent learning outcomes as recognising the importance of communication within the team, an awareness that any health professional team member could contribute to/prevent medication errors, and an understanding of the reason for set protocol and procedures.
- Some students identified the area of administering medications as one in which they would modify their practice as a result of the PSD by properly adhering to the protocol for checking drug names.
- Students were able to identify major patient safety incidents/errors and recognise where their own and others' professional practice could contribute to them, but were less certain about identifying 'minor' errors or 'near misses'.
- Introducing and applying the root cause analysis tool with students helped them to identify the source of medication errors i.e. human, system. Some students described the simplicity of identifying error and the role they could play in preventing 'minor' errors becoming major incidents. Whilst students valued the opportunity to learn about root cause analysis, they expressed some concern regarding their ability to apply this tool in the workplace.

- Student data identified 'blame' as a source of tension with regard to identifying and reporting patient safety incidents. Other students felt a resistance to reporting was a reflection of their novice position in their team, which affected their confidence and willingness to question those senior to them. Some students struggled with the threshold for reporting incidents, in particular the necessity to report near misses.

Recommendations

- Recommendations are made for both programmes and focus upon the future development of PSD and HDN. They build upon the success of each programme and focus upon appropriate briefing/debriefing, refreshing programme content, improved facilitator training, and ensuring equity for all students attending, with the purpose of offering all students a fully interprofessional learning experience.

Conclusion

- Overall, both programmes offered healthcare students an otherwise limited opportunity to participate in interprofessional learning prior to qualification and were successful in providing the appropriate context and mechanisms through which students could learn about one another's roles and responsibilities in the multidisciplinary healthcare team.
- Recommendations for adjustments to both programmes build upon the existing content and format to offer an improved interprofessional student learning experience.
- HDN and PSD were effective in delivering on significant IPE outcomes, including increasing students' awareness of roles and responsibilities and offering opportunities for students to demonstrate their knowledge and skills within the multidisciplinary team.

ii. LIST OF ABBREVIATIONS

| | |
|------|--|
| CT | Computed tomography |
| ECG | Electrocardiogram |
| HDN | Hard Day's Night programme |
| IPE | Interprofessional education |
| IPL | Interprofessional learning |
| MRSA | Methicillin-resistant <i>Staphylococcus aureus</i> |
| NPSA | National Patient Safety Agency |
| OSCE | Objective structured clinical examination |
| PPH | Postpartum haemorrhage |
| PSD | Patient Safety Day programme |

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1. INTRODUCTION

1.1 CETL4HealthNE

The CETL4HealthNE is a collaboration of nine partners, including Higher Education institutions (Newcastle, Durham, Northumbria, Sunderland and Teesside universities) and NHS partners (NHS North East, North Tyneside Primary Care Trust, Northumbria Healthcare NHS Foundation Trust and North Tees & Hartlepool NHS Foundation Trust). The aim of the CETL4HealthNE has been to help prepare future healthcare professionals better in order to meet the needs of a modernised NHS and the growing and changing expectations of its patients. This has been achieved by a strong collaboration of partners at both strategic and operational levels, with a shared interest in developing and embedding good practice in healthcare professional education in order to design and deliver innovative learning and teaching programmes across a range of healthcare professions (including medicine, dentistry, nursing allied health professionals (including occupational health, physiotherapy and radiography) and pharmacy).

In its aim to foster curriculum development for employability, the CETL4HealthNE recognises health and social care students' need to be prepared to fulfil the needs and expectations of the people accessing their services, ensuring they are 'Fit for Purpose, Fit for Practice as well as Fit for Award'. To achieve this, educational programmes should support the development of health and social care students who are able to meet the complex needs of service users; as a result, all key stakeholders involved in the provision of healthcare education are required to involve relevant service users in the planning, delivery and assessment of curricula.

1.2 Interprofessional Education and Practice-Based Approaches to Learning within CETL4HealthNE

CETL4HealthNE was originally designed around a thematic framework, with workgroups comprised of CETL partners tasked with the development and delivery of each theme. The Interprofessional Education (IPE) and Practice Based Approaches to Learning (PBAL) workgroups are relevant to this evaluation.

The aim of the Interprofessional Education (IPE) workgroup was to prepare students for employment in an increasingly integrated health and social care workforce. This workgroup aimed to develop practice based learning environments intended to support interprofessional learning and working, thereby ensuring students were fit for purpose and prepared for employment in a multidisciplinary, collaborative workplace. The Practice Based Approaches to Learning (PBAL) workgroup aimed to foster the use of practice based approaches to learning within a range of learning environments in order to benefit students, staff and users of healthcare services. The workgroup helped to identify what needed to be learned in the workplace, how should it be learned, implications of this upon resources and how good practice could be shared.

Hard Day's Night is delivered through practice based simulation and therefore fit within the remit of the PBAL workgroup. The Patient Safety Day is delivered using interprofessional learning opportunities and thus fit within the remit of the IPE workgroup. However, there is some crossover as the focus of both initiatives is upon interprofessional education; this common feature takes the

foreground within this joint evaluation, with simulation discussed as a mechanism used within these interprofessional interventions.

1.3 Programme details

1.3.1 Hard Day's Night

In 2006, North Tees and Hartlepool NHS Trust designed and implemented IPE sessions with the use of different scenarios through practice based simulation techniques to prepare students to enter the working environment. The sessions focus on key skills which are difficult to teach within a classroom setting by involving medical, adult and mental health nursing and pharmacy students in a ward-based simulation, with a pharmacy on site, in roles as Foundation Year 1 doctor on call and a preceptorship nurse in charge of 'the ward'. There are two rounds of training offered on an annual basis as part of Hard Day's Night; the first takes place in December and is an interprofessional session, open to a range of health and social care students, while the second uni-professional (medical students only) session runs in May.

The range of scenarios developed to deliver through HDN include:

- Paracetamol overdose
- Postpartum haemorrhage (PPH)
- Hyperkalemia / Catheterisation
- CT guided biopsy
- Blood cultures
- Nasogastric tube
- Infant febrile convulsions/pneumonia
- 'Confused lady' (Urine infection/MRSA/delirium)
- Transient ischemic attack
- Drug error
- Communication (Rheumatoid arthritis) with student role play
- Ward round (video)

Generally, four of the outlined scenarios are used within each round of HDN. The intention is there is always a member of staff present at each scenario. The staff member can be present to facilitate and/or to role play. For example, within the PPH scenario, the staff member facilitates and role plays the nurse; within the 'confused lady' scenario, the facilitator is role playing the confused lady; the facilitator in the scenario involving infant febrile convulsion is role playing the parent. Other scenarios include part task trainers (e.g. blood cultures; nasogastric tube; hyperkalemia/catheterisation). An actor is employed to undertake the role of the patient in the paracetamol overdose scenario.

The team of staff responsible at each site (North Tees and Hartlepool) decide which scenarios and how many are run at each training event; following this, they then approach the members of staff (clinical lecturers) most appropriate for the identified scenarios. Staff will usually assist with the scenarios they are comfortable with. If a specialised scenario is chosen, then they would ensure that they had specialist staff to assist with that scenario e.g. a midwife will be present if the post-partum haemorrhage scenario is being run; a member of the self-harm team will usually observe the

paracetamol overdose scenario. If the staff team are planning on including a broader range of pre-registration healthcare staff within HDN (such as physiotherapy students), they ensure they have a physiotherapy lecturer involved in both the design and delivery of the session. At present they are liaising with a staff member at Teesside University in order to achieve this.

The overall structure of Hard Day's Night is as follows:

- Brief handover given to students in their professional groupings
- Nursing students are given an overview of all the scenarios for the purpose of then conducting the handover to medical students
- Students rotate through a series of facilitated scenarios
- Group feedback at the end of HDN as a whole

Staff do not take notes during scenarios as a rule, but are able to do so if they would prefer. The PPH scenario was designed to include a checklist to be used by the facilitator/role player during the scenario. Feedback on student performance is given to the student group as a whole at the end of the session. When feedback is given, the normal protocol is for there to be a senior medical person attending; all the clinical lecturers are nurses by background so they impart feedback specific to nurses if necessary. If there are particular concerns relating to an individual student, they would be approached following the group debrief and given individual feedback. There is also an opportunity for students to reflect during this debrief and give feedback on how they have worked as a team.

The second round of HDN is for medical students only because of the time of year it occurs whereby final year nurses have already qualified. During this second session, the staff try to deliver different scenarios than those in the first to avoid repetition for students attending. Unlike the first session where medical students are often paired up, the second session usually involves one medical student per scenario. Feedback is given in the same manner as the first HDN session.

Although the Patient Safety Day (PSD) and Hard Day's Night (HDN) training sessions are two distinct events, they share a focus on IPE. As a result, the Evaluators will use a two-strand strategy of data collection to run in parallel, focusing on PSD and HDN as individual training programmes, but recognising the value of discussing their shared characteristics and outcomes.

1.3.2 Patient Safety Day

The Patient Safety Day (PSD) is a project developed by North Tees and Hartlepool NHS Foundation Trust in conjunction with the universities of Newcastle and Teesside. Its development responded to a gap in the undergraduate curricula on the topic of patient safety as a key issue for education and healthcare providers. This IPE training session on patient safety is now embedded within practice placements for undergraduate healthcare students within acute Trusts across Teesside, in addition to engaging pharmacy students from University of Sunderland.

The Patient Safety Day provides an opportunity to bring together healthcare students from different disciplines to improve their skills in patient safety, reduce errors, analyse complaints and understand each others' roles. North Tees and Hartlepool NHS Trust devised and deliver this half-day training session to final year students on an annual basis (every December). Students from 9 professional

disciplines (medicine, nursing, radiography, physiotherapy, pharmacy, occupational therapy, podiatry, speech and language, dietetics) are invited to the PSD, which is delivered at two hospital sites. The PSD is facilitated by a number of personnel at both sites from North Tees and Hartlepool Trust who are typically clinical lecturers with a nursing/midwifery background. The training combines whole group lecture with interprofessional learning in smaller groups. Resources used during the training include a DVD from NPSA on drug error (vincristine) and a patient complaint scenario using case notes. Small interprofessional group work is facilitated by one or more staff; the professional mix and number of students in the group varies each round of training. This is not a mandatory session for all students; medical students must attend but all other student groups attend on a voluntary basis.

Staff at each site follow a general session plan, using particular resources to achieve learning outcomes around patient safety and interprofessional learning. The general structure of each half day training session is as follows:

1. Introduction: a lecture using PowerPoint slides describes the content of the training; sets ground rules.
2. Defines interprofessional learning; explains root cause analysis and its uses; describes clinical governance and its role.
3. Play a NPSA DVD in a drug error (vincristine given intrathecally) to whole group.
4. Split into smaller groups to undertake a root cause analysis of the scenario from DVD.
5. Reconvene as whole group, play DVD's own root cause analysis and findings.
6. Split into smaller groups once again to complete a patient complaint scenario using patient case notes.
7. Reconvene as whole group to conclude the training.

The intended learning outcomes for students attending the PSD were to:

1. Demonstrate an understanding of clinical governance, patient safety issues and complaints
 - a. Demonstrate acceptance of the professional responsibilities and role of own profession
 - b. Demonstrate knowledge and understanding of team working in relevance to patient safety issues, root cause analysis and complaints.
2. Demonstrate an understanding of managing the movement of patients across the interfaces/filter points within the health service
 - a. Follow general principles of management, recognising the need for teamwork and appropriate referrals
 - b. Communicate effectively with colleagues to transfer relevant information appropriately.
3. Be able to describe the positive benefit of being aware of each others' roles with reference to patient safety issues and complaints.

The group workshops enable student interaction and ensure interprofessional communication across disciplines to enable students to apply their learning within a staged scenario of dealing with a patient complaint. On completion of the Patient Safety Day, it is envisaged students will demonstrate a better understanding of one another's roles and responsibilities in relation to patient

safety; gain the knowledge and skills necessary to undertake a root cause analysis investigation following a critical incident/complaint; and recognise the value of interprofessional learning in providing positive working relationships and consequently safe, high quality patient care.

2. LITERATURE REVIEW

2.1 Patient safety

Around 10% of patients admitted to NHS hospitals are subject to a patient safety incident and around half of such incidents are preventable (Vincent *et al.*, 2001; NPSA, 2004; Smits *et al.*, 2010). Deficiencies in non-technical skills e.g. communication, contribute to patient safety issues in the NHS (Health Committee, 2009). In 2000, the Department of Health published *An Organisation with a Memory*, reporting that the NHS as a whole is not good at responding to the lessons learned from serious adverse events. Following this report, in July 2001 the National Patient Safety Agency (NPSA) was set up to advise the NHS on how it might learn from these adverse events. The Government demonstrated their prioritisation of patient safety through the publication of *Standards for Better Health* (2004). Whilst it has been demonstrated that patient safety is being taught through formal and informal curricula, for the most part this is implicit rather than explicit (Pearson *et al.*, 2009). In 2004, the report *Building a safer NHS for patients: improving medication safety* (Department of Health, 2004, p.140) stated undergraduate programmes for health and social care professionals did not always “adequately develop the knowledge or skills needed for safe medication practice”. Suggestions to address this gap included “joint teaching at relevant stages” for nursing, pharmacy and medicine students, assessment by objective structure clinical examinations (OSCEs), and the use of case studies of medication errors rather than didactic teaching to teach the skills of safe practice. In 2006, recommendations made in *Safety First* (2006, p.31) suggested the NHS Institute for Innovation and Improvement should collaborate with medical Royal Colleges and other education providers “to ensure advances are made in education and training to support patient safety” and “promote the knowledge, skills, behaviours and attitudes required of clinical and non-clinical staff to provide the safest possible care to patients”.

Current education and training processes are criticised for perpetuating disciplinary and occupational isolation, thereby preventing the essential role of communication and teamwork in delivering safe patient care (Milligan, 2006). Essentially, “those who work together should train together”; it is this teamwork training which is said to reduce technical errors by 30-50% (Health Committee, 2009, p.63). Morey *et al.* (2002) advocate team training in order “to implement and sustain changes in the delivery of error free and improved emergency care”. Root cause analysis is used to a limited extent in investigating patient safety incidents, although it has been highlighted that skills in root cause analysis are widely lacking and such training should be included in the medical curriculum (Health Committee, 2009). Kyrkjebo *et al.* (2006, p.515) suggest that the use of simulations with students in interprofessional team training is a valuable tool to enhance their learning “through reflections on their own roles and challenging their way of looking at other professions in interactions involving patient safety.”

2.2 Interprofessional Education (IPE)

The Centre for Advancement of Interprofessional Education (CAIPE) defines IPE as occasions when two or more health professionals learn with, from and about each other to improve collaboration and the quality of care (<http://www.caipe.org.uk/resources/defining-ipe/>). The aims of IPE are to improve the effectiveness of care, stakeholders’ perceptions of care, and working lives (Freeth *et al.*, 2005). IPE intends to change the culture of healthcare from one where healthcare professionals

work in individual silos, to one that facilitates and encourages teams of healthcare professionals who collaborate, resulting in a higher quality of care (Kearney, 2008). Effective interprofessional working includes staff who recognise each other's competencies, divide responsibilities for patient care and follow essential protocol for communication and documentation (Kearney, 2008). Yet current health and social care professionals are educated separately, only to be expected to determine how to work together once in practice (Kyrkjebo et al, 2006).

In implementing IPE, the intended outcome is to increase collaboration between healthcare professionals in the workplace, thereby improving patient outcomes and reducing adverse events that arise when professionals work in isolation and are ignorant or unaware of other professionals' roles and responsibilities (Thistlethwaite and Nisbet, 2007). Achievable learning outcomes following the delivery of successful IPE include:

Understanding the boundaries of professional roles; understanding the expertise and values of other team members; enhanced team-working skills; enhanced communication skills with other health professionals; understanding of the leadership role; ability to take on leadership role as appropriate; respect and support for the roles and perspectives of other professionals; ability to adopt a patient-centred approach within an interprofessional team; ability and willingness to share goals (adapted from Braithwaite (2006) in Thistlethwaite and Nisbet, 2007, p.69).

Equally, there is the potential for undesirable side effects following unsuccessful IPE, including "the development or hardening of negative stereotypes and antipathy towards further interprofessional learning" (Freeth *et al.*, 2005, p.25).

2.3 Simulation as a practice based approach to learning in IPE

Several factors including concerns about adequate preparation and fitness for the workplace, skills deficiencies, alongside growth in technology have been behind the development of programmes adopting simulated environments for teaching healthcare professionals (Bradley, 2006; Mole and Lafferty, 2004). Furthermore, changes in teaching and healthcare provision, development of clinical skills centres and recommendations of professional bodies for the development of communication skills, patient safety and interprofessional teamwork (Bradley, 2006; Fernandez *et al.*, 2007) have all contributed to an increased attention to high fidelity simulation as a way of providing safe, protected, educationally sound experience to undergraduate students, postgraduate trainees and established practitioners. Simulation as an educational tool can take many forms:

...a simulation is a person, device, or set of conditions which attempts to present [education and] evaluation problems authentically. The student or trainee is required to respond to the problems as he or she would under natural circumstances. Frequently the trainee receives performance feedback as if he or she were in the real situation (McGaghie, 1999 in Issenberg *et al.*, 2005, p.11)

Several benefits have been identified:

Risks to patients and learners are avoided; undesired interference is reduced; tasks / scenarios can be created to demand; skills can be practised repeatedly; training can be tailored to individuals; retention and accuracy are increased; transfer of training from classroom to real situation is enhanced and standards against which to evaluate student performance and diagnose educational needs are enhanced (Maran and Glavin, 2003, in Bradley, 2006, p.259)

Simulated environments offer opportunities for routine learning and training of individuals and teams of several skills sets; it allows for design and testing of new or complex clinical environments and equipment; they also offer the chance to practice and rehearse serious, novel or rare interventions and events (Bradley, 2006). Simulation offers the opportunity for “skills rehearsal, testing and feedback prior to consolidation in clinical practice” (Moule *et al.*, 2008, p.795). High fidelity simulations are considered the most effective in facilitating learning (Issenberg *et al.*, 2005). Continuous growth in the use of simulated environment for learning is shown by the increased level of research publications (Bradley, 2006). The recommendations were that “the level and type of simulation be adapted to the educational needs of the learner and the design and intended outcomes of the programme” are important issues as simulation has been adopted to foster interdisciplinary teamwork (Bradley, 2006, p.260).

