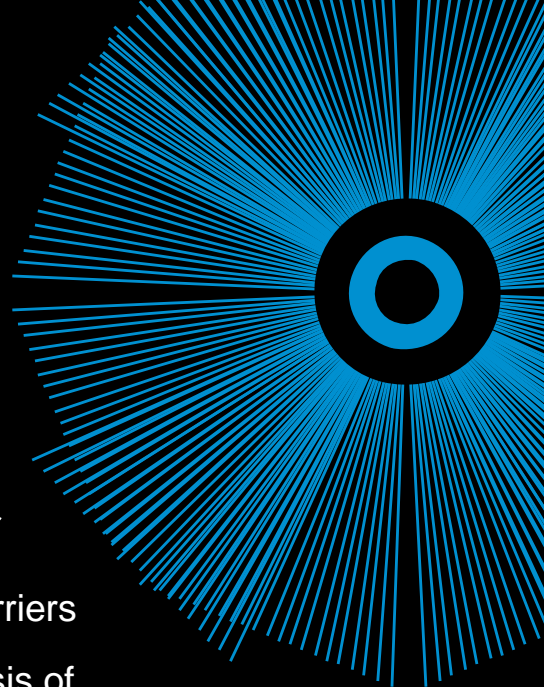




Shine



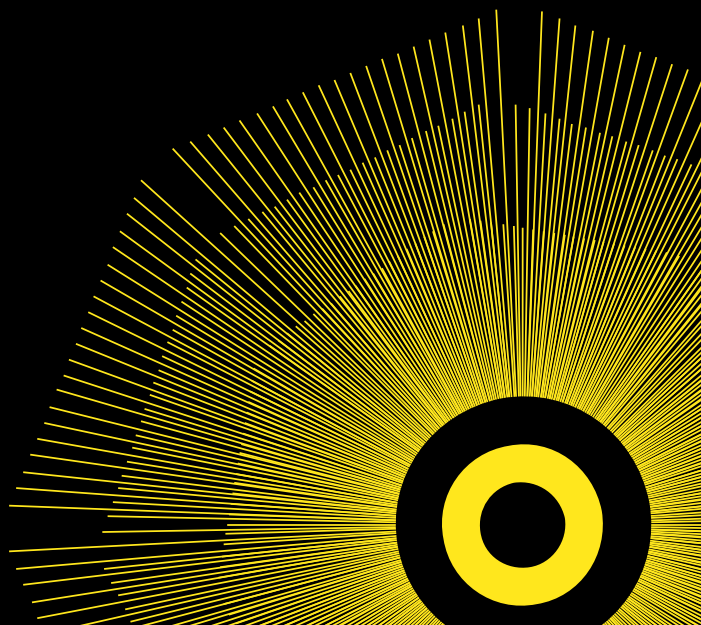
Shine 2012 final report

Addressing the psychological and emotional barriers
hindering the disclosure and constructive analysis of
patient safety incidents in the primary care professions

NHS Education for Scotland

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The Health Foundation
Tel 020 7257 8000
www.health.org.uk



Part 1. Abstract

Project title:

Addressing the psychological and emotional barriers hindering the disclosure and constructive analysis of patient safety incidents in the primary care professions

Lead organisation: NHS Education for Scotland

Partner organisation: Dalhousie University, Canada

Project Lead: Dr. Paul Bowie

ABSTRACT

Background

Approximately one million UK primary care consultations take place daily, with around 1-2% estimated to involve patient safety incidents (PSIs). Significant event analysis (SEA) is a well-established collective learning technique used by primary care teams to investigate PSIs [circumstances where a patient was or could have been harmed] and other quality of care issues. However, the SEA literature indicates that there is a lack of a structured analytical framework informing the process meaning it is often approached superficially and haphazardly; consequently, safety incidents are not analysed constructively and improvement plans can be flawed leading to missed opportunities to improve patient safety.

Psychological barriers (e.g. fear of punitive action or feelings of guilt/anxiety/shame) can also impede a clinician's preparedness to highlight significant events and engage adequately (if at all) with the SEA process. Additionally, evidence suggests that many SEA investigations lack a basic understanding of human error theory and the systems-based thinking needed to ensure more in-depth, meaningful and effective event analyses i.e. most clinicians erroneously attribute events solely to their own actions or inactions.