Kilminster *et al.* (2004, p.717) report the use of simulated patients and scenarios in a pilot study which aimed to develop “participants’ understanding about each other’s professional roles to enhance team working and to develop communication skills”. The main study focus is on interprofessional skills’ development, but details of the simulated environment were collaboratively chosen with participants and based on their experience of the workplace, thus showing a positive way of integrating practice based approaches and IPE. Moule *et al.* (2008) focus on of nursing students and mentors’ views of simulation to support the development of clinical skills and preparedness for the workplace. Mentors highlighted the multifaceted learning students experienced, including knowledge and practical skills but also team working and interdisciplinary practices. Despite the high level of resources required for simulation, the contribution of clinical staff to the scenario, delivery and assessment offered a valuable opportunity and ensured currency and relevance for the students (Moule *et al.*, 2008). Westberg *et al.* (2006) consider the involvement of pharmacy students in interprofessional standardized patient experiences with medical and nursing students within a series of patient scenarios. Results were positive, although pharmacy students gained a better understanding of teamwork with other professionals.

2.4 Implementation and impact of IPE

Various evaluative studies of IPE initiatives have demonstrated the positive effects upon students participating in interprofessional learning. Examples include:

- “...changing learners’ attitudes to one another’s profession; improving knowledge of interprofessional collaboration; enhancing collaborative behaviour; and making gains in the delivery of patient care (Barr, 2005; Cooper, 2001; Hammick, 2007; Reeves, 2001).” (Reeves *et al.*, 2008, p.3);

- "...students' understanding of the roles of other healthcare team members is enhanced, and students and supervisors perceive the program to be of value for student learning." (Nisbet *et al.*, 2008, p.65);
- Students said they "...wanted much more of this in their own educational syllabus... [as] an important way of avoiding prejudice between the different health professions, and improve mutual understanding... they learned a lot about their own performance, reactions, and lack of both professional competencies and team skills." (Kyrkjebo *et al.*, 2006, p.512).

Overall, students value learning about patient safety in the practice context (Pearson *et al.*, 2009).

Designing and implementing quality IPE requires the successful combination of a number of factors; for example, interprofessional learning should be interactive and involve reflection; planning of IPE should involve an interprofessional team; learning outcomes should include collaboration between professions; and activities should challenge stereotypes (Thistlethwaite and Nisbet, 2007). Barriers to effective IPE often reflect the fact that such initiatives are not embedded in the curricula; challenges to implementation include the organisation of timetabling to enable a range of professions to participate; incorporating IPE into a crowded clinical placement curricula; convincing students the initiative is relevant despite a lack of formal assessment; and involving key stakeholders in the development and delivery of the initiatives (Nisbet *et al.*, 2008, p.66). Implementation of quality IPE must also consider the capability of staff members with responsibility for facilitating interprofessional learning activities; appropriate staff development must occur to "ensure the competence and confidence of interprofessional facilitators [which] is a key mechanism in the delivery of well received IPE" (Hammick *et al.*, 2007, p.748).

Indeed, educators delivering IPE must also consider the heterogeneity of learner groups, whereby students bring "different sets of prior knowledge, different expectations about the ways in which education should be conducted, and, very probably, different aspirations about the benefit that might arise from engaging with interprofessional education" (Freeth *et al.*, 2005, p.23). Age and prior work experience influence students' perceptions of and attitude towards IPE, while the characteristics of the initiative itself (for example, whether it is optional or compulsory to attend) may also account for differences in student attitudes to IPE (Hammick *et al.*, 2007). In this sense, in bringing their own characteristics to the IPE initiative, successive student cohorts "will impact on process and the effectiveness of the learning experience" (Hammick *et al.*, 2007, p.748).

2.5 Evaluation of IPE

Reflecting on the existing evaluative data of IPE initiatives, which is largely quantitative, Thistlethwaite and Nisbet (2007, p.71) suggest more qualitative research is needed "to better analyse and interpret exactly what IPE is achieving". Evaluation of IPE in the clinical practice setting has largely focused on students' satisfaction with an initiative, their knowledge and skills development, and changes in attitude; it is more difficult to evaluate the transfer of learning into practice and effects of IPE on patient care due to the time lapse between the IPE experience and qualification (Nisbet *et al.*, 2008, p.58). Research by Freeth *et al.* (2005) does offer good insight into the achievements of IPE thus far, highlighting the successes of largely localised initiatives which, although vulnerable to short-term funding and the departure of 'champions', are often well received by students. The success of locally focused IPE in achieving positive short-term outcomes lies in the

fact “it grows from and meets the needs of those involved... [whereas] positive long-term outcomes are often more challenging to achieve, with organisational change required to embed interprofessional education and its benefits.” (Freeth et al, 2005, p.13).

Whilst positive learning outcomes following IPE are important to measure and report, Hammick *et al.* (2007) remind evaluators to remain aware of the negative outcomes of IPE; their review of IPE evaluations illustrates that measures in changes to students’ perceptions and attitudes are more likely to show mixed results, potentially indicating that “...following IPE, whilst practitioners may have the knowledge and skills to practice collaboratively, their perceptions and attitudes toward each other may have been little changed and may have worsened, with implications for applying their knowledge and skills in practice.” (Hammick *et al.*, 2007:749).

2.6 Gap in evidence

Freeth *et al.* (2005, p.34) adapted the four-level Kirkpatrick typology for outcomes of interprofessional education to produce a six-fold typology:

| | | |
|----|--|---|
| 1 | Reaction | Learners’ views on the learning experience and its interprofessional nature |
| 2a | Modification of attitudes/perceptions | Changes in reciprocal attitudes or perceptions between particip groups. Changes in perception or attitude towards the value and/or use of team approaches to caring for a specific client gro |
| 2b | Acquisition of knowledge/skills | Including knowledge and skills linked to interprofessional collaboration |
| 3 | Behavioural change | Identifies individuals’ transfer of interprofessional learning to th practice setting and changed professional practice |
| 4a | Change in organisational practice | Wider changes in the organisation and delivery of care |
| 4b | Benefits to patients/ clients families and communities | Improvements in health or well-being of patients /clients, famili and communities |

Table 1: Outcomes of IPE, Freeth *et al.* (2005, p.34)

A brief literature review uncovered a gap in knowledge pertinent to both PSD and HDN. The review work of Barr *et al.* (2005), cited in Freeth *et al.* (2005, p.169), indicated that “There were relatively few studies focused on levels 2a and 3”. Interprofessional education is effective at level 2a “if attitudes and perceptions have become more positive...”, whilst “...positive changes at levels 2a and 2b will hopefully lead to positive behavioural changes (level 3)” (Freeth *et al.*, 2005, p.35). Indeed, whilst Swann *et al.* (2008, pp.117-118) state the HDN training “...was realistic enough to have an impact on the students’ sense of preparedness”, it remains to be seen whether “...such simulations have the potential to produce a lasting impact on professionalism and preparedness.” Whilst this typology is not hierarchical, Hammick *et al.* (2007, p.740) refer to Kirkpatrick’s acknowledgement that “at each level it becomes progressively more difficult to gather trustworthy data related to the educational intervention” being evaluated.

This evaluation has allowed for an exploration of the influence of differences in the context of delivery (e.g. practice-based) and different mechanisms (e.g. simulated scenarios) in the delivery of IPE to pre-registration healthcare students, and their subsequent impact upon desired outcomes in practice following qualification.

3. AIMS AND OBJECTIVES

The overall aim was **to explore the impact of two specific practice based interprofessional educational initiatives**, Patient Safety Day (PSD) and Hard Day's Night (HDN). This evaluation has built an understanding of the contexts of both PSD and HDN training programmes; examined the structure, organisation and delivery of each programme; engaged various stakeholders (including organisers, facilitators and healthcare students) to explore the influence of HDN and PSD upon students' perceptions and attitudes, interprofessional working and preparedness for the workplace; and identified, described and assessed the desired and actual outcomes of PSD and HDN.

The objectives were:

1. To examine the staff experience of organising and delivering each programme
2. To investigate health and social care students' perceptions and attitudes
 - a) towards the programmes
 - b) towards interprofessional working
 - c) towards their own preparedness for the workplace

To fulfil the overall evaluation aim and objectives, the Evaluators undertook a two-strand design, which addressed both PSD and HDN training programmes as illustrated in the Methodology chapter.

4. METHODOLOGY

Taking a realistic evaluation approach (Pawson and Tilley, 1997), the evaluation team systematically collected data on each project's key activities, features and outcomes, thus providing evidence to illustrate their success in terms of their original aims and objectives. Utilizing realistic evaluation processes requires a greater understanding of the context in which the given project operates and the processes (mechanism) through which it is delivered (see table 1).

| Context + | Mechanism = | Outcomes |
|---|---|--|
| Students from diverse healthcare disciplines in an NHS setting. | Delivery of teaching in a practice based, simulated setting. Use of role play and scenarios. | Increased interprofessional learning, understanding of one another's roles, teamwork and communication, reduction in errors etc. |

Table 2: Realistic evaluation: context + mechanism = outcome (Pawson and Tilley, 1997)

4.1 Data collection

Evaluators used a two-strand strategy of data collection to run in parallel, focusing on PSD (strand 1) and HDN (strand 2) as individual training programmes. Both strand 1 and strand 2 engaged student cohorts from training sessions in 2008 and 2009, using a combination of observation, focus group, questionnaire and semi-structured interview to explore student experience and perspectives pre- and post-training. The evaluation design included a small follow-up cohort of students, who were approached once they were in clinical practice to explore the influence of the training upon post-qualification student experiences; however, due to difficulties in maintaining contact with students once they left university, only one participant has contributed to the HDN strand of the evaluation. Both strands engaged training organisers and facilitators using semi-structured interview to explore issues around delivery of training and perceptions of desired and actual outcomes.

| Patient Safety Day | Hard Day's Night |
|--|--|
| <ul style="list-style-type: none"> · Semi-structured interviews with staff (3) · Focus group with staff (1 in total: 3 facilitators) | <ul style="list-style-type: none"> · Semi-structured interviews with staff (5) |
| <ul style="list-style-type: none"> · Observation of Patient Safety Day (North Tees) (1) · Observation of Patient Safety Day (Hartlepool) (1) · Student focus groups (3 in total: 19 students) | <ul style="list-style-type: none"> · Observations of Hard Day's Night (interprofessional) (2) · Observations of Hard Day's Night (uniprofessional) (2) · Student focus groups (3 in total: 14 medical students) |

Table 3: Summary of data collection

4.2 Data Analysis

As a realistic evaluation, data was analysed within the 'context + mechanism = outcome' framework. The 3-P model of analysis (Hammick *et al.*, 2007) was also a reference point during data analysis; sharing many similarities with realistic evaluation (i.e. presage [context], process [mechanism], product [outcome]) but within an IPE framework, this model helped to make "...connections clearer

and highlight[ed] the key importance of presage [context] in relation to process [mechanisms] and product [outcome].” (Hammick et al, 2007:740).

Data was coded into emerging themes independently by two researchers in relation to the objectives of the study. The emerging themes were then compared and any repeating themes were provisionally accepted; themes which were individual to each project were debated between the researchers regarding validity and inclusion as findings, following which all themes were then shared with the CETL4HealthNE Evaluation Group to confirm their inclusion in the final report. Findings will be discussed as a reflection of the evaluation aims and analytical framework, as illustrated below:

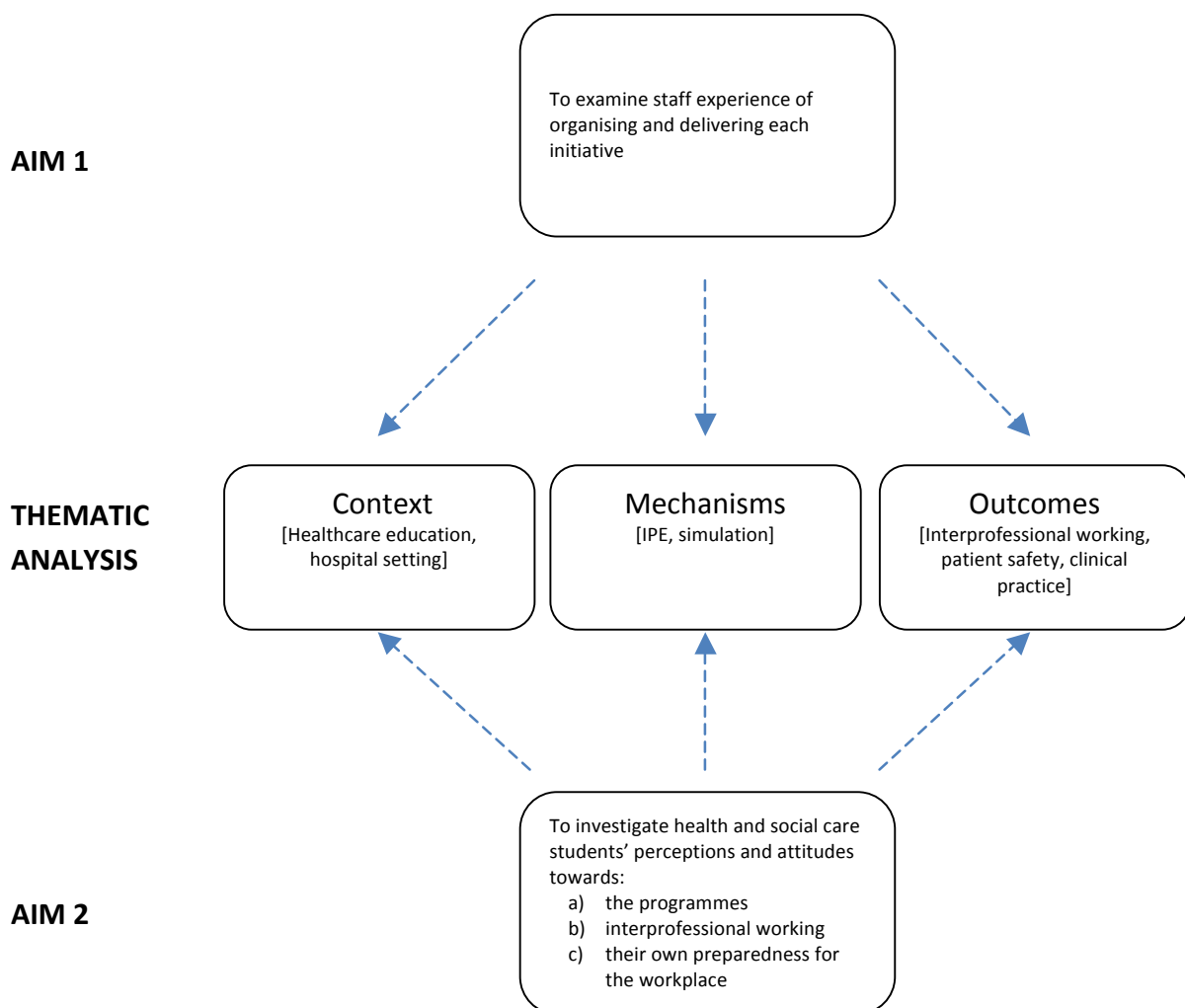


Figure 1: Link between evaluation aims and data analysis

Participants were assigned a code relating to their role, professional discipline (where significant), site (where significant) and method of data collection (see table 4). For example, 'F3 1 Fg' is Facilitator 3, Site 1, Interview; 'St2 N 2 Fg' is Student 2, Nursing, Site 2, Focus Group.

| | | |
|----------------------------------|-------|---------------------------|
| Role | S | Staff |
| | Fac | Facilitator |
| | St | Student |
| Professional discipline | M | Medicine |
| | P | Pharmacy |
| | N | Nursing |
| Site | 1 - 6 | |
| Method of data collection | Int | Semi-structured interview |
| | Obs | Observation |
| | Fg | Focus group |

Table 4: Coding scheme for data excerpts

4.3 Ethical Approval

Full ethical approval was obtained from County Durham and Tees Valley 1 Research Ethics Committee study reference number 09/H0905/62. Full research and development approval was obtained from North Tees and Hartlepool NHS Foundation Trust reference number CSS-030. At all stages informed consent was obtained from all participants via information sheets and written consent forms. All participation was voluntary.

5. FINDINGS

The findings section will consider each programme of training in turn. Figure 2 illustrates the main thematic findings for each programme, which are then broken down into subthemes specific to each programme in figures 3 and 4.



Figure 2: Thematic findings for Hard Day's Night and Patient Safety Day

5.1 Hard Day's Night

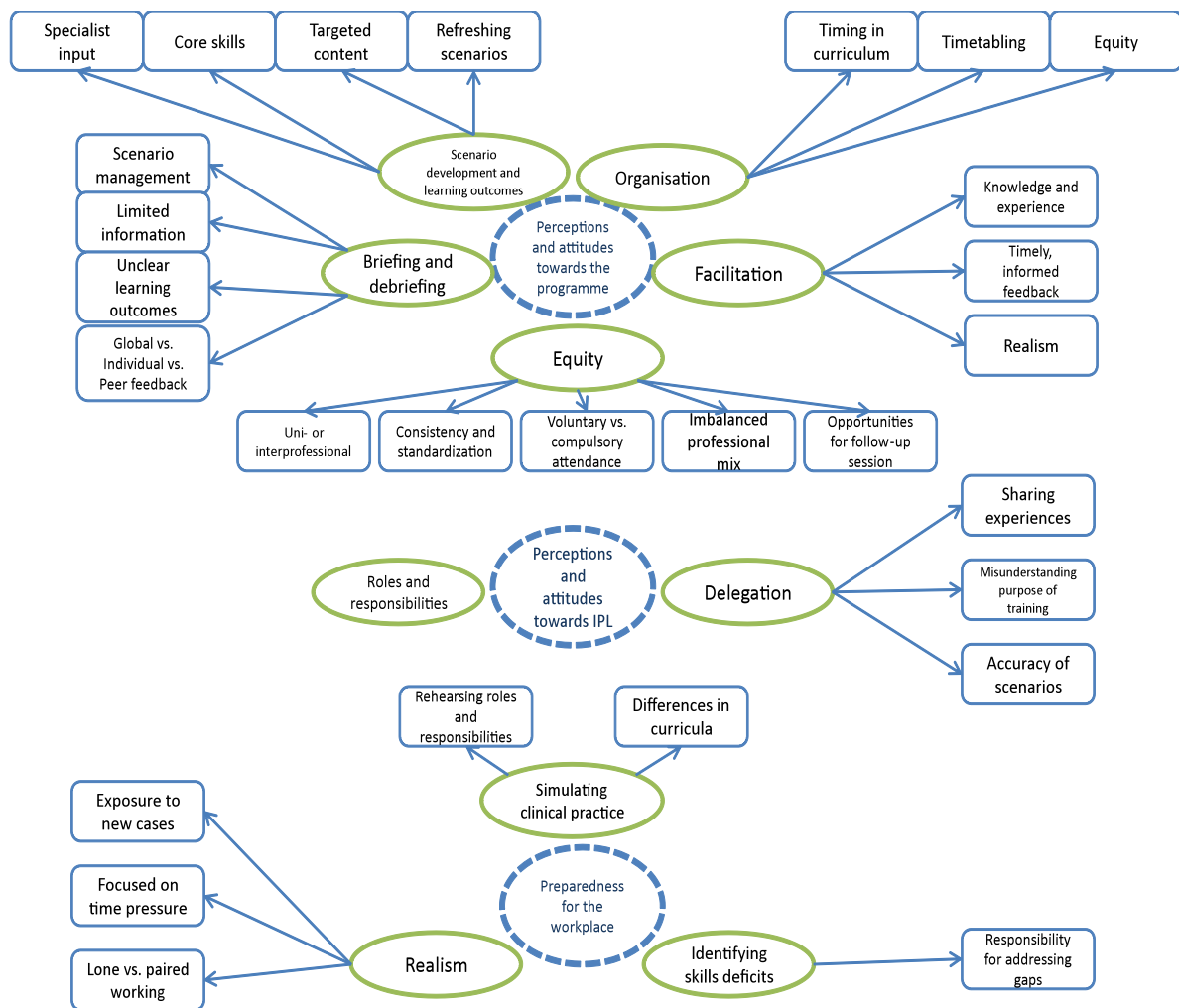


Figure 3: Hard Day's Night thematic findings

5.1.1 Perceptions and attitudes towards the programme

5.1.1.1 Scenario development and learning outcomes

The development of the HDN training package and the design of particular scenarios was a response to clinical lecturers' common experiences with medical students. In particular, they found it difficult to teach prioritisation management in a classroom setting and felt students needed "a safe environment" in which to practice being a doctor (S5 1 Int). The development of the clinical scenarios focused on challenging areas of practice, which included "prioritisation, time management, team working and communication skills" (S5 1 Int). The team ensured that the appropriate staff were engaged to design scenarios appropriate for each discipline attending HDN; this involved staff with different specialities, such as midwifery, mental health, physiotherapy and pharmacy. For example, the development of the paracetamol overdose scenario was in response to a gap in skills around mental health and the involvement of mental health nursing students in HDN:

... we actually got one of the team that's involved from the Tees Esk and Wear Trust, one of the nurses that works for the Crisis Team [...] to come up with a scenario based on something that he's dealt with in the past, or something that he commonly sees, which is young adult males taking overdoses [...] Something that adult student nurses, mental health student nurses and something that foundation doctors would have to deal with (S5 1 Int).

Overall observations demonstrated, and students concurred, that the key skills intended to be learned through HDN (including teamwork, prioritisation, communication, roles and responsibilities, asking for help) were all addressed within the combination of scenarios offered to students; students must complete the full rotations of all scenarios presented during the training in order to experience the full set of skills available. S2 1 Int felt HDN offered students the opportunity to rehearse skills in a pressured environment and develop an understanding of the value of teamwork, communication, prioritisation etc, but in a safe setting. Students listed some of the key skills they had developed as a result of HDN, including time management and prioritising ("...to experience pressure... you have to do that, but then you don't have time to do this." St1 M 1 Fg), "dealing with pressure" (St1 M 3 Fg) and "staying calm" (St1 M 3 Fg). A medical student who was followed up a year after attending HDN and is now in practice commented that on reflection the three key learning outcomes for him were "Prioritisation, handling pressure, and communicating effectively" (St10 M 3 Int). S3 1 Int highlighted how many learning outcomes there can be in one scenario alone; "...it's how they're talking to me [as a role played patient], how they're treating me as a patient; there's infection control in that, there's prescribing in that.", which suggests HDN offers good value for money in terms of an undergraduate curriculum for health and social care students.

The selection of scenarios for each round of HDN depends on the range of disciplines attending the training and the availability of staff to facilitate scenarios. Scenarios can be adapted to ensure they are relevant to the students attending: "...you need something that's going to be applicable, that's something that's going to interest all the students so there's thinking around the scenarios depending on the students' professions" (S5 1 Int). When developing new scenarios, they take into account the students they are trying to engage and get input from clinical lecturers about possible gaps in knowledge and skills.

"...what scenario could we use that could involve them and the overdose was the obvious answer. Something that adult student nurses, mental health student nurses and something that doctors would have to deal with [...] [We got] one of the nurses that works for the Rapid Response Team... he was asked to come up with a scenario based on [...] something that he commonly sees, which is young adult males taking overdoses (S5 1 Int).

The team are currently in the process of refreshing some of the original scenarios and will be contacting relevant staff at other institutions to ensure relevance and accuracy. In terms of the patient safety agenda, the team are also considering using records of serious untoward incidents (SUIs) or near-misses as the basis for future scenarios. There were some concerns reported about the lack of an appropriate role for pharmacy students in a number of the scenarios, suggesting the scenarios need to be selected carefully in order to ensure they are able to fully engage in the training offered.

...making sure that the pharmacists get enough out of it, that they feel that they can be involved in it... (S5 1 Int).

Some of the pharmacists, depending on the scenario, wouldn't get a lot out of it... (S1 2 Int).

5.1.1.2 Organisation

The organisation and planning of HDN to be delivered at Hartlepool and North Tees hospitals is undertaken individually; each hospital is required to deliver on the same learning outcomes, but the way in which they choose to achieve these is up to the individual site teams. The issues each site has to deal with in organising and delivering HDN are common and many are related to equity for all professional groups; the process is "labour-intensive", timetabling in relation to the interprofessional element of the training, compulsory or voluntary attendance, and the timing of HDN within the students' curriculum: "...the difficulty is getting people... getting the students all together."(S1 2 Int). In terms of timing and equity, suggestions for improvement included making attendance compulsory for all professional groups ("...they might not come because it's not compulsory", S1 2 Int) and scheduling HDN to run before students' final year of study

...they're getting very stressed and they're doing daft things where they probably wouldn't do things like that but it's getting near to their exams... (S1 2 Int)

As this medical student (now in clinical practice) a year on from attending HDN explains,

...the exam was our number one priority because you can't become an F1 without passing your exams. Unfortunately that's the case... you learn the ropes of being an F1 later on (St10 M 3 Int).

Running the session earlier on in the curricula would then enable the scheduling of a second session in students' final year so they all attend two sessions:

If they do it twice, you'd see such a big improvement (S2 1 Int).

...in an ideal world, if you could catch the nurses at the beginning of their rotation... with the medics, and at the end to see if it's made any difference (S1 2 Int).

There was some concern over the resources required to offer HDN to all student groups on two occasions: "The resources you need to do it are just huge... and it's an exhausting task" (S4 Int).

The practical organisation of scenarios was also significant for some students, in particular ensuring that stations were reset following each rotation to make sure the correct resources were available, the various equipment was in place etc.

I think [the documents] were there but they were just hiding under a big pile. (St2 N 1 Fg).

5.1.1.3 Facilitation

Facilitation of HDN scenarios is key to engaging students and achieving learning outcomes. The planning teams aim to match the professional role of each facilitator to the nature of the scenario wherever possible

... because we're all from a clinical background, we've looked after patients who have had those problems. [...] I would ask one of the clinical lecturers who's had experience of role plat... it was just finding the appropriate people (S5 1 Int).

Similarly, if the scenario requires role play, the planning teams "would ask one of the clinical lecturers who's had experience in role play"; ultimately all staff who may potentially role play in scenarios are "from a clinical background, we've looked after patients who have had these problems... people who are in the profession role play better because they've had the experience of patients who've been like that." (S5 1 Int). S3 1 Int felt being a staff member who role plays was beneficial to the scenarios as she knew what the students 'should' be doing in response to her behaviour as a patient, so she acted in a way which prompted this learning opportunity.

This is also an important consideration when giving students feedback on their performance: "we've got role players who have a medical background or a nursing background or a clinical background, they know how it should be dealt with so they would give the students feedback on how they performed in the scenario" (S5 1 Int). On the benefits of immediate individual feedback:

...when I did [the PPH] scenario and then she gave me feedback, we ran through it again So next time you're like, yes, I did learn in that station because then I could go back and do the entire scenario as I was meant to do it the first time round (St2 M 3 Fg).

Generally this works well, although occasionally availability can be an issue due to the conflicting workloads of the staff involved (S2 1 Int). It is less resource-intensive to use an experienced staff member from an appropriate clinical background who is able to facilitate, role play and give feedback on student performance within a scenario; for example, if an actor is role playing, then a facilitator must be present to assess student performance (S1 2 Int). Realism is also a consideration when choosing staff to role play; for example the role of registrar needs to be played by a doctor, paracetamol overdose played by a young male, biopsy/warfarin by an older female etc to make it realistic (S1 2 Int). Observations showed that facilitators were generally very good at performing their roles as patient/health professional and/or facilitator. Many students felt every scenario should be facilitated by an appropriate staff member; the facilitator would manage the scenario in support of the student's learning, observe performance and offer individual feedback.

As facilitators, staff play an important role in managing the overall scenario as it develops; part of their role is to help create the chaos and pressure needed to simulate the real-life ward (S2 1 Int), but also keep to time and assess student performance simultaneously. S5 1 Int described timing as one of the initial teething problems with HDN; facilitators must ensure students move onto the next scenario on time to maintain the pressured environment and ensure they get experience of all scenarios offered. Another concern voiced by students was that staff must ensure scenarios are 'reset' after each rotation so each student is able to experience the scenario in full, with the correct resource etc, although they recognise this can be difficult to achieve due to the short scenario rotations. Equity is also an issue raised by S5 1 Int who encourages role players "to think about how realistic the scenarios are and how far they take the actual role play"; she explains that you sometimes have to "rein them in, so that each student gets the same experience and not to get too carried away with the role play, that's sometimes a bit difficult I think." Other areas where equity

was raised as a concern was lack of facilitation for some scenarios due to conflicting staff workloads, with students described as undertaking peer group learning where this was the case and this being a positive experience for them (S1 2 Int); on these occasions, students do not get feedback from staff on how they perform in the scenario.

5.1.1.4 Briefing and debriefing of students

Prior to HDN, students are told the date and time of the session and, in some instances, that it will be a scenario-based workshop. No other information is made available to students via the staff at either hospital site. Once students arrive for the training, they experience a 'handover' similar to that they will expect once they qualify and are on the wards; this is a deliberately brief outline of each scenario and designed to emulate the reality of handovers from nurse to doctor:

...they're split into two groups so the nurses then get a handover about the patients and then it's up to the nurses then to tell the doctors what is expected, what is going on with that patient which is what happens in real life (S5 1 Int).

The level of information given to students prior to HDN and during the briefing (simulated handover) has been queried by staff and students alike. Mainly both groups were concerned they were not fully aware of the intended learning outcomes of the training, which affected student performance as they lacked understanding of their role and expected performance in the scenarios. Some students were comfortable with the level of briefing they were given prior to HDN; one student commented the lack of detail:

...made it better in a way because you weren't expecting anything. So it was good not to have any prior knowledge because it kind of threw you in there like you would be in a real situation (St2 M 3 Fg).

Others felt they needed a little more information about the general format of the day:

...it just said Hard Day's Nights on our timetable. Nobody said it's going to be a simulated F1 scenarios – we don't need to know the scenarios but if they said, you know, you're going to have to do all this, get called, bleeped etc, we'd be mentally prepared at least (St1 M 2 Fg).

S1 2 Int explained that this lack of detail was purposeful in order to create an element of the unknown and being unprepared: "...they wouldn't know what scenarios we were going to do until the day had come... We want them to have a bit of adrenalin.... To feel as if it's real." During an observation (site 1 Obs), students were heard discussing the absence of learning outcomes, stating a preference for these to be included:

'... "It wasn't particularly clear what the goal [of the scenario] was."
"It would have been useful to know the aims of each scenario..."'
"...the instructions weren't clear at the beginning".'

Some students felt they needed more information prior to training about what they could expect from other colleagues i.e. nurses' role:

So maybe we'd need better recognition of what the roles of the nurses were meant to be so we could go away and delegate [...] we weren't delegating probably enough and likewise they maybe not were standing up, like saying 'right, I can do that' enough. I think it might be better if we could have more of an idea of each other's roles in this? (St3 M 1 Fg).

This was also evident in interview data from a medical student now in clinical practice a year on from attending HDN, who described seeing "nurses hanging around" during the overdose scenario and had not realised they were part of the HDN learning experience:

They didn't know what they were doing or what their roles were. We didn't know what their roles were. We weren't keen to tell them to do something they weren't able to do (St10 M 3 Int).

If students had a clear indication that communication as part of interprofessional working was a learning outcome for HDN, including learning about one another's roles and responsibilities, perhaps they would have recognised HDN was an opportunity to practice this during the scenarios rather than reflecting on this possibility post-training. This links into concerns about students not being introduced to each other, so not realising who was the nurse/facilitator/pharmacist etc. Various suggestions were made by staff and students to remedy this, including nurses wearing their uniforms, wearing name badges, and making sure each student was introduced at the outset of the scenario:

...at the very beginning to get everybody to stand up in front of the other person and say like what their role is and to maybe brief each set of people so they know what their role is. So we can be like 'we're the medical students, we're here to kind of vaguely run it'; the nurses go 'we're here to hand over and to support whatever ...', like what their role is, and then have the registrar 'I'm here, if you need to call me, I'm here' (St3 M 1 Fg).

The debrief was highlighted as key to drawing out the learning opportunities offered to students by HDN. It is a vital part of the HDN process, particularly given how disconcerting the experience can be for students ("The worst thing I have experienced!"; "Petrified"; "You don't know what to do!"). S3 1 Int explained that part of the learning experience was to make students feel panicked and uncomfortable during the scenarios, then the debrief helps them to recognise it need not be like that, that they are part of a team and need to communicate in that way, rely on others and ask for help when needed. The debrief is vital in its clarification of learning outcomes for students attending HDN. S1 2 Int explains the purpose of the debriefing is to offer global feedback on the scenarios i.e. "what we really wanted them to do"; to avoid disappointment on the students' behalf, this intention should be made clear during the briefing prior to the training. A number of staff also commented on leaving students with positive feedback on their performance, even where there were improvements to be made, because they needed to instil confidence in students.

Observation data (site 1 Obs) recorded a conversation following the debrief in which a facilitator suggests giving students more time to reflect on their learning, with a preference for one-to-one feedback as each student presents with their own particular issues following each scenario. This was a preference shared by students also; many mentioned the PPH scenario as noteworthy here, where the facilitator uses a checklist to assess performance and leaves time at the end of the scenario to give individual feedback. S1 2 Int suggests it would be useful for all scenarios to follow the format of

the PPH scenario with its instructions, checklist and feedback set up. This would make it clearer to students what they should do in each scenario before they begin. If all scenarios were presented in a standard format, students would know they would get written instructions, a facilitator would be present etc and this would support them in achieving the learning outcomes of each scenario. One student explains she would like,

Clearer instructions on exactly what they want us to do or want us to think about doing. You know obviously you don't expect them to give you everything but I think sometimes it was a bit like "oh, we're not quite sure what you want us to do here" and maybe fix the instructions down so people can't wander off with things (St2 M 2 Fg).

A number of students felt feedback was not adequate; for each station they wanted to know what the outcome should have been for the patient and how ideally they would have reached this. This could be as individual feedback post-HDN or through a standardized hard copy handout prepared beforehand outlining the key learning outcomes of each scenario; students could "look back on it and think 'oh, well I didn't think of that'. It might help us next time" (St3 M 2 Fg). Another student suggested a handout which would outline the general response expected of F1s in each of the scenarios:

... a sheet for you like we do in our OSCEs ... like 'ok, as a general rule, this is what you should have done for this ECG' or 'this is what you should have done for this chest x-ray'. 'If you get this as an F1, in this clinical situation you need to think about this, this and this' (St1 M 3 Fg).

There were many comments made by students regarding the need for improved feedback:

...we were left to judge for ourselves how well we'd done because we weren't being watched so we didn't get individual feedback. So you might have felt that you'd done a good job in that station but without someone from the outside saying "yeah that was good" or "you should have done this" ... all the feedback came from us (St2 M 2 Fg).