A clear need is evident, therefore, to improve how SEA is performed and to better support primary care professionals and teams with this process. By developing a method of SEA that takes a human factors systems-based approach to gaining a more constructive understanding how and why events happen, this may reduce emotional barriers to openly acknowledging safety incidents at the individual level, highlighting them with colleagues and analysing events constructively to minimise the risks of re-occurrence.

Taking this approach would potentially depersonalize events, increase knowledge of human factors and systems-based contributory issues, enhance empathy amongst those involved, and lead to more meaningful event analyses and action for improvement.

Description of innovation

- An *enhanced* SEA conceptual framework (based on error theory and an established ergonomic model) was designed by the NHS Education for Scotland (NES) multi-professional primary care team.
- The conceptual framework informed development of practical guiding tools aimed at helping primary care professionals and teams to overcome the aforementioned emotional

and analytical problems by enabling them to identify the interlinked human-activity-system interactions which contribute to safety incidents

- The guiding tool includes:
 1. A desk-based Personal Booklet with guide cards (to address individual level issues),
 2. An illustrated A3 Desk Pad (to facilitate a care team systems-based analysis),
 3. A revised *enhanced*SEA Report Format.

Methods used for testing/implementation so far

- The guiding tools were distributed to project participants recruited by NES educational leads from a range of primary care professions (e.g. Dental, Pharmacy, Practice Management, GP Nursing, GPs and Optometrists)
- A dedicated webpage was established (www.nes.scot.nhs.uk/shine/) as a 'one-stop-shop' to support project participants. The webpage houses all necessary instructions, documentation, additional educational resources and a voluntary e-learning module on the new method of *enhanced*SEA.
- Interested health care professionals were firstly directed to the dedicated webpage where they registered as project participants and then followed a link to complete a short online survey questionnaire using QuestBack.
- Participants were then sent the *enhanced*SEA guiding tools by a project administrator which were posted by surface mail (PDF copies could also be viewed on the webpage)
- Participants were given 10 weeks to undertake an analysis of a significant event (using the new *enhanced*SEA method) that they were directly involved with in the workplace during this period, or in the previous 6-month period where they were still able to influence related learning and safety improvement.
- Once completed, *enhanced*SEA report submissions were emailed using a secure email address to NES (esea@nes.scot.nhs.uk).
- Participants then automatically received a return email from this address directing them to complete a post-project survey evaluation via a link to QuestBack.
- Selected participants were purposively sampled and invited to take part in semi-structured telephone interviews.
- The project evaluation was guided by the design of a logic model to help the project team collect evidence on a range of experiences, attitudinal, knowledge and usability issues related to the project goals.
- All completed SEA reports are about to be content analysed by expert assessors to evaluate the level of systems-based analysis of events included within reports following the intervention.

Achievements

- Development and testing of an innovative approach to conducting SEA using a human factors systems approach, which involved the creative design of guiding tools for health care professionals and teams together with a revised SEA report format.
- Multi-disciplinary engagement in *enhanced*SEA by different professional groups at practitioner and leadership levels.
- Development and launch of a dedicated website to the SHINE *enhanced*SEA approach, together with a short e-learning module.
- Engagement of significant numbers of health care professionals (qualified and in-training) in piloting testing these innovations and providing constructive feedback for improvement.
- Collation of good quality evaluation data to help gain insights into experiences of patient safety incidents and working with the *enhanced*SEA guiding tools.
- Generation of interest from senior healthcare leaders and decision-makers across the UK
- Strong evidence that NHS Scotland educational leaders will adapt and implement this new approach as the preferred method of SEA.
- Project outputs have been and will be presented at region and national health care conferences

- It is anticipated that at least three articles will be submitted to international peer reviewed healthcare journals.

Challenges

- The bid to the Health Foundation stipulated that an online Community of Practice (oCoP) would be developed to house information pertaining to the project. Only once the oCoP had been developed did the team realise that the majority of potential participants did not have immediate access to a necessary ATHENS password to access the site. To overcome this problem, a dedicated web page was developed.
- The initial creative development of the *enhanced*SEA guiding tool took longer than anticipated due to the level of work undertaken to inform its development and gain consensus on the tool in its current format. This delayed the commencement of the testing phase. To overcome this problem, this phase of the project was extended, but it left limited time to evaluate the contents of submitted *enhanced*SEA reports although this is currently being undertaken and will be completed after the SHINE final report deadline.
- Some significant design, technical and usability issues (e.g. difficult to read, poor formatting) were apparent with the guiding tools, but these are being corrected.