I tell you what I would find more helpful is that at the end of it to go through some scenarios and say actually what would a normal F1 have done in this situation? (St2 M 3 Fg).

One student describes his confusion about what he was supposed to achieve in undertaking HDN, partly because the debriefing did not reflect on specific skills learned, and disappointment at not finding out whether his performance was adequate and how he might improve:

I would be more inclined to believe that we were meant to do things right [...] if they like kind of came up to us and said "oh, you could have done this to improve", but it was just like "ah how did you find it?" ... "Really pressurised" ... "so that's what it's like to be a doctor" ... (St1 M 1 Fg)

In some cases, the lack of detail in the debriefing left students questioning their skills in terms of patient safety:

...there was no sort of thing at the end of the day to say what the purpose of each station was and what people did right and what people did wrong and what was dangerous or whatever (St2 M 1 Fg).

Another student suggests a missed learning opportunity as a result of this, commenting,

We could have learnt more if they'd combined the two skills, so we did learn the prioritising stuff and that's the main focus, but if they'd also give us the feedback like "you did interpret that ECG right, you did prescribe right or actually you didn't do that", then we would have learned even more from it (St3 M 1 Fg).

Whilst the official facilitator-led debrief is important, students could also be given the opportunity to share their performance and experiences together, with each other, to learn from one another following the debrief. The informal opportunities to do this during their rotations of scenarios are well used and highlighted by students during focus group data, therefore it would be good to schedule this into the training. S3-1-Int reported similar student feedback on this, with students commenting to her they wanted a longer, more detailed debrief to discuss scenarios and ask questions where necessary.

5.1.1.5 Equity

Issues of equity, consistency and standardization of the HDN experience were raised on a number of levels by staff and students. The simulated nature of HDN, the variation in staffing, choice of scenarios, and different professional disciplines engaged make consistency of experience (standardization) difficult to achieve. The following exchange highlights the issues around equity and consistency; here three medical students are discussing the number of nursing students attending two different rounds of HDN (morning and afternoon sessions) and how it impacted upon their experiences:

- St4-M-1-Fg ... there wasn't actually a nurse there when I did it, so that was quite hard because with other people they said "oh, I just got the nurse to look after it", [but] there wasn't a nurse because she was off doing something for someone else.
- St5-M-1-Fg Because two nurses with five patients is probably more than there is [in real life].
- St2-M-1-Fg But ...we had two nurses with each station in the morning.

It is important to note that consistency of experience across sites was not an intended outcome of HDN; each hospital site works towards the same learning outcomes, but the way in which they are achieved is site-specific: "And even between us and Hartlepool, the Hartlepool students may have a completely different experience at Hartlepool than the students at North Tees even though we're one trust because you've got different teaching staff" (S5 1 Int). Issues around consistency of experience discussed here relate to those on either site, not judged across sites.

Equity is a concern for many of the interviewees because HDN is compulsory for medical students, but is voluntary for any other professional group attending. S5 1 Int clarifies this point:

It is available to everybody; it's just got to be up to the other institutions, other hospitals, other universities to get their students involved. Lots of them know about it and they might do something very similar that we just don't know about.

Some students attending HDN were aware that the timing of the session was a reflection of the medical students' curriculum and timetabling; this was not helpful in breaking down any barriers between disciplines. However, the reality of this practice for students is described by S3 1 Int: "... this

was doctors' training [...] I think they felt it was for the doctors more, rather than for them". Other issues regarding equity are more difficult to address; HDN runs only twice a year so the number of students the staff are able to target for each session is very small in comparison to the number of students within each year group. Indeed, students who do attend voluntarily are a "self-selecting group [so] it tends to be the most dynamic, interested, engaged students" (S5-Int). Inequity is exacerbated further by the weighting of professional grouping within each HDN session; for example, the number of pharmacy students attending has been lower than medical and nursing students; students from all branches of nursing are not equally represented. These issues are also affected by levels of staffing and the resources required to organise, plan and deliver HDN to larger groups or more regularly.

Whilst medical students benefit from the original HDN training being targeted at them ("...we do the sessions [during] their protected teaching time so that's why they're involved", S5 1 Int) and nursing students benefitted from being able to apply their practical ward experience (which is part of their training programme) ("...they've had three years of experience on the wards working with patients and being with the medics so they have a good idea of their role...", S1 2 Int), generally it was felt pharmacy students had not yet gained as much from the HDN experience as other professional disciplines:

...the pharmacists are often involved on an ad hoc basis if they go. The pharmacists are probably used more for advice if needed and so if the medical student felt that they could deal with the situation, didn't need pharmacy advice, then they wouldn't use them. And I think maybe from our perspective we probably maybe could involve the pharmacy students a lot more (S5 1 Int).

This relates back to scenario development and refreshing, which needs to take into account the students being targeted and ensure each profession has an appropriate and engaging role. In an attempt move towards addressing issues of equity, S4 1 Int suggested a resource for those students unable to attend HDN:

...some kind of on-line simulation, some kind of videoed role play simulation that can be accessed on line or through a teaching interface.

Only medical students were offered the follow-up HDN session in May, again due to difficulties with timetabling for other students e.g. nursing students who attended the December session would be qualified and in post by May. S1 2 Int felt medical students welcomed the opportunity to do HDN for a second time, preferring to work individually during the second session. Unfortunately, making this opportunity available to medical students only means the equity is not there for pharmacy and nursing students, nor is it an interprofessional experience for medical students. Reflecting on the feedback from medical students who attend the follow-up session in May, it is strongly suggested all health and social care students attending the first session would benefit from the follow-up training if timetabling issues could be resolved. Overall, the medical students felt the follow-up session of HDN was particularly useful; not only had they experienced the format of the training and understood what was expected of them, they had also spent 16 weeks in hospital based practice (HBP) so had a greater knowledge and understanding of life on the ward/knowledge etc:

I think we're 16 weeks on in our course and we're just calmer, we've got more confidence (St3 M 3 Fg).

... I found there was a big difference between the first one and the second one [...] the big problem with the first one... was that we had no idea of what we were actually meant to be doing. We had, we hadn't had Hard Day's Night explained to us at all so we were kind of just thrown in. I think the reason the second one was more beneficial was because of the fact that we knew what was coming (St4 M 3 Fg).

I think it was better than the previous one ...because you could see, even if just a little bit, you could see an improvement from before Christmas (the first session of HDN) (St3 M 3 Fg).

Many of the comments that were made about the follow-up session in May were shared with the first session in December, such as the need for every station to be facilitated as this would allow specific feedback to be given about their performance during the scenario. They also felt that it would have been useful to have nurses present at the follow-up session to make it interprofessional as in the first experience. The majority of medical students recommended it be undertaken more regularly as a very useful way to prepare for practice; some suggested a weekly occurrence, others felt an additional follow-up session.

I'd like to be doing that every week if I could (St6 M 1 Fg).

I'd like to have it more often, so like every couple of weeks (St4 M 4 Fg).

...it would be quite useful to organise something like this before starting your F1 jobs as well. Just like a recap (St6 M 1 Fg).

5.1.2 Perceptions and attitudes towards interprofessional working

5.1.2.1 Roles and responsibilities

S2 1 Int explained that the key interprofessional message within HDN is to ask someone for help when it is needed, encouraging students to "...use other professions as allies" who have important experience to share with one another, requesting specialist knowledge of others when appropriate.

...knowing that they're not working alone... to actually ask for help, because they don't have to do everything... its actually bringing team working together; it's not just multidisciplinary – it's actually understanding each other's roles within that team (S2 1 Int).

S1 2 Int felt HDN helped students to realise they don't need to be able to do everything for everyone, that they share skills with other professionals and delegation is important: "They have to learn how to utilise the other staff... that they don't have to do everything themselves." For some students, HDN is the first opportunity they have had to work interprofessionally and engage with students from other professional disciplines; S4 1 Int felt it was a good platform from which to tackle "the traditional reticence that exists" between health professionals.

There were numerous occasions recorded during observations in which students demonstrated their ability to work interprofessionally for the benefit of the patient; generally as the student groups continue through the scenario rotations, the group dynamic builds and they begin to recognise one another's strengths, roles and responsibilities (warfarin scenario, site 1 Obs). When HDN is not

interprofessional, as in the follow-up session (May), the scenarios are not as realistic; for example, during an observation (site 1 Obs), a student shows he can prioritise by delegating his pager to the nurse when it beeps but there are no nursing students present so nobody there to take the pager to get the information he needs.

The majority of medical students made positive comments about the interprofessional nature of HDN, particularly medical students working with nursing students; here a female medic (St2 M 2 Fg) describes how she and fellow nursing students worked together, taking particular responsibilities within their team to complete the tasks; "...we went and looked at blood results and looked at guidelines as to what to do and the nurses who were there with us did the catheterisation.". Where division of responsibilities was not clear to medical students, nursing students were seen to take lead and direct fellow team members; for example,

I don't think I knew where to start but she [nurse] knew there was a protocol and everything, so that was particularly good because we were able to learn from her [...] She waited a bit to see if we were going to figure it out, which we didn't, and then she sort of put us in the right direction (St5 M 3 Fg).

5.1.2.2 Delegation

Other benefits of HDN included "learning when to delegate and not forgetting that you have the power of delegation" (St6 M 1 Fg), raising awareness of other professionals' roles and learning about specific responsibilities (St2 M 1 Fg). There was also a sense of commonality between students of different disciplines as they were 'in the same boat':

...it's quite similar for the nurses as well, they're quite newly trained. So we weren't too sure what their role is and how much they get involved. They kept having to check with us and we were like checking with them quite a lot ...but we worked it out in the end (St1 M 1 Fg).

Whilst students felt they did delegate and asked for help when needed, both S1 2 Int and S2 1 Int note that students often do *not* ask for help when they need it, avoiding delegation and taking all responsibility on themselves. This was in part attributed to their not knowing or asking about others' roles and responsibilities within the team. Some students focused their skills development on the prioritisation aspect of the training, partly because they were not briefed in detail but also because not every station had a facilitator present to observe performance:

...my impression of the day was more like to experience pressure and what it's like to experience everything going crazy. You know you have to do this, you have to do that but then you don't have time to do this. I thought that was the main experience, not necessarily the content or what you're meant to do or how you're meant to do it [...] It wasn't supervised or anything so I thought like 'ok, it doesn't matter if we do things wrong' (St1 M 1 Fg).

The majority of scenarios were facilitated by Trust staff, with a small number without a facilitator present e.g. where students were required to interact with DVD footage. On a small number of occasions, facilitators were observed giving feedback on a scenario to individual students rather than

all students within that rotation e.g. to nursing students once the medical students had left or pharmacy students who did not attend debrief at all due to group travel arrangements (site 1 obs).

Staff and students identified a shared concern for the engagement of pharmacy students in HDN. One student felt the scenarios being delivered did not accurately reflect how a pharmacist would be engaged in real life, particularly within an acute clinical situation:

I didn't find the pharmacists very useful [...] not that they don't know what they're doing and they're not useful in practice, but in acute situations like that ... they just looked as confused as we did (St6 M 3 Fg).

Some staff suggested the scenarios should be refreshed to ensure pharmacy students can fully participate in HDN ("...some of the pharmacists, depending on the scenario, wouldn't get a lot out of it...", S1 2 Int) and choice of scenario each year should be based on student group composition (i.e. the disciplines represented and numbers of each) rather than availability of staff to facilitate ("...the reason we chose them scenarios is because of the staff that we had to run it [...] one of the nurses was acting as a medic and it doesn't work.", S1 2 Int). Choice of scenario is vital in order to engage each discipline as would be reflected in real life situations. S1 2 Int suggests facilitators ensure each scenario engages pharmacy students in tasks as they would in their daily work e.g. within a hospital pharmacy, responding to doctors, nurses etc as appropriate: "...you would ring pharmacy and use them as a reference point, and that's what we did". If the scenario is appropriate but it is the case that students do not understand the roles and responsibilities of pharmacists, then this must be addressed during the debriefing. If additional disciplines are engaged within the HDN programme, the scenarios must be refreshed or designed to reflect their particular learning needs, role and responsibilities.

5.1.3 Preparedness for the workplace

5.1.3.1 Simulating clinical practice

HDN offers students a safe, simulated environment in which to practice their particular role and responsibilities and rehearse real-life situations under pressure. The majority of students highlighted this aspect of the training as particularly beneficial, in some cases it offered a first opportunity to experience a particular task, case etc, for example responding to a bleep and calling the registrar:

...they've got to speak to the senior doctor and they've got to hand over on the phone... the senior doctor will say you know, for example "what's the patient's observation, what's the patient's blood pressure like?" and they haven't got all the relevant information before they go to the phone so this just points out them before they ring the senior doctor all the things they need to know before they ring (S1 2 Int).

Many of the responsibilities they will have as newly qualified health professionals they are unable to practice due to their unqualified student status. S5 1 Int described their current position as an undergraduate student as an "extra on the wards" without responsibility, whereby HDN was of benefit because it gave them a chance to be "a doctor for the day [or] a nurse for the day".

There's a lot of things that we can't do as an undergraduate that we have to deal with once we're qualified, so it makes it really difficult. Things like this are probably really helpful ...that's the closest simulated experience to what you're actually going to have (St4 M 2 Fg).

For the following medical student, having a pager was an exciting new responsibility which highlighted the need to prioritise:

...you just get started doing something else and then the bleep goes off and you have to go to the phone and work out how to use the bleep to bleep someone, then come back and write that down, then go back to what you were doing, or think "do I need to go and do whatever that is first", like that kind of prioritising (St5 M 1 Fg).

The realism offered by HDN is one of the main benefits identified by the students in terms of preparedness for the workplace; they recognise the value of this chaotic simulated environment in testing their skills and knowledge. The pressured environment along with the lack of detail given during the briefing was viewed as part of the learning process by some students:

It highlights the point that if you don't have a bloody clue what's going on you need to find out what's going on... it gives you the confidence to say "I don't know what I'm supposed to be doing" and I think just to say that actually is ok (St1 M 3 Fg).

S4 1 Int reiterates the significance of this in terms of interprofessional working whereby students were able to make clinical decisions and experience the "politics of interaction between different professional groups" in the workplace. A number of medical students felt the difference in curricula across the health professions meant some student groups were better prepared for the workplace because they undertook their training in this setting:

I think we don't have as much practical teaching as the nurses... they're straight in there and they basically do the job for the rest of the time [...] they have more experience with the hands on things because they get to do that as students (St5 M 2 Fg).

5.1.3.2 Realism

Some students suggested HDN scenarios were as realistic as they could be in a simulated environment:

...that's the closest simulated experience to what you're actually going to have (St4 M 2 Fg).

I think it got to as close to reality as it could have done which is a good thing (St5 M 2 Fg)

A number of students highlighted the PPH scenario and 'Confused lady' (Urine infection/MRSA/delirium) scenario as particularly difficult albeit for different reasons, making them appreciate the opportunity to rehearse their potential responses and treatment of patients within a safe environment as preparation for the workplace; most students had no experience of either type of patient care:

We don't really know how to manage, we're not given responsibility to manage confused patients and things like that (St5 M 2 Fg).

I'd rather like just deal with a ['Confused lady'] situation, or the PPH, under sort of controlled practice conditions rather than get it on my first night on call as an F1, because at least I've got a sort of, a little bit of what to expect in that matter (St7 M 3 Fg).

During observations (site 1 Obs) of the PPH scenario, the facilitator commented on the realism offered by the simulated environment, suggesting that the urgency of the situation and the need to stem the flow of blood would be better responded to once the situation was a real one i.e. when faced with a huge amount of blood, students would respond differently. Using role play can only work to a point with this type of emergency trauma.

Students debated the pros and cons of using actors, staff or students during the role played scenarios. A few students commented that knowing the staff member doing the role play made it more difficult to fully engage with the scenario:

...because we know them it makes it less realistic, like if you want to make it realistic then you bring in actors because they do, they are just brilliant. Like as patients, they're exactly what you would encounter (St6 M 3 Fg).

The majority of students suggested employing actors was the preferred option, but recognised that having the staff member as role player meant that their scenario was facilitated appropriately.

Some medical students felt that a number of the scenarios did not reflect the reality of practice, in particular the 'Confused lady' (Urine infection/MRSA/delirium) scenario whereby as a doctor they would have been able to leave the room to complete their notes, prescribe etc rather than being regularly confronted by their patient; however, the learning outcome was achieved as medical students recognised the roles and responsibilities of their healthcare team in the workplace:

In reality you wouldn't be prescribing there in front, you could take your stuff away and you'd be doing it all in your office... she'd be cared for effectively by the nurse who would be sorting that out and we'd be sorting out all her bits and bobs out and coming back to her (St4 M 3 Fg).

Another aspect of some scenarios being unrealistic related to students' role and responsibilities on the ward; one student (St6 M 3 Fg) felt she "wouldn't be in that situation", that in the workplace "there's always people round you whether they be senior sisters or doctors" who would support her. However, another student disputed this and felt being placed in this situation, whether completely representative of the workplace or not, provided beneficial learning opportunities:

...I found it really useful to imagine myself being put in that situation and having to use the resources I had... learning to time manage and knowing when I answered the bleep, how to answer it, and then when I rang our registrar I didn't have all the information that I needed ...learning what to get before I made that phone call (St3 M 3 Fg).

There were some issues around medical students being paired up in the first session of HDN in December and whether it was more or less effective during the follow-up session in May where medical students worked individually. For some students the pressure of HDN was such that they benefitted from the paired work and shared burden:

... I was just like 'what am I doing' all the time and I didn't have anyone to reassure me [...] I had no one like to discuss what to do and I think as a first time it would be good to do it in pairs (St4 M 2 Fg).