Part 2. Quality impact: outcomes

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Course of intervention

- Development of the main intervention (conceptual framework and guiding tool) was a major project goal which accounted for approximately 70% of time and resource allocated (January to September 2013), with testing of the intervention taking place in the latter stages of the project (October 2013 to March 2014).

Primary and secondary data

- Quality within this project was indicated by:
 - Reaching informed consensus amongst the multi-professional project steering on the contents of the conceptual framework for *enhanced*SEA and the related guiding tools
 - Taking a robust and systematic approach to data collection using pre- and post-study questionnaire surveys that were based on established measures adapted from previous publications.
 - Qualitative data gathered using telephone interviews, with the topic guide adjusted iteratively as data were collected and analysed.
 - Expert review of the content of *enhanced*SEA reports – as a proxy indicator of whether a systems-based approach was taken and if meaningful patient safety improvement had taken place which was likely to be sustainable (compared with previous published work) – is currently being undertaken.

Data quality

- 235 health care professionals visited the website and completed baseline survey measures (a proxy indication of preparedness to participate in the project), which surpassed expectations. Of this total, 130 participants (55.3%) submitted *enhanced*SEA reports and 114 completed the post-study survey questionnaire (87.7%). We aimed for an arbitrary figure of 180 pilot participants at the outset, but the number achieved was still very adequate for feedback and statistical inferences (Tables 1, 2 & 3; Figure 1).

- Consultation with educational leads from pharmacy, practice nursing and practice management indicated that the project's timing did not coincide with when these groups were likely to submit SEA for CPD or vocational training purposes, which clearly had an impact on the number of submissions during the pilot testing phase.

Figure 1. Project Participation by Professional Group: Rates of EnhancedSEA Reports Submitted and Pre and Post Completion of Evaluation Survey