I think I would have broken down had I been on my own. You just feel it's nice to have someone there to sort of be like 'I don't have a clue either' so you knew it wasn't just you who didn't have a clue! (St1 M 3 Fg).

...if one doesn't know what to do the other one has an idea and it really helps and it really boosts your confidence I think (St1 M 1 Fg).

In contrast, other students would have preferred lone working as it was a more realistic reflection of their professional role and offered an important opportunity to learn from their own performance; for example,

... it would have been better to do it individually [...] there'd be things that I'll forget that the other person will remember and I don't pick up my kind of failures as well when someone else is doing them at the same time as me. So I'd much rather do it and then see where I'm missing out rather than see where the pair of us were missing out (St5 M 2 Fg).

5.1.3.3 Identifying skills deficits

During observations of HDN, the evaluation team recorded specific areas identified as potential skills deficits by students and/or staff; these included: prescribing, mental health, dealing with difficult patients, and taking bloods. During focus groups, students highlighted areas where they had identified a gap in their own knowledge and/or skills as a result of attending HDN; some students commented they would be better able to do this if the feedback process was more systematic. Prescribing was a particular area of concern. During observation (site 1 Obs) some students did not appear to recognise the urgency and/or significance of the smaller, routine tasks; for example the catheterisation scenario, which was not viewed as a priority by some, despite the patient being in kidney failure (the catheterisation should have been prioritised as urgent).

The PPH scenario was recognised by most students as being particularly difficult. One student felt the benefit of this scenario was the facilitation and feedback offered immediately after the role play. The group feedback then indicated this was a common gap in knowledge and skills therefore could be followed up with further training:

With the PPH [scenario], when a lot of us like didn't know what to do, I think [the facilitator] said "oh we'll go through that as a group", so identifying something a lot of us were weak on and then like practising it, rather than like practising every station again (St8 M 3 Fg).

They would also be picked up at an individual level and the particular student would receive individual feedback.

At the time of the December session of HDN, there will be gaps in students' knowledge as some of the scenarios relate to situations that they have not yet been taught or experienced. If a major gap in knowledge/skills was identified by students or staff, then it would be taken forward by the

planning team and addressed as a topic on the teaching programme for medical students, for example male catheterisation. During an observation (site 1 Obs), debriefing highlighted issues with student performance at the stations for blood cultures and NG tube; one of the facilitators was particularly concerned about students' basic technique in the blood cultures scenario and explained to students during the debrief that additional training would be given as a result. Students have asked clinical lecturers for additional teaching/training around a specific skill, particularly after the first session. This can relate to a particular clinical skill or a specialised area, for example the PPH scenario, and a revision session delivered by a midwife could be arranged. With regard to other professional groups, up to this point a major gap has never been identified; if it were to occur, then potentially the planning team would feed this back to the appropriate mentor or be dealt with on an individual student basis.

5.2 Patient Safety Day

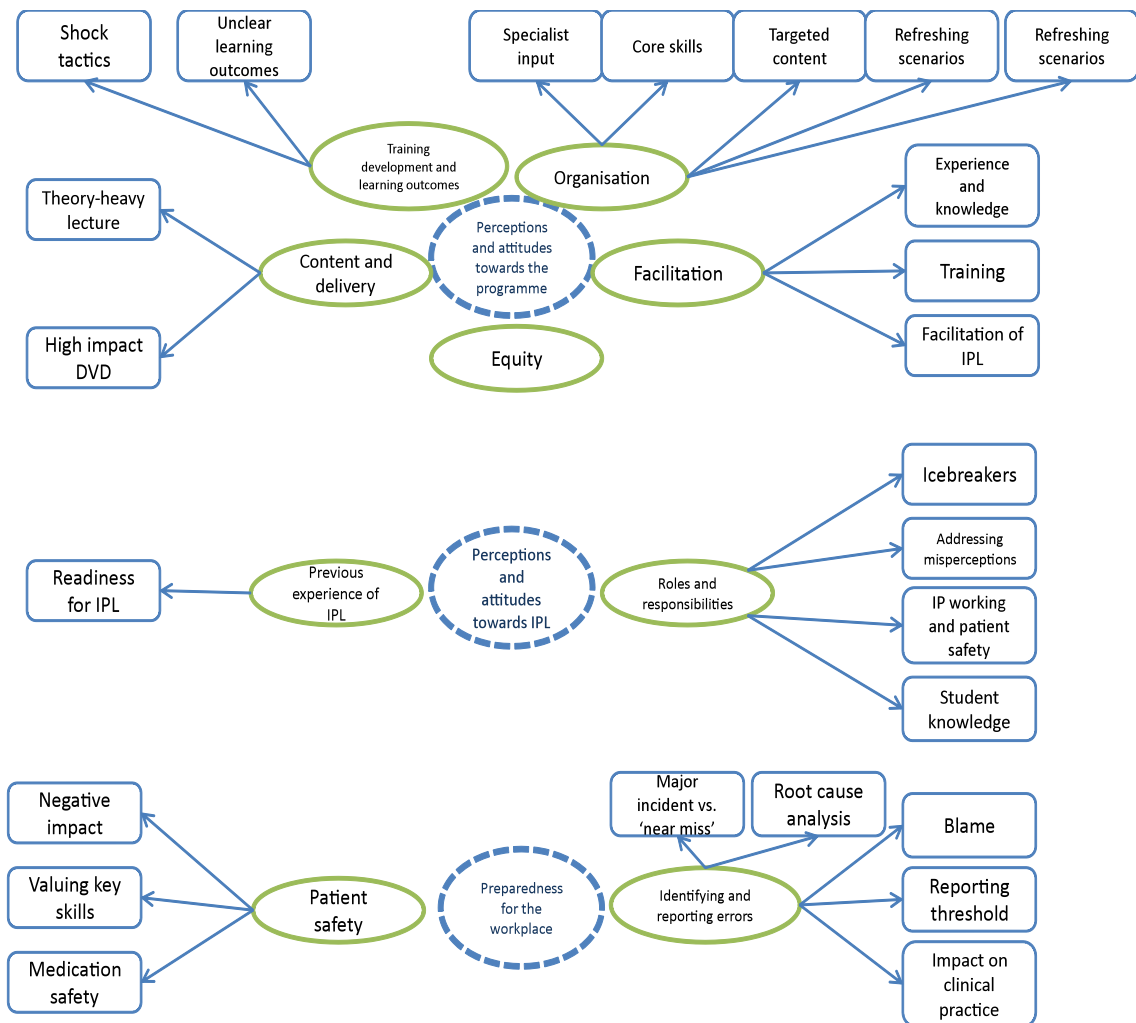


Figure 4: Patient Safety Day thematic findings

5.2.1 Perceptions and attitudes towards the programme

5.2.1.1 Training development and learning outcomes

The PSD was an idea originally developed by S6 1 Int who had been engaged in a number of research projects exploring interprofessional education at the time. Following the launch of the CETL4HealthNE and involvement of S6 1 Int with its Interprofessional Education workgroup, two projects were then devised to address patient safety, a current issue on the NHS agenda, through interprofessional education; the Patient Safety Day was one of these projects. S6 1 Int described the general objectives of the PSD as making health professionals “better team members”, to “help them understand what each others’ roles are” and to “provide safer healthcare” as a result. In terms of patient safety, one of the main learning points for students is emphasised by S6 1 Int as their understanding that “people can understand it’s not just them... there are system errors and it just needed the addition of their small human error”. To achieve this learning outcome, the PSD utilises root cause analysis to teach students how to assess and solve errors arising in the workplace; using root cause analysis tools is intended to encourage communication with one another and

documentation of their clinical tasks in practice. The DVD, group work and complaints scenario are all designed to highlight patient safety, communication, documentation, and understanding others' roles and responsibilities; creating an interprofessional environment encourages students to engage with one another to examine root causes of patient safety incidents/errors, learning about one another's roles in the process. In part, the lessons learned are emphasised using 'shock' tactics: "they realise that somebody can die with somebody omitting something or making a mistake" (S7 1 Int). This element of the training has both positive and negative implications for student learning, which will be discussed later in this section.

Although the PSD was developed to achieve particular learning outcomes (see section 5.2), staff and students had different perceptions and expectations of the training. Interview data suggests changes in staff with responsibilities for the training and the level of staffing facilitating each PSD session may have meant losing some of its original purpose and outcomes. There was a general understanding that the training was designed to be interprofessional, with a focus on patient safety, with the structure of the day largely unchanged from its original format; however, knowledge amongst facilitators about actual learning outcomes differed. For example, S6 1 Int described a move away from IPE as the focus because "...they already do a lot of IPE [...] people were getting a bit sick of IPE as a thing to do"; yet S4 Int emphasised the significance of IPE for the pharmacy students who attend the PSD: "The main reason for our students to get involved was to see other health professionals". Losing some of the focus on the specific learning outcomes in section 5.2 has had an impact upon the student learning experience; the following data shows some students had little understanding of what the training would achieve therefore were not prepared for the learning experience itself:

I don't think I had any expectations for it at all (St1 M 4 Fg).

We weren't told anything about it (St2 M 4 Fg).

All we knew was that we were meeting in a room with a group of medical students that you were going to be paired off with one (St1 P 6 Fg).

We didn't have any idea of what we were going to be doing so you can't really form any ideas of what you might learn from it (St2 P 6 Fg).

Unlike HDN and the 'handover' situation where a lack of information for students is described as important to the learning process, there is no obvious reason to withhold information from students attending the PSD and evidence suggests doing so is not to the benefit of the learning experience. In order to assess what students may want from the training, PSD organisers could refer to the evaluation data collected from students following each session and respond to this student feedback in order to further develop the training. Staff data suggests the PSD has not changed since its inception in 2006 (although the patient complaint scenario has been updated during this time to reflect current protocol/procedure); archived student feedback and data from this evaluation could assist in shaping future developments of PSD.

5.2.1.2 Organisation

Organisers of the PSD felt preparation prior to delivering each round of the training was not demanding as it was well established, requiring them to update the 'paperwork' (e.g. patient complaint case notes, changes in protocol) and recruit students to attend. S7 1 Int begins this process in September each year and staff come together "for an information session" on how it will proceed in November (S9 1 Fg). The more difficult aspect of organisation involves "getting all the professions involved" so that student attendees are interprofessional (S7 1 Int); this relies on contacts at each partner organisation recruiting the relevant students, which can be "...resource-heavy in terms of paying out money" for travel to the venue (S4 Int). This process of recruiting an interprofessional student group can be difficult due to the timing of the PSD within their curricula; the PSD was developed by an academic in medical education who recognised the need for more IPL for medical students therefore it was delivered within their 'preparation for practice' ('P for P') module. Indeed, attendance by all students is voluntary, with the exception of medical students who must attend as part of their 'P for P' module. The contacts at partner organisations are responsible for recruiting and organising (sometimes including transport) for their students to attend the PSD.

Overall, staff felt the timing of the training within student curricula was appropriate, engaging students in their final year of study approaching qualification:

...they've got the confidence and experience of being out in the clinical area and now they'll be looking at what they're going to be doing patient safety wise when they're actually professionals delivering the care (S7 1 Int).

Occasionally there have been occurrences where students have attended who are earlier on in their studies, which some students criticised as too soon in the curriculum, particularly with regards to effective interprofessional learning:

...the last group we had were only second years so I found we actually knew more about drugs than they did anyway but the first lot we had [...] they were higher up than second year so they helped [...] ...they were more knowledgeable about the drugs (St1 M 5 Fg).

The hospital setting for PSD was described as generally positive, despite issues around travelling to the venue for pharmacy students and the early start as a result (S4 Int). S10 1 Fg suggested attendance would be affected if the PSD was delivered outside the hospital setting because then those students who "...actually came from their shift, attended the patient safety day and then went back to work" would be unable to attend. Pharmacy students in particular were keen to highlight the positive effect of offering the PSD in as hospital setting; comments included 'setting the scene' for the tasks involved in PSD and ensuring they "turn off community pharmacy head and turn on hospital head and start thinking like down that route, not like as in a patient over the counter" (St1 P 6 Fg). A further benefit to pharmacy students was their exposure to hospital-based pharmacy, which they have minimal experience of through their four year course; a number of students commented on the opportunity to consider their career routes outside of community pharmacy, for example:

I've always said I'm going to go into community and hospital really doesn't interest us at all but, coming out of that day, it makes you think 'oh actually I could do that', like it's not as bad as I think ... I would possibly consider it in the future (St3 P 6 Fg)

5.2.1.3 Facilitation

All staff engaged in facilitation of the PSD work for the North Tees and Hartlepool NHS Foundation Trust. S7 1 Int selects staff with experience of clinical governance within particular clinical areas to emulate the reality of clinical practice:

Having it in the hospital with people who are working in the clinical area, I think that brings it home to [the students] (S7 1 Int).

Those responsible for developing and organising the PSD had attended a three day training course to become a key trainer in delivering root cause analysis, which meant they were skilled to teach about root cause analysis and provided some of the materials used within PSD. S7 1 Int valued the clinical experience of the facilitators over lecturing skills, some of whom had no previous experience of lecturing. None of the facilitators attended training in facilitation skills for interprofessional student groups; S6 1 Int suggests the facilitator briefing they undergo is adequate and has "worked well". Where new facilitators are brought on board, S7 1 Int encourages them to pair up with experienced PSD facilitators during the PSD in order to learn how to conduct the training. During this briefing, facilitators are told about the aims and objectives of the PSD, and given a hard copy of "key issues that they have to bring out" (S7 1 Int).

In terms of delivering the lecture at the outset of the PSD, S7 1 Int suggests this requires someone with confidence, clinical experience and an understanding of clinical governance. Data illustrates there was some uncertainty about the role of facilitator, which was also noted during observations of the training. For some, facilitation was viewed as 'easier' than lecturing ("...they're just directing, you know they're not lecturing – they're directing them and supporting the group work", and effective facilitation (the preferred set up) was considered to involve at least two facilitators per student group "...so they're helping each other out" (S7 1 Int). Facilitators are told by PSD organisers to carry out icebreakers with the smaller student groups to encourage all attendees to engage and contribute. The lack of training in interprofessional facilitation skills could be responsible for the uncertainty around the role of facilitator during IPL opportunities with health and social care students. Interview data from PSD facilitators demonstrates they understand the important task in hand and what their role is:

I think it was really to give the group confidence that I was working with [...] it was to take a lead and sort of like stimulate them into the activity (S9 1 Fg).

... you can discuss incidents and things that have happened to you personally and you're able relate that to the incidents that they're looking for throughout the day so you can give real life experiences (S10 1 Fg).

S10 1 Fg also feels this previous clinical experience, whilst mostly to the benefit of their facilitation and student learning, can make the process difficult at times as this experience is limited to one particular discipline i.e. nursing:

... you kind of home in on the [examples] that are more relevant to your own background. And we don't tend to have as many facilitators from the different disciplines - I think it's mainly nursing backgrounds.

In part, this is due to the recruitment of facilitators from the Trust only. However, S10 1 Fg felt this issue could be overcome by facilitating so the students were able "to link in their specialities..." during tasks, and "getting them to be quite open in the group if it wasn't my particular speciality"; in this way, S10 1 Fg could enable IPL despite her lack of knowledge about every discipline present. Ideally, during an IPL experience, organisers should try to use a suitably representative facilitation team i.e. interprofessional.

5.2.1.4 Content and delivery

Whilst student data suggested an overall satisfaction with the PSD, there were some concerns about the content and delivery of the programme, in particular the 40 minute lecture covering key issues (including clinical governance) delivered during the first part of the training. Students felt that whilst the DVD (NPSA film) was interesting and stimulating, the lecture was 'dry' and 'theory-heavy':

I don't remember much from the lecture itself (St2 M 5 Fg).

...when you're just looking a PowerPoint first thing in the morning... I was pretty much just switched off (St3 M 4 Fg).

Observations recorded a level of disengagement during the lecture, despite being asked questions throughout. The following observation excerpt captures this process, spanning the 40 minute lecture:

Students responded to questions but there was little interaction. The students were watching the PowerPoint slides and appeared to be listening although they were not very responsive. [...] ...there seemed to be some disengagement during the delivery of patient safety background, in particular the section on ground rules [...] The lecturer asked questions and there were no responses to the questions, so she went on to provide specific examples. Some students were starting to whisper between themselves and the lecturer asked more questions and there were no responses, just some sighing and fidgeting and yawning. [Site 4 obs]

For a number of students, the lecture did not succeed in sharing the clinical governance message effectively:

...it could have been made more clear when they talk about clinical governance [...] I'm not sure I really saw how it was related to clinical governance (St2 M 4 Fg).

Medical students were particularly keen to learn about clinical governance but some found they still did not understand what it was or what their role was within it following the PSD training ("I don't remember understanding it by the end [of the lecture]" St2 M 4 Fg) . S9 1 Fg felt the theory

(particularly clinical governance and root cause analysis) within the lecture was difficult to engage with until students were qualified, in practice and potentially reporting incidents; this student concurs:

...it was very theory based around the clinical governance, which was quite difficult to understand if it's not related to every day practice (St4 M 4 Fg).

In addition, the "hard hitting" nature of the NPSA DVD on medication error overwhelmed the prior lecture (S9 1 Fg). S7 1 Int explained that the high impact DVD was tempered by the complaints scenario used on the second half of the PSD, which also satisfied the "need to bring [the training] back down to the Trust level".

Whilst the lecture section of the training was queried, the majority of students were hugely affected by the NPSA DVD used:

...the students were attentive and engrossed [site 4 obs].

...students all watching very closely – absolute silence [site 5 obs].

The NPSA DVD was particularly effective in bringing home the message about the significance of effective interprofessional working in terms of patient safety.

At the end [of the DVD], a few of the students looked visibly upset and many had concerned expressions on their faces [site 4 obs].

It was pretty much the biggest impact you could have had in that video, so if anything's going to show us... (St5 M 4 Fg).

...fear of complacency was instilled in me quite significantly by the video. I was thinking 'God, you know, if I don't buck up my ideas I'm going to kill someone' (St6 M 4 Fg).

One medical student appreciated the format used in the DVD, watching the film as a whole then returning to each section to highlight "what went wrong" and "how it all added up to make one catastrophic disaster" (St1 M 5 Fg). For pharmacy students who have little opportunity for external training/practice placements, the PSD was a valuable experience:

I think out of all of the hospital placements that I've went on, this one was more worthwhile and more beneficial to myself than any of the other ones (St1 P 6 Fg).

Students did have some suggestions as to how to improve the content and delivery of the PSD, including scheduling additional sessions of PSD,

One medical student stated that they would like to do that type of work more often as he felt that it would make a big difference to being competent on graduation [site 4 obs].

Other suggestions included a greater amount of small group work during the training ("...that's much more interesting when you're in a smaller group ...than when you're just looking at a PowerPoint..." St3 M 4 Fg) and a brief summary of the key learning points around clinical governance to use during the group work and to take away following the training ("...the basic things on clinical governance that you need to know on one page..." St1 M 4 Fg).

5.2.1.5 Equity

To organise attendance at the PSD, S7 1 Int contacts the Practice Placement Facilitators to ascertain which medical and nursing students will be on placement in December and therefore available to attend. For pharmacy students, S4 Int is made aware of the number of places available, invites students to attend and provides transport for the group. With regards to allied health students, the strategy is more ad hoc:

We tend to find out who's around, like occupational therapists, physios, Speech and language – but we didn't have speech and language this time, there was nobody around at the time on placement (S7 1 Int).

Equity was a particular concern from the outset with regards to medical students' engagement:

The Medical Board are big on the idea of equity, that you can't offer to one medical student and not to another – even on a voluntary basis (S4 Int).

In the past this has been less of an issue for pharmacy students who attend on a voluntary basis; however, S4 Int described recent efforts to incorporate the PSD into an optional module on patient safety within the pharmacy curriculum. If students opted to study this particular module, they attended the PSD and it counted towards their face-to-face teaching. Additional efforts to disseminate some of the key learning points from the PSD to pharmacy students who did not attend the training included incorporating the resource materials from PSD into their curriculum where appropriate (S4 Int). The demand from pharmacy students for the PSD training is there and, as one student explains, "it's a shame more couldn't be run" (St1 P 6 Fg).

5.2.2 Perceptions and attitudes towards interprofessional working

5.2.2.1 Previous experience of IPL

Staff members discussed students' previous experience of IPL and their 'readiness' for IPL as having an impact upon their learning experience during the PSD. Experiences of IPL varies widely across disciplines, with staff commenting that IPL is common during nursing studies, less so for medical students, and less again for pharmacy (S4 Int, S7 1 Int, S11 1 Fg). All students participating in this evaluation (medics and pharmacists), although in their final year of studies, reported having experienced no or minimal IPL. As a result, IPL can be a revelation to some students (discussed in greater detail below), as S7 1 Int comments: "One of [the students] said to me one time 'you don't realise [other healthcare students] can be human as well'" until they are in a situation where they must work together.

S11 1 Fg referred to students' readiness for interprofessional learning as being particularly important to their ability to engage with other healthcare students and benefit from IPL experiences ("...sometimes the attitude that they come in with seems to assist them in this interprofessional learning"); this was influenced partly by differences in the content and delivery of their professional education, as S11 1 Fg explains:

...medical training is probably so focused on achieving the competencies of that particular job role, perhaps they're not used to actually thinking in the terms of, you know, multi-professional teamwork. And I think nurses do; I think it's part of the way we are trained as nurses.

S11 1 Fg shared the following encounter as representative of a student who is not ready for IPL:

[...]...at the beginning of the day we had one of the doctors go ‘oh this is going to be a fun day then, isn’t it?’ ... he obviously came in with the attitude that [the PSD] wasn’t relevant to him.

This overt negative attitude towards IPL was also present in dialogue with students from other disciplines; a number of participants (both staff and students) highlighted examples where medical students passed comment on the knowledge, role and responsibilities of pharmacists; for example,

...saying things like ‘I don’t think you know anything, just being a pharmacist’... Sometimes it’s been ‘you’re just a pharmacist and what do you do behind Boots’ counter?’ (S4 Int).

Where this type of dialogue has occurred, on occasion it had a negative impact upon students’ ability to learn; S4 Int noted occasions where this happened whereby students “forget the content because that’s what they’ll take away from it”. However, efforts had been made to prepare pharmacy students for the PSD by explaining what expectations there were of their attendance at this IPL event; it is unclear how medical students are prepared for IPL. In addition, where students demonstrate an obstructive attitude to IP working during PSD, there is a system in place to discipline those students if necessary.

5.2.2.2 Roles and responsibilities

Student data illustrates that the PSD was particularly effective in breaking down (perceived) barriers between students of different disciplines; working with other healthcare students on set tasks offered a valuable opportunity to learn about one another’s roles and responsibilities within the team.

...to get like the pharmacist’s point of view and the occupational therapists point of view and the nurse’s point of view as to what their role is and what they’d be doing, because otherwise we were like, ‘I don’t think we really know that much’ because we haven’t really had any other sessions with like other people (St3 M 4 Fg).

This process of IPL was supported by effective facilitation during the small group work tasks, which were usually initiated with icebreakers (‘...who the students were, what they were studying and what doing for Christmas’ [site 4 Obs]). During an observation, failure to include an ice breaker had a negative impact upon student interaction during group work; in the first occurrence of small group work, no icebreaker was undertaken and whilst ‘Most students are contributing actively’, two of the nine (one male nurse and one female profession unknown) did not contribute to discussion at all. When the group reconvened following a short break, the facilitator commented “we forgot to introduce ourselves”, asking each student to share their name, professional group and where they were placed; the observer commented ‘Dynamics of second half were definitely different after the introductions – the male nurse was very vocal after that’ [site 5 Obs]. Generally facilitators were active in attempts to encourage contributions from every group member, for example:

... we tried to go round the group and get everyone to say something on each specific point from their point of view ... and that worked quite well because they each had something to

say, that was quite nice and obviously different points were brought in from different professions (S10 1 Fg).

Sharing information with each other in response to a set task with supportive facilitation enabled some of the perceived barriers between professional groups to be broken down; for example, prior to the PSD, one pharmacy student felt medical students “looked down on you a little bit”, but following the training this perception had changed: “...they were all really nice and they were really supportive...” (St2 P 6 Fg). However, observation data records an instance where one student could not be engaged in IPL despite ongoing facilitation: ‘The female pharmacy student (English as a second language) did not say anything during the group discussions, even with [name] facilitating the group. [site 4 obs]’

Some students identified the relationship between understanding how the interprofessional healthcare team works in practice and safer patient care; the following medical student discusses roles and responsibilities in their group work response to the NPSA DVD on medication error.

... we all work in different areas and tend to focus on different things as being important and what’s not quite so important, so it’s good to speak to the other [healthcare students] who maybe identify some different things to what we did... [to consider] as to why it went wrong (St2 M 5 Fg).

S10 1 Fg observed this relationship during group work where students shared information on issues of patient safety (for example, pharmacy rules and regulations and the effects of shift patterns upon teamwork), which encouraged them to “... not just focus on their own profession and their own way of working... [but] to see the hospital or trust as a bigger picture rather than just being a doctor on ward.”

Many students commented on the benefits accrued when working together as a team, pooling skills and knowledge to respond to group tasks, observing “how well we could complement each other” (St4 P 6 Fg):

...it’s nice to know that you can fill in the gaps [...] so the medic will know everything about consultation where the pharmacist [...] can add in the bits about the medication that they don’t fully understand (St1 P 6 Fg).

Being able to work alongside one another and “fill in the gaps” in knowledge was a confidence boost for some students, particularly pharmacy students:

... [the medical students] were quite surprised by how much we knew as well, like a couple of them that I was working with were like ‘oh, we didn’t realise that was what you did’ so I think it was beneficial for us but it was also beneficial to them (St3 P 6 Fg)

S9 1 Fg described the presence and role of nursing staff within the PSD as highlighting the difference in curricula amongst the disciplines present; in particular, “...the student doctors learnt quite a lot from the student nurses because the student nurses seemed to know a lot more about procedures

and what happened on the wards and had a sort broader outlook on what was going on with the notes and the documentation and patient safety.”

Some students appeared surprised at their own and/or others’ knowledge during group work, and sharing this knowledge often brought up important patient safety issues previously unnoticed; the pharmacy students were able to highlight errors at the point of dispensing during the NPSA DVD, which had gone unnoticed by this medical student; “...that was the part I hadn’t picked up on but [pharmacy student] brought it into the conversation” (St2 M 5 Fg). Other students talked about boundaries, limits and specific responsibilities in relation to each health professional in the team, which included having adequate knowledge of their own and others’ roles in order to avoid making an error:

Don’t take on a role that’s above you ... if you’re not qualified to do it, you shouldn’t do it because you put yourself in a position that isn’t safe (St1 M 4 Fg)

One facilitator advised students that once qualified they could consider ‘attaching yourself to someone on the ward who is based there permanently to see how they cope... shadow them to see how they deal with things, how to prioritise what is happening and how they work as part of a team’ [site 4 Obs]. Following the realisation that each team member has their own valuable contribution to make, some students discussed how showing appreciation of others’ roles (“they love it when you’re actually asking them questions and appreciating their role and stuff like that” (St3 M 4 Fg) supported a positive interprofessional working environment and that this would influence their behaviour in practice: “...that’s what I’ll be like as a junior, I probably will be asking the pharmacist and that lot loads of questions” (St3 M 4 Fg).

5.2.3 Preparedness for the workplace

5.2.3.1 Patient safety

Overall, student responses to the PSD suggest it does develop a greater understanding of their own and others roles and responsibilities in the healthcare setting. The combination of the NPSA DVD on medication error and opportunities to undertake small interprofessional group work offer a valuable opportunity to prepare for their post-qualification practice. In terms of preparedness for the workplace, PSD is often the only opportunity (aside from access to HDN for some students) for students to experience the interprofessional working they will be required to undertake once in clinical practice. S6 1 Int described anecdotal evidence from job interviews with junior doctors where “quite a few of them coming and saying what they know about patient safety they’ve learned at these sessions”. Whilst data has illustrated the effectiveness of PSD in achieving its outcomes relating to professional role and responsibilities, team working and communication in relation to patient safety (see sections 5.2.1 and 5.2.2), there are some concerns regarding its success in preparing students for the daily reality of patient safety in the workplace; in particular, the impact of the NPSA DVD upon students’ learning, which draws attention away from the smaller, more common errors made in the workplace. The negative impact of viewing the catastrophic consequences of the vincristine medication error was discussed by staff:

You're so frightened of making a mistake, you don't do anything. You start thinking that everything is going to end up in a death. Or it's so scary, you ignore it. (S4 Int)

I mean a lot of them have said 'we don't know whether we want to be doctors or nurses now' ... it's the impact of, this is patient safety – it happens (S7 1 Int).

However, the NPSA DVD was generally well-received by students and there was a great volume of student data regarding its high impact nature. Many students described their subsequent learning outcomes following the DVD as recognising the importance of communication within the team, an awareness that any health professional team member could contribute to/prevent medication errors, and an understanding of the reason for set protocol and procedures; for example,

... you would probably think 'oh that would never happen in real life' and then when you watch the video, that has happened a few times - like just one LITTLE part of that, you'd think 'oh no, I was there when something like that's happened to me, but it never kept going', so you were lucky it never went that far (St4 M 4 Fg).

Watching the video made you realise how easy it was to make a mistake and it was such a serious one as well [...] And it certainly highlighted to me how there was numerous places you could stop that along the way like with better communication ... highlighted that you ought to be more careful I think when prescribing drugs really (St3 M 5 Fg).

Some students identified the area of administering medications as one in which they would modify their practice as a result of the PSD by properly adhering to the protocol for checking drug names;

... checking things that you don't think are important. It seems a bit stupid like having to check the [drug] name numerous times but actually that is obviously quite important. It will remind me to check that in future (St2 M 4 Fg).

... things like checking saline before you inject it into a cannula... whilst you always knew you were supposed to do it, I kind of just honestly used to pick it up and [...] kind of briefly look at it but didn't really check it - and now I always check it as a result of that Patient Safety Day (St5 M 5 Fg).

This high impact nature and contrast to the other resources may be responsible for some students failing to recall the rest of the PSD training, prior to and following the DVD being shown, as S9 1 Fg explains:

I think when you get something like the vincristine video, you're going to find it hard to remember anything after that because it is quite hard hitting and root cause analysis isn't sort of like something that you use, not until you're a qualified member of staff.

Nevertheless the key learning outcomes from the DVD are recognised by students and many commented they would take these into their practice; for example, the following student describes her attitude to ward 'rules' prior to the PSD and how the training altered this:

...you realise how important silly little rules are on the ward ... when you're there, you're like 'oh, it's just a bit annoying' but it makes you realise that all of these things have been put in there for a reason and that if you keep to your part of it, and everybody keeps to their part, it will stop these things from happening (St1 M 4 Fg).

S4 Int suggests it is not made clear enough to students that the vincristine error is "very unlikely to happen". S4 Int felt the second scenario (using case notes in which the patient is given insulin, goes to x-ray and has to wait and then becomes hypoglycaemic) was a particularly important lesson for students to recognise the smaller, more common incidents of patient safety - the insulin error is "more likely to happen and more likely to cause a death". However, this scenario is "completely overshadowed by the shock and awe" of the DVD. For example,

...you saw how easy it was that a mistake could be made ... it kind of scared me in a way of one little mistake I made, if somebody didn't pick me up on it, it can carry on going, kind of carry on rolling into making this massive mistake. It scared me, I think, most of all (St1 M 4 Fg).

S7 1 Int also emphasised the significance of the patient complaint scenario in terms of their preparedness for the workplace, describing the students as being "protected" from scenarios like this due to their student status, which they will not be afforded post-qualification.

5.2.3.2 Identifying and reporting errors

Whilst evidence showed students were able to identify major patient safety incidents/errors (like the vincristine example) and recognise where their own and others' professional practice could contribute to them, data suggests many students were less certain about identifying 'minor' errors or 'near misses'. This was observed during a session when the facilitator described incidents of medication error and queried students as to how they might respond:

The example given was 'if you gave two paracetamol tablets to the wrong patient would you say anything?' The students were quiet and in general did not respond to this question. Majority sat and said nothing whilst a couple said yes. The facilitator then changed the scenario and asked 'if you gave diamorphine to the wrong patient would you report this?' All the students responded with a yes. [site 4 Obs]

Student data also highlights this attitude, suggesting the PSD has an important role to play in emphasising the significance of near misses and reporting:

I maybe would have assumed before [attending the PSD] that you would report an incident but I wouldn't necessarily have thought about a near miss (St7 M 4 Fg)

During the same observation, the facilitator makes it clear to students that there is no difference between the medication error involving paracetamol and that involving diamorphine, both incidents need to be reported:

'There may be a problem with the system - what is the difference? They are both wrong medication. It could be an error that is attributable to human error or there may be an issue with the cardex system.' [site 4 Obs]

S7 1 Int discussed this frequent student response to the incident described above as being a particularly important learning experience for students, an opportunity for the facilitator to emphasise the commonalities between both medication errors and the significance of reporting both in equal measure:

...if it had been reported, if there'd been a problem with the service and the system, with the paracetamol, then the morphine wouldn't have happened... The near-misses – paracetamol or an antibiotic here and there - but when it comes to major drugs they think it's reportable. (S7 1 Int)

Introducing and applying the root cause analysis tool with students helped them to identify the source of medication errors i.e. human, system etc ("I remember doing like tracking back... [identifying] the fundamental cause of everything" St2 P 6 Fg). Some students described the simplicity of identifying error and the role they could play in preventing 'minor' errors becoming major incidents by doing root cause analysis in practice; for example here in relation to the vincristine error, "...you think any one person could have stopped it themselves by sort of just taking the time to look back; one person could have changed that" (St4 M 4 Fg). This process encouraged students to consider the significance of protocol and procedure, and their role in following them to prevent patient safety incidents. S7 1 Int suggested using root cause analysis in the PSD also demonstrated to students "that they're not on their own, there's help around, advice, protocols, guidelines, other people with experience – they are not on their own".

Whilst students valued the opportunity to learn about root cause analysis, they expressed some concern regarding their level of understanding and their ability to apply this tool in the workplace following the PSD. Some medical students described learning about root cause analysis earlier in their curriculum, but criticised it as "an isolated lecture" missing the link into clinical practice (St2 M 4 Fg). S9 1 Fg agreed that root cause analysis training should be built into the curriculum in order for students to practice the skill in preparedness for the workplace.

Student data identified 'blame' as a source of tension with regard to identifying and reporting patient safety incidents. This included recognition that the PSD supported students to understand the complexity of error as typically not solely the responsibility of one staff member, but also the reality of how an error might be addressed and responsibility apportioned in practice:

That was the point of the whole thing really that it isn't just one person's fault [...] ...it isn't just going to be one person's fault, you can't just blame one professional, it's going to be a varying amount of different causes and you must realise that (St4 P 6 Fg).

In the group that I was with there were two med students, two nurses, couple of pharmacists and it was very interesting to see how, not the way blame, but they all liked to

focus their attention on a different member of the health team having caused the incident, and there wasn't always a lot of targeting of YOUR [own] area of care (St4 M 5 Fg).