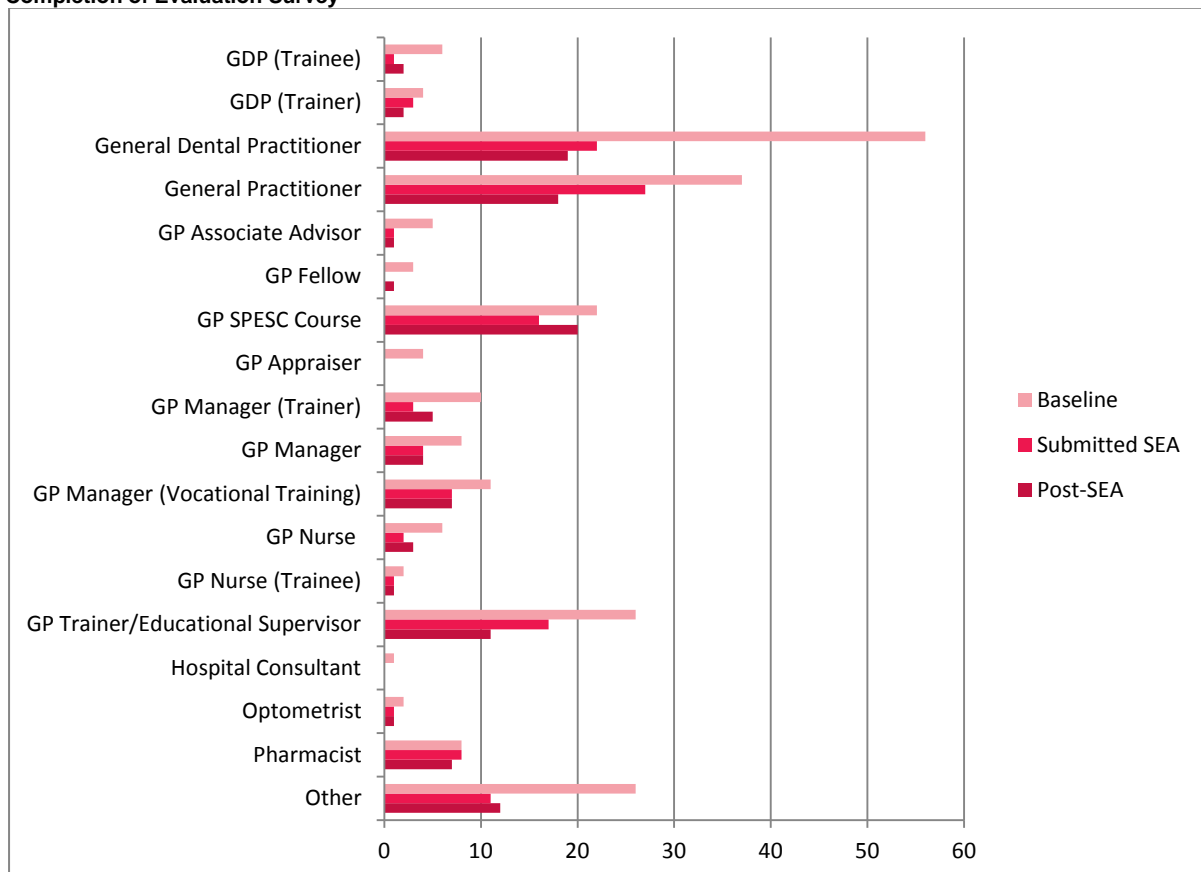


Table 1. Selected participants' attitudes towards significant events pre- and post-SEA (levels of agreement - %)

Statement	Pre-	Post-
I have a good understanding of what a "significant event" is in the context of my healthcare role	82	95*
I fully understand how to undertake and lead a significant event analysis	66	95*
Generally, being involved in a significant event in the workplace has a strong emotional impact on me	44	43
Generally, being involved in a significant event in the workplace heightens my personal stress levels	40	36
The procedures in this workplace are not clear on how to highlight significant events	28	22
When a significant event is analysed, it feels like the person is being written up, not the problem	19	13
Poor design of systems, rather than the actions of humans, is the biggest factor contributing to significant events in the workplace	39	50*
I have a good understanding of the discipline of "human factors"	35	77*
I think undertaking SEA is a demanding and difficult task	24	34*
Highlighting significant events is a good way of identifying staff who need additional training	48	52

*p<0.05

Table 2. Selected participants' views of the enhanced-SEA tools (levels of agreement)

Statement	Agreement (%)
Using the enhancedSEA approach led to action that actually improved (or will improve) patient care	80
Personal Individual Tool	
I fully understood the purpose of this booklet	85
The booklet was practical to use in the workplace	72
I found the four cards inserted in the booklet to be helpful	55
I found the tool to be very relevant to dealing with the personal emotions related to a significant event	75
A3 Pad	
I fully understood the purpose of this Desk Pad tool	72
The Desk Pad tool was practical to use in the workplace	55
Using the booklet helped focus the SEA on system issues rather than just on the role of individuals	68
I found the tool to be very relevant to dealing with the personal emotions related to a significant event	60
enhanced-SEA report format	
The content of this report format was clearly written and easy to understand	77
I would recommend this report format to other colleagues	70
I will use this report format the next time I write up a significant event analysis	70

Table 3. Selected findings from telephone interviews

Theme	Quote
Improvements in safety	<i>"...I definitely think that...it'll make things safer..."</i>
Changes in blame culture within practice	<i>"use of the tool enlightens staff, never just a case where one person is blamed"</i>
Facilitators of eSEA/SEA in general	
Considering SEA educational	<i>"I'd rather read about someone else's near miss and adjust my practice policy than having to go through it all myself".</i>
Existing level of support within the practice	<i>"we are a supportive practice"</i>
Barriers to engaging with eSEA/SEA in general	
Co-ordinating the care team	<i>"...time trying to get everybody together which is becoming increasingly difficult at the moment..."</i>
Ensuring actions are followed through	<i>"...everybody sitting down and actually doing the the formal SEA but then without actually the finishing bit where you've come up with an action plan..."</i>
Benefits of eSEA	
More succinct and reflective/ encouraged discussion and a team approach, particularly in less supportive teams,	<i>"..definitely the most thorough SEA that we've done for a while and everybody commented that it went very well and had some very good outcomes for us all that I think will have a decent impact..."</i>
Helped users have a better understanding of the event	<i>"it helped give it a wee bit more structure made you think a wee bit more about it"</i>
Disadvantages of eSEA	
Overcomplicates things	<i>"too much analysis"</i>
Desk Pad was cumbersome,	<i>"...a bit bulky, took up a lot of space"</i>
Problems with the report format.	<i>"..the report format was difficult to write up the formatting wasn't great..."</i>

Adjustments to outcome measures

- Following discussions within the project group, greater emphasis was placed on the collection of qualitative data. This decision was based on the realisation that the nature of the data sought would be better addressed qualitatively.
- Outcome measures, including preparedness to include patients in the SEA process were added as it was not feasible to consult patients within the timeframe.