As was observed during the PSD training (e.g. St7 M 4 Fg; site 4 Obs), some students struggled with the threshold for reporting incidents, in particular the necessity to report near misses. The following student describes the tension surrounding reporting near misses, concluding with a key learning outcome for her from the PSD:

I'd feel that I was a failure on the ward ... you don't want to report everything [...] because you don't want to look BAD almost. And the near misses, you just want to think 'well, we didn't allow that to happen'. You kind of think you're going to get told off if you do report it but I think from what [the PSD facilitator] made out, that you don't. It's just more of a way to sort of like make protocols so that you don't get to those positions of near misses, rather than disciplinary action (St1 M 4 Fg)

S8 1 Fg described newly qualified staff as lacking confidence in themselves, making them less likely to question other team members if they had reason for concern. Other students felt a resistance to reporting was a reflection of their novice position in their team, which affected their confidence and willingness to question those senior to them if faced with a near miss/error:

It's definitely harder the more junior you are. If you go through and you get a bit more senior you'd be able to question people a lot more. And the more junior you are the less confident you are (St4 M 4 Fg).

...everyone always says 'oh you know you should be able to stop your seniors and say you know, double check that, is that right, I don't think you're doing that right?' and all of us have been in situations where we don't feel comfortable doing that" (St4 M 5 Fg).

This concern with rank and ability to question/report was discussed by medical students only. One student discussed the pressure to follow the 'shortcut' of senior team members and sums up her attitude to this following the PSD:

... if you know a set procedure and that's for safety reasons, don't skip it and just keep to your system rather than somebody saying 'oh actually don't bother with that' kind of thing (St9 M 4 Fg)

However, this student also suggests the PSD, the vincristine DVD in particular, affected her judgement and potentially future practice relating to questioning/reporting because "...watching that DVD, it makes you wish you would say something so maybe, I think that's something that's stuck with me, maybe I'll question things more, even if I feel uncomfortable doing it" (St4 M 5 Fg). Whilst many students agreed the PSD would influence their practice, there were some concerns that its impact would lessen over time:

...however many months afterwards you kind of, the impact is getting less and less and less, and you kind of forget a little bit more every time and get used to doing your same jobs and then forget that you also play a role in it (St1 M 4 Fg).

As such, additional sessions similar to the PSD would be useful as refresher courses post-qualification.

6. DISCUSSION

Both HDN and PSD were developed in response to what programme organisers identified as a gap in education, which left medical students (the cohort taught by the programme organisers) inadequately prepared for clinical practice post-qualification. Their development responded to recommendations by the Department of Health (2004) to offer joint teaching at relevant stages and the use of medication error cases to teach skills for safe medicines practice. Both HDN and PSD make the link between the essential contribution of communication and teamwork to safe patient care (Milligan, 2006). Whilst the mechanism for programme delivery was interprofessional learning, in particular emphasising communication and roles and responsibilities, HDN focused upon the prioritisation and time management aspect of clinical practice through simulation, whereas PSD focused upon patient safety incidents using root cause analysis tools. Overall, both programmes offered students an otherwise limited opportunity to participate in interprofessional learning prior to qualification and demonstrated that the use of simulation in IPL within PSD and HDN did challenge students' ways of "looking at other professions in interactions involving patient safety" (Kyrkjebo *et al.*, 2006, p.515). The degree to which the programmes were successful in achieving their stated outcomes will now be discussed in more detail within the framework of the evaluation aim and objectives. Throughout this discussion, reference will be made to the impact of both programmes in terms of modification of attitudes/perceptions (level 2a) and acquisition of knowledge/skills (level 2b) to contribute to the gap in evidence highlighted by Freeth *et al.* (2005, see section 2.6).

6.1 Programme development, organisation and delivery

For both programmes, organisers accessed appropriate support in order to design and develop their teaching resources, involving an interprofessional team in planning (Thistlethwaite and Nisbet, 2007), which was particularly important in terms of ensuring the accuracy of content and maintaining the currency of content. However, the PSD content has not been refreshed since its inception in 2006. Whilst the patient complaint scenario paperwork is updated as appropriate for each rotation, the overall structure and content has remained unaltered. PSD could be adapted to place more emphasis upon replicating the small group work approach used during the second part of the training within the first section of PSD, which is criticised for its dry, theory-heavy lecturing and overuse of PowerPoint slides.

There is a common issue around timetabling to ensure all healthcare students have the opportunity to attend PSD and HDN and this was a barrier commonly cited by others in the field (Nisbet *et al.*, 2007). Both programmes were developed for medical students in the first instance and as such are delivered within an appropriate timeframe in the medical curriculum, which is not always suitable for the other professional disciplines to engage. As both programmes are targeted at final year students, there are comments regarding the timing and the effects of exam pressures upon their willingness to participate (for students whose attendance is voluntary) and their ability to focus on the training. There were, however, instances where nursing students (voluntary attendance) opted to attend the training during a 'day off' from practice placement, demonstrating a keen willingness to participate. Pharmacy students are recruited from one HEI and the key contact there is vital to recruiting these students to the programmes. Pharmacy students are also given transport to the venues for PSD and HDN as an attempt to remove this as a potential barrier to participation.

Neither programme was effective at making clear to students the purpose of the training, what they should expect and what the learning outcomes would be. Students were explicit that in the case of HDN, which emphasised lack of preparation as key to the student learning experience, they would have benefited from a clear set of expected learning outcomes. In addition, facilitators' understanding of learning outcomes for PSD and HDN was variable, and this lack of a shared understanding did affect the student learning experience in terms of perceived understanding and consistency of facilitation.

Facilitation is paramount to the success of HDN and to students achieving the learning outcomes. Clinical background of facilitators is significant, as is ensuring the right staff member facilitates particular scenarios (Hammick *et al.*, 2007). Whilst this is generally effective, there are some inconsistencies in HDN where not all scenarios are facilitated; some include a facilitator who is also a role player, and some facilitators give individual feedback immediately following scenarios whilst others do not. For PSD, the selection of staff to facilitate the group work post-lecture and DVD seems more focused upon who is available rather than who is suitable for the role, although all facilitators must have a clinical background with an understanding of clinical governance.

New facilitators are taught 'on the job' by shadowing existing facilitators, but none of the facilitators are trained specifically in facilitation skills in interprofessional education. Hammick *et al.* (2007, p.748) recommend appropriate staff development opportunities to ensure facilitators are competent and confident in delivery of IPL. The original team of staff for PSD attended a three day training course to become key trainers in delivering root cause analysis, but have not been on a refresher course since then. For both PSD and HDN, the programme organisers put an emphasis on the clinical experience of facilitators over any skills or experience in facilitation; training in facilitation should be an addition to the requirements of the role of facilitator alongside their clinical experience. Programme organisers feel both programmes continue to work well based on student responses during the training itself and from early feedback forms, therefore they are confident that PSD and HDN can be delivered each year with minimal input into refreshing content or preparing facilitators prior to delivering the training. It should be noted the team of programme organisers are responsible for running both PSD and HDN in addition to their 'day job' thus having the time and resources available to refresh content, train facilitators etc are limited. Engagement with this evaluation process has been an iterative process and has encouraged the programme organisers to consider ways in which PSD and HDN can be improved or developed; they were keen to incorporate interim recommendations as and when the evaluation team reported them.

The role of facilitator is slightly different within PSD than HDN – in PSD, the facilitators are present while students work through a paper-based patient complaint scenario, whereas facilitators for HDN either act as role players or as observers. Both PSD and HDN facilitators can prompt and support students where necessary to encourage students from all professions to contribute to the task. Supporting interprofessional learning through facilitation is a skill which requires training and should be refreshed at appropriate intervals to ensure facilitators are able to properly support interprofessional learning for healthcare students. PSD facilitators felt their role was particularly valuable to students because they could draw on their own clinical experience and share 'real' examples from professional practice, although it was also noted this could be a disadvantage as their experience and knowledge is discipline-specific. Whilst it is acknowledged that facilitators should

have clinical experience, it is equally important that they are trained in facilitation of IPL and acquaint themselves with the programme content and learning outcomes prior to each round of training. Both programmes would benefit from a resource designed for facilitators to prepare for delivering the training, including a checklist for use during tasks/scenarios to ensure students are working towards the learning outcomes and to help facilitators give structured feedback to students post-training.

Issues of equity and consistency of experience affected both PSD and HDN. Both programmes required compulsory attendance of medical students but voluntary attendance by all other healthcare students, which may affect student attitudes towards IPLS (Hammick *et al.*, 2007). This sent an unspoken message to all students that the programmes were designed for medical students in the first instance and the others students learning needs were secondary to this. For HDN, evidence shows medical students appreciate the opportunity to undertake a follow-up HDN as a reflection of a better understanding of the concept of the training in addition to their recently acquired hospital based practice experience. This second session should be offered as an interprofessional experience as a way for students attending the first session to regroup having reflected upon their previous learning experience and outcomes, and put into practice lessons learned both during the training and since within their own practice placements.

Attendance at both programmes, including follow-up sessions, could be made compulsory for all students by building it into the curriculum for each professional group (which will take a joint effort by all HEIs to overcome timetabling issues). In doing so, this will tackle issues around consistency of experience (there will always be an appropriate mix of professionals) and concerns around equity (all students get the opportunity for IPL). In addition to making attendance compulsory for all healthcare students, attention should be given to the role of pharmacy students in particular, within all scenarios of HDN and how facilitation might ensure their active participation in both programmes to ensure all students benefit from the interprofessional learning experience. The organisation of both programmes in terms of timetabling, recruitment, staffing and delivery would be complex if it were to be rolled out to all students as part of their curriculum and would thus require a greater amount of time and resources from the programme teams. Programme organisers could share the burden of this by actively engaging with all universities in the region offering training to their target cohort of healthcare students; gaining the support of Practice Placement Facilitators would be particularly useful with regard to engaging nursing students.

There were issues of concern specific to each programme; for PSD, this was regarding the content and mode of delivery, whilst the process of briefing and debriefing was an issue within HDN. There were criticisms of the lecture section of PSD, that it was not engaging and did not deliver in terms of learning outcomes i.e. some students did not gain a better understanding of clinical governance, which suggests amendments should be made to the method of delivery. The lecture was 40 minutes in length and students had difficulty in recalling its content. Reflecting on the positive response to student group work within both PSD and HDN, the lecture section of PSD could be enhanced by including opportunities for small group working within the 40 minute timeframe, with a clearer message to students about their role within clinical governance and how it will have an impact upon their clinical practice. Alternatively, the content on clinical governance, root cause analysis tools and the NPSA DVD could be interwoven throughout, with small interprofessional group work at intervals,

to create a consistently interactive student learning experience. There was a stark contrast in student response to the lecture and the NPSA DVD; the DVD was hard-hitting and recalled by students as an important lesson to learn regarding the relationship between patient safety and communication, following protocol and procedures, and effective team work. It is anticipated the high impact nature of the DVD will be recalled by students (as suggested by student data) when they enter practice.

The main issue arising for HDN was that of briefing and debriefing of students. Programme organisers want students to enter the training with no prior knowledge in order to create an element of realism as a reflection of clinical practice once they qualify. Although students recognised the need for such realism and lack of prior knowledge about scenario content, they did suggest the learning experience would have been enhanced had they had a better understanding of intended learning outcomes i.e. key skills to acquire. This was particularly important in relation to working interprofessionally throughout the scenarios as there was some misinterpretation/misunderstanding of roles and responsibilities. Debriefing of students immediately following the training was identified as essential in supporting students to recognise and assimilate the intended learning outcomes of HDN; debriefing was felt to be the most significant weakness of the HDN training. Whilst the debrief was seen by programme organisers as an opportunity for generic feedback for all students, student data showed they also appreciated the specific, immediate feedback offered during the PPH scenario in particular. The checklist approach within the PPH scenario gave the facilitator a straightforward tool to give brief feedback on student performance and could be incorporated into all HDN scenarios where a facilitator is present.

6.2 Perceptions and attitudes towards interprofessional learning

For the majority of students attending HDN and PSD, this was their first experience of interprofessional learning within their undergraduate curricula. Students' attitudes towards IPL in HDN and PSD were generally positive, recognising the value of an opportunity to learn about others' roles and responsibilities, and how health professionals work together for safe patient care (Reeves *et al.*, 2008). In terms of addressing a gap in evidence around modification of attitudes/perceptions and acquisition of knowledge/skills (see levels 2a and 2b of Freeth *et al.*'s (2005) outcomes of IPE), HDN and PSD were effective in increasing students' awareness of roles and responsibilities within the multidisciplinary team, offering opportunities for students to demonstrate their knowledge and skills, including how they could delegate or be delegated particular responsibilities and tasks (Kearney, 2008; Thistlethwaite and Nisbet, 2007). Greater exposure to IPL earlier in the undergraduate curricula for all healthcare students helps illustrate the realities of multidisciplinary teamwork, and may challenge the entrenched stereotypes about medics/nurses/pharmacists within undergraduate education and in clinical practice.

In addition to consideration of students' attitudes and perceptions towards IPL, participants in the PSD evaluation also discussed readiness for IPL as a significant factor influencing student learning experiences. This subject is pertinent to both programmes as it influences students' willingness and ability to engage in IPL. Staff data illustrated the differences in undergraduate curricula by professional discipline, with IPL as a common feature of nursing education, less so within medicine and less again within pharmacy education. Whilst previous experience of IPL may affect students' readiness for it, the lack of information about and preparation for the programmes may also

influence students' attitudes towards and engagement with IPL in HDN and PSD. Greater detail about expected learning outcomes and the format of the programmes would help mentally prepare students for learning with other health professionals. The tutor responsible for recruiting pharmacy students to the programmes discussed the format of the training with pharmacy students prior to their attendance in an attempt to prepare them for the IPL experience; this should be extended to all students in advance of their attendance at PSD and HDN.

In addition to preparing students for attendance at PSD and HDN, appropriate facilitation is also important. Using icebreakers at the beginning of small group work within PSD appeared to be particularly effective in encouraging students to communicate with one another and break down perceived barriers across professions. A similar approach could be employed with students at HDN prior to commencing the scenario rotations; using a short icebreaker within interprofessional groups would encourage students to communicate on the same level (as undergraduate students with limited IPL experience) before they perform their professional roles within the scenarios and offer an opportunity to explain the purpose of the training as IPL. Facilitation of interprofessional groups is a skill in itself and staff delivering the programmes should attend training to ensure they have the tools to best manage learning amongst interprofessional groups (Hammick *et al.*, 2007).

Both programmes gave students a taste of working in a multidisciplinary team and an insight into the specific roles and responsibilities each team member offered; rehearsing their roles through PSD and HDN encouraged students to communicate, work as a team to treat the patient and practice skills they otherwise had not, for example delegation. Students often seemed surprised at the knowledge and skills of others in their simulated healthcare team; medical students in particular acknowledged a change in their perception about the level of skill and knowledge required by nurses and pharmacists (see levels 2a and 2b, Freeth *et al.*, 2005). This also boosted the confidence of those students who felt they had challenged the common misperceptions about their professional role, responsibilities, knowledge and skills. Where this occurred, the student involved were aware that this contributed to a more positive and effective interprofessional working environment.

Due to the issues around briefing and students' lack of understanding about purpose and learning outcomes of HDN, some students focused their efforts on developing particular skills, such as prioritisation, at the expense of other team-based skills, such as communication and delegation. One mechanism influencing this was the presence and skill of the facilitator; some scenarios did not have a facilitator present, others had facilitators as role players, and in most cases facilitators did not comment in students' performance until the opportunity for feedback at the end of the session as a whole. Where students are observed to focus on one skill at the expense of others or demonstrate attitudes/behaviours which are damaging to interprofessional teamwork, the facilitator should interject as necessary (including during the scenario itself if appropriate) to educate the student(s) on how to improve their performance. As interprofessional working can often be integral to the progression of any given scenario and so perhaps unnoticed, it is worthwhile highlighting particular instances of effective (or otherwise) interprofessional working to students during the debriefing; this should be within the context of the interprofessional student group, not individually.

Some concern was expressed about the appropriateness of HDN for pharmacy students i.e. the current scenarios in combination with minimal facilitation did not allow for their full participation. In the first instance, HDN scenarios should be revisited and amended where appropriate, including tips

for facilitators on how to engage all students in the scenario, to ensure all attendees benefit from the training. To ensure neither programme contributes to a negative experience IPL experience (Freeth *et al.*, 2005), programme content should be reflective of student composition on the day of training i.e. scenarios selected based on the mix of professions attending, adapting to the variation in context. If new professional disciplines are engaged, scenarios must be refreshed to reflect this.

6.3 Perceptions and attitudes towards preparedness for the workplace

HDN is often the first and only opportunity students have to undertake simulated interprofessional learning in their undergraduate curricula. Students were particularly appreciative of the opportunity to practice the skills they would soon use in the clinical workforce within the safe parameters of simulation as per the benefits of simulation reported by Bradley (2006). For some students, they were also being exposed to cases they had no experience of. Some students commented on the differences in healthcare curricula and the impact this had upon their preparedness for the workplace i.e. nursing students with more ward experience compared with pharmacy students who have minimal placements. The simulated scenarios offered students the opportunity to rehearse their role and responsibilities (Moule *et al.*, 2008) and were a valued part of the learning experience, which students felt was accentuated by the realistic pressures added by the timed rotations. There were concerns expressed about the realism of some scenarios, questioning whether the events would play out that way in the clinical setting, yet students agreed they achieved the core learning outcomes in spite of this. Regarding maintaining realism, students preferred the use of actors over Trust staff and favoured working individually than in pairs through the scenarios.

Largely student responses to the NPSA DVD were positive in terms of the impact of the message upon their practice, yet it also skewed students' attention away from the more common, minor errors and/or near misses, towards the rare, catastrophic incidents such as vincristine being administered intrathecally. Not all students made the connection between the significance of reporting all patient safety incidents, including minor errors and near misses, for the purpose of supporting a systematic approach to prevent the major patient safety incidents. The shock of the NPSA DVD overshadowed the patient complaint scenario, which highlighted a more common error around insulin that students will be faced with in clinical practice; facilitators need to ensure students recognise the significance of the error presented during the patient complaint scenario as equally important to that presented during the DVD.

Similar to the assumptions made by students at PSD regarding the reporting of near misses, students at HDN occasionally had difficulty prioritising appropriately as a result of their (incorrect) assumptions that the more routine tasks e.g. catheterisation, were less important. The role of facilitator is significant here to ensure students who do make this error of judgement during a scenario understand the ramifications of it in clinical practice. Likewise, during the PSD, discussion about reporting an error resulting in a paracetamol overdose compared with an error resulting in a morphine overdose, facilitators have a responsibility to make clear the message that both incidents require reporting and are equally significant. Generally students responded appropriately to PSD content and made the connections between following local protocol, reporting all patient safety incidents and safer patient care.

Students were less clear about how they would apply the root cause analysis tools from the PSD in clinical practice. This was connected to their perceptions of hierarchy in the clinical setting and their assumption that the process of analysing the source of an incident would not fall upon them as junior staff members. Assumptions about their role as junior staff members were also reflected in students' concerns about blame and how this would impact upon their willingness to report an incident. Although students acknowledged the key messages of the PSD, it seemed they felt unprepared to then transfer this into their clinical practice; for example, despite recognising that error was highly unlikely to be the fault of one person within the team, they were fearful of reporting in case blame was apportioned to them as a result. They also felt they would lack the confidence to question other team members who were more senior or had more experience.

7. Recommendations

The recommendations below reflect the evidence discussed in the main body of the report and take into account the Simulation Standards (in particular Standards III, IV, V and VI) designed by the International Nursing Association for Clinical Simulation and Learning (INACSL) Standards Committee (INACSL Board of Directors, 2011).

7.1 Hard Day's Night

Briefing

1. **Students need more information on how the training will proceed and expectations of their performance.** Distributing additional information (including learning outcomes and highlighting key skills acquisition e.g. prioritisation, communication, teamwork, documentation, delegation) to students prior to the training will help students mentally prepare for the scenarios and develop a better understanding of the purpose of interprofessional simulation.
2. **Offer a more detailed briefing to students on the day** immediately before the scenarios commence, with a particular focus on the purpose of interprofessional simulation and expected outcomes.
3. **Icebreakers for students**, to introduce themselves to one another and encourage IP learning in group work

Facilitation

1. **Workshops should be made available to new and existing facilitators to train in interprofessional facilitation techniques.** All facilitators should attend a workshop prior to delivering the training.
2. **All scenarios should be facilitated.** Not all scenarios were facilitated, with students undertaking peer group learning where this was the case; on these occasions, students do not get feedback from staff on how they perform in the scenario, which was their preferred mode of feedback.
3. **Instructions should be available to students for each scenario**, similar to the level of information available in the PPH scenario, which can be referred back to should students need some direction.
4. **Staff must ensure scenarios are 'reset' after each rotation** so each student is able to experience the scenario in full, with the correct resources, to ensure a consistent experience.

Debrief

1. **The debriefing at the end of the training should be longer in duration.** Debriefing is viewed as a particularly important opportunity to gain valuable feedback and consolidate learning outcomes and at present is not long enough to adequately address students' learning needs.
2. **Allocate a short period of time at the end of each scenario for an individual debrief for each student.** This would be informed by the checklist (see point 5 below) used by each facilitator during the scenario, recording key skills/outcomes demonstrated by the student during the scenario. Students could also query specific aspects of their performance on a one-to-one basis with the facilitator prior to the group feedback at the end of the training, offering an opportunity to reflect upon their performance and identifying potential areas for improvement.
3. **It would be beneficial for students to share their learning experiences together post-training.** This could be built into the programme, for example during a break part way through the training

or as part of the debriefing at the end. This would be particularly pertinent for students following taxing scenarios where they felt, for example, their performance was inadequate or they wanted to double-check the procedures they followed. It would also offer an additional opportunity to communicate with an interprofessional group in addition to learning more about others' roles and responsibilities.

4. **Students need more information on how they could improve their professional practice.** It would be useful to be given a generic handout following the training, which would outline the specific behaviours, skills and outcomes expected from each scenario. It could assist students to identify their own gaps in knowledge and skills, and where they need to improve.
5. **Students should receive a record of the training they have undertaken and how they performed.** With reference to point 2 above, the checklist designed for use during the PPH scenario could be adapted for use in all scenarios, so facilitators can record and offer structured feedback to students completing the scenario. This could be discussed verbally with students but also given to them to take away; it would be a basic summary of their performance and also list the skills, competencies etc they were expected to demonstrate.

Equity

1. **Attendance at HDN should be compulsory for all healthcare students.** The success of the programme relies upon its provision of interprofessional learning, therefore to ensure it continues to offer attendees a simulated experience representative of the real clinical environment, compulsory attendance is key in maintain the appropriate professional mix.
2. **Efforts should be made to ensure consistency of experience across scenarios for all students.** There are currently number of variables (including facilitation skills, scenario format, professional mix engaged) which make achieving an equal and consistent learning opportunity difficult for programme organisers.
3. **Scenarios should be refreshed and/or developed to ensure all healthcare students have a specific role to fulfil in each scenario.** This should solve the reported issue around pharmacy students lacking an appropriate role.
4. **Students from all professional disciplines would benefit from a second training session.** This would enable all healthcare students to reap the same benefits as those medical students reported when attending the follow-up training.

Gap in knowledge

1. **Clarification is required with regard to who is responsible for addressing any identified gaps in student knowledge, skills, behaviours etc which are not part of the HDN learning outcomes.** A clear protocol should be in place whereby facilitators, programme organisers and students are able to report any gap and it is followed up appropriately.
2. **The following gaps in student knowledge, skills, behaviours etc were identified by staff and students during the process of data collection:**
 - prescribing
 - mental health
 - dealing with difficult patients

General:

1. **Programme organisers should revisit scenarios each round of training to ensure the content remains current and relevant, developing new scenarios with external input where appropriate.** The 'Patient Safety Curriculum Guide: Multi-professional Edition' (WHO, 2011) offers a useful suite of resources designed for the teaching of patient safety to interprofessional student groups and would offer a valuable starting point for programme organisers. This process should also involve facilitators where possible as they have valuable experience in terms of their clinical background and seeing the scenarios being used with students. It would also act as a refresher for existing facilitators and introduction for new facilitators of the content and format of HDN.
2. **Generally it is preferred that medics perform individually in scenarios,** rather than pairing up due to the higher ratio of medical students to other professional disciplines. This issue could be remedied in part by making training compulsory for all healthcare students.
3. **Programme organisers and education providers should discuss the potential for delivering HDN (or a variant of) earlier in the healthcare curricula and at frequent intervals.** In this way, students participate in interprofessional learning and working throughout their taught courses and the skills it promotes will become practiced in readiness for their qualification and clinical roles. This is a route for education providers to pursue and organise, to ensure provision of this training is equitable for all healthcare students.

7.2 Patient Safety Day

Structure

1. **Students should be sent an outline of the training session prior to attending,** introducing potentially new terminology (in particular around clinical governance) and helping to prepare them for interprofessional learning.
2. **Opportunities for students to interact and network with one another should be built into the training.** This would be supported by the icebreaker activities at the outset of the training, offering a valuable opportunity to challenge misperceptions about one another's roles and encourage interprofessional cooperation.
3. **Amend the structure and content of the training to include small group work within the lecture section.** This will encourage less reliance upon the NPSA DVD to deliver the important patient safety message and offer opportunities for students to rehearse interprofessional communication.
4. **Create an avenue for recently qualified healthcare professionals to share their early experiences of ensuring patient safety as part of an interprofessional team,** including how to put root cause analysis into practice and reporting mechanisms in real situations. This could be achieved by creating a short DVD of experiences of recently qualified healthcare professionals or inviting a small group to share anecdotes during the PSD itself.

Content

1. **Refresh cases with new input** from within the programme team and with external support where appropriate. The PSD should reflect current concerns in practice and ensure the guidance offered to students is an accurate reflection of Trust policy and procedure.
2. **Give students more information on how the training will proceed and expectations of their performance,** in particular the intended learning outcomes. This will help students mentally

prepare for the training, particularly the interprofessional learning aspect which they are less familiar with.

3. **Teaching on clinical governance should be put into context** so that students can better understand its implications in practice. Facilitators should ensure they use 'real-life' examples to illustrate how students could apply this knowledge once qualified.
4. **More emphasis should be placed upon the near misses occurring in clinical practice** alongside the major patient safety incidents reported in the DVD.
5. **Facilitators need to monitor the use of root cause analysis tools in group work and act to refocus students' attention if necessary.** Students were observed moving away from the tools in their small group work, into discussing the issues generally rather than using tool to investigate.

Facilitation

1. **Workshops should be made available to new and existing facilitators to train in interprofessional facilitation techniques.** All facilitators should attend a workshop prior to delivering the training.
2. **Icebreakers for students prior to commencing training,** to introduce themselves to one another and encourage IP learning in group work
3. **Fewer facilitators needed in order to offer students effective facilitation.** During small group work, it is not necessary to allocate one facilitator to every group.
4. **Facilitators should ensure they facilitate and not lead the small group work.** Training in facilitation skills and smaller number of facilitators at each PSD should tackle this.
5. **Programme organisers should make efforts to ensure facilitators are interprofessional.** Most facilitators are from a nursing background at present but, as an IPL workshop, it should be facilitated by an IPL team in the interests of role modelling.

Equity

1. **Attendance at PSD should be compulsory for all healthcare students.** The success of the programme relies upon its provision of interprofessional learning; ensuring all healthcare students attend will maintain an appropriate professional mix during training. Programme organisers should make contact with Practice Placement Facilitators at Teesside University to recruit nursing students.
2. **All professional disciplines would benefit from a second training session around clinical governance** once they have qualified. Culture in practice acts as barrier to 'being open' policy so issues of clinical governance and patient safety should be revisited.

General

1. **Programme organisers should revisit content each round of training to ensure it remains current and relevant, developing or accessing new resources where appropriate.** The 'Patient Safety Curriculum Guide: Multi-professional Edition' (WHO, 2011) offers a useful suite of resources designed for the teaching of patient safety to interprofessional student groups and would offer a valuable starting point for programme organisers. This process should also involve facilitators where possible as they have valuable experience in terms of their clinical background and their experience of seeing the scenarios being used with students. It would also act as a refresher for existing facilitators and introduction for new facilitators of the content and format of HDN.

- 2. Programme organisers and education providers should discuss the potential for delivering PSD (or a variant of) earlier in the healthcare curricula and at frequent intervals.** In this way, students participate in interprofessional learning and working throughout their taught courses and the skills it promotes will become practiced in readiness for their qualification and clinical roles. This is a route for education providers to pursue and organise, to ensure provision of this training is equitable for all healthcare students.

8. Further research

Potential areas for further research include:

- A study to consider the impact of students' 'readiness' for interprofessional learning; attendees at both programmes to complete pre- and post-RIPL (readiness for interprofessional learning) questionnaires to explore students 'readiness' to undertake interprofessional learning and consider potential variables e.g. by professional group, by age, by gender, and to examine the impact of the programmes upon their post-RIPL score.
- A larger follow-up study with students in clinical practice; to investigate the longer term impact of engaging in interprofessional education upon professional practice and patient safety.
- A study to explore the role of facilitator training upon the delivery of interprofessional education initiatives to healthcare students.

9. Limitations

The sample size for student participants in both evaluation strands was conservative (HDN = 14; PSD = 19) and only medical students participated in the HDN strand, which may impact upon the transferability of findings. However, as both programmes are delivered in a region with otherwise limited opportunities for interprofessional education amongst healthcare students, evaluation findings offer a valuable baseline from which to develop and undertake future research exploring the relationship between interprofessional learning and patient safety.

Evaluators intended to engage participants in a second round of data collection once they were qualified and in clinical practice. Unfortunately, the extended timeframe for evaluation and difficulty engaging students to participate resulted in a sample size of 1 for HDN and no participants for PSD. Data from the single student offers a useful insight into the transferability of skills and knowledge from HDN into clinical practice and as such should encourage future evaluation to focus upon the transition into practice post-training.

10. Conclusion

Overall, both programmes offered healthcare students an otherwise limited opportunity to participate in interprofessional learning prior to qualification and was successful in providing the appropriate context and mechanisms through which students could learn about one another's roles and responsibilities in the multidisciplinary healthcare team. Issues around programme development, organisation and delivery were largely common across both programmes. The most significant barrier to the organisation of the training reflected the difficulties encountered around the specific context of healthcare education within which they operated, specifically timetabling and recruiting interprofessional student groups. Learning outcomes for both Patient Safety Day and Hard Day's Night need to be made clearer to students prior to and during the training, including an emphasis upon the importance and role of interprofessional learning opportunities upon their preparedness for clinical practice. In spite of this, students gave positive feedback about the value of this type of training as most would not have accessed any other opportunity for IPL prior to qualification.

A mechanism of particular significance to the success of HDN is facilitation. For the programme to offer a consistent and effective interprofessional learning experience to students, facilitators must have experience in facilitating IPL and their clinical background should reflect student group composition. Both programmes offered facilitators with relevant clinical experience, who were able to draw on their own examples to engage students with training content, and this was a valued element of the student learning experience. The approach to facilitation during PSD is different to that in HDN but the same principles apply and facilitators should have the appropriate experience to support the interprofessional student group. This can be addressed through the provision of training on interprofessional facilitation skills, with all facilitators attending the training prior to delivering HDN and PSD.

Effective facilitation was also identified as playing a significant part in addressing specific gaps in the student learning experience within each programme. For PSD, the shock and tragedy of the NPSA DVD should be tempered by the facilitator during the patient complaint scenario so students are supported to recognise the equal significance of both errors in ensuring patient safety. Facilitators should also support students to consider how to transfer their newly acquired knowledge and skills about interprofessional working and patient safety into clinical practice as an outcome for behavioural change. Student data from both programmes suggested potential difficulties in translating skills and knowledge into clinical practice due to, for example, assumptions about professional hierarchies and concerns about blame.

There were a small number of elements in both programmes which students identified as requiring amendments, but these focused on building upon the existing content and format to offer an improved student learning experience. Although the specific areas highlighted for change were different within each programme, the overall focus was on improving the interprofessional element of the learning experience, illustrating the value students placed upon this aspect of the training. HDN and PSD were effective in delivering on significant IPE outcomes, including increasing students' awareness of roles and responsibilities within the multidisciplinary team, offering opportunities for students to demonstrate their knowledge and skills, including how they could delegate or be delegated particular responsibilities and tasks. Reflecting the significance of such opportunities for IPL for all healthcare students, both programmes should make attendance compulsory for all healthcare students. As part of this, programme content must be revised to ensure students from all professional groups are suitably engaged in the training.

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APPENDIX A - Secondary data

Hard Day's Night

Existing data includes students' feedback questionnaires; data on capacity of the project; existing academic publications, assignments, routine formative evaluation and data.

| Year | Description |
|------|--|
| 2006 | <u>Initial feedback</u> |
| 2007 | <u>Student feedback questionnaire version 1:</u> Anonymous questionnaire completed by medical and nursing students; including demographic data, preparedness for certain situations and preparedness as a whole, effect of previous simulation sessions, and Trust induction. |
| 2008 | <u>Student feedback questionnaire version 2:</u> Completed by medical, nursing (adult and mental health) and pharmacy students. |
| 2009 | <u>Student feedback questionnaire version 2:</u> Completed by medical, nursing (adult and mental health) and pharmacy students. |

Patient Safety Day

Patient Safety Day organisers have collected feedback data from participating students since its inception in 2005; data type and instruments used varies from year to year. The following table offers a summary of the secondary data available to the evaluator for consideration within the evaluation of the Patient Safety Day:

| Year | Description | Data type |
|------|---|---|
| 2005 | <u>Facilitator feedback form:</u> <ul style="list-style-type: none"> Opportunity for facilitators to share views on training, including positive aspects of training, preparation for session, support during session and suggestions for improvements. <u>Student Christmas cards:</u> <ul style="list-style-type: none"> Immediately after session, students identified three things they would do differently following training; this was put into an SAE and mailed to students 3 months after session. Its purpose was to gauge whether students had achieved the three things they intended to do differently (change in behaviour). | Qualitative Qualitative and quantitative |
| 2006 | <u>Student feedback questionnaire version 1:</u> <ul style="list-style-type: none"> Opportunity for students to rate sessions' usefulness on scale of 1-5, appropriateness to learning needs, confidence in subject area post-session, and usefulness of lecture. Other questions included whether aims and objectives were clear, outcomes relevant to student's discipline. Students asked to comment on most useful aspect of session, what they liked least and why, | Qualitative and quantitative |

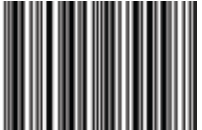
| | | |
|------|---|------------------------------|
| | <p>what they would change and if they would recommend training to colleagues.</p> <p><u>Student follow-up feedback:</u></p> <ul style="list-style-type: none"> · Similar format to Christmas card evaluation in 2005, completed by students immediately post-session, identifying three things they would do differently following training, then mailed to students 3 months later for comment on achievement of targets (change in behaviour). | Qualitative |
| 2007 | <u>Data missing</u> | |
| 2008 | <p><u>Student feedback questionnaire version 2:</u></p> <ul style="list-style-type: none"> · Completed immediately after session; questions included: reasons for choosing session, gained knowledge skills anticipated, aimed at right level, session presentation and delivery, course content, recommending session to colleague. Students were asked to comment on two things they had learned and would session improve patient care/how. | Quantitative and qualitative |

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