Assessment of the effect of the project on quality of service and experience

- The existing quality of SEA is sub-optimal so it is entirely feasible that the introduction of a theory based enhanced tool designed by a multi-professional group can only add value to the analysis of patient safety incidents provided the tool is both useable and valued. Where this is the case, it is therefore likely to have a greater, more positive impact on the quality and safety of patient care and the health and wellbeing of care professionals. However, more in-depth research and evaluation will be necessary to confirm or refute these assumptions.
- Use of the new approach introduces key concepts which were positively received by most:
 1. Importance of thinking about/understanding how our emotional response to a situation can affect how prepared we are to learn from such situations.
 2. Human factors and error theory – what it is and how useful it can be in helping us to analyse what is going on in our complex dealings with patients, colleagues, the tasks we perform, systems and organisational cultures.
- Positive findings on raising awareness, knowledge and understanding of other key project concepts (e.g. dealing with emotional implications, analysing a significant event, taking a 'systems' approach) amongst most participants were realised.
- Feedback on the usability of the guiding tools was good overall but with significant room for improvement (e.g. a major technical issue with the report format, and potential redesign or revision of the Desk Pad concept)
- Expert review of submitted SEA reports is ongoing and could not be completed during the pilot phase because of the substantial workload involved. The outputs of this work will act as a proxy for a systems-based approach and improved patient care – and will be reported to the Health Foundation, via the website and publication in due course.

Part 3. Cost impact

- Within the original bid submitted to the Health Foundation, there was no profile to take into account any potential financial impact of a project of this nature, despite the fact that it could potentially result in significant savings to the NHS associated with litigation.
- It is difficult to estimate the cost impact of the intervention as a whole, due to the nature of the project. For instance, use of the *enhanced*SEA guiding tools may result in the process of completing SEA taking slightly longer as users will be encouraged to complete a more in-depth analysis taking into account the wider systems-based factors that may have contributed to the event. Should the *enhanced*SEA guiding tools be implemented, it is likely that they would have a cost-saving effect due to the prevention of recurring patient safety incidents within primary care (by implication a cost-benefit). Consequently, there may be potential cost implications in relation to the length of time that would be required to complete SEA in the future and any associated processes. Thus, any potential costs as a result of:
 - ❖ Needing to train peer-reviewers in the systems-based framework underpinning the *enhanced*-SEA process,

- ❖ The time required to complete the more thorough SEA process, may be cancelled out if potential recurring patient safety incidents and causes of litigation are reduced.
- Many primary care contractor groups are already required to regularly participate in SEA for CPD purposes, thus although the use of the *enhanced*SEA guiding tools may result in a greater amount of time being allocated to SEA, this should not result in excessive costs due to existing knowledge and skills.

Part 4: Learning from your project

Achievements

- The high level objectives outlined for this project in the initial bid have all been achieved (i.e. to develop a theory-based *enhanced*SEA method and test it with a range of practitioners from different primary care professions).
- The formation of a highly experienced multi-professional primary care team (supported and advised by human factors/safety scientists and with enthusiastic partnership working with key educational leads across professions) to design, lead and evaluate this project was a key determinant of success thus far.
- Similarly, most NES educational leads already sat on other organisational steering/project groups together, or had worked collaboratively on other educational or research developments, and thus professional working relationships were established prior to the initiation of this project possibly making it 'easier' to arrive at decision-making and overcome problems and challenges.
- Additionally, the project team was able to draw on expertise from an internal NES evaluation team within a short period of time to undertake all aspects of the quantitative and qualitative data collection and analyses.
- External advice and sense-checking was already available to NES via established relationships with consultants with expertise in evaluation and human factors science who had contributed to previous developments.
- Importantly, two project steering group members (the National Pharmacy Director and the National GP Educational Director) ensured that the project progress was formally reported to the NES Board and at Executive Level, which also promoted the work to external stakeholders as a result.
- Participation in the project was incentivised within certain professional groups. For instance, dentists received five hours CPD credit for participating, while the 2013 cohort of GPs (n=32) who were training to be educational supervisors (and who must submit SEA reports for peer review which comes at a personal financial cost) had their £50 fee paid in advance. This may have contributed to the greater numbers of participating GPs and the number of dentists completing the online questionnaires and also the telephone interviews.
- Particular groups of participants, such as GPs, are required to complete SEA as part of their appraisal, thus the introduction of this innovation did not necessitate any major changes to their existing practice of completing SEA. It is likely that this influenced the positive uptake evidenced amongst GPs.
- An e-learning module focusing on the *enhanced*SEA was developed and hosted on the dedicated project website. This functioned as an additional resource for those wishing to further their knowledge of the area. It is likely that this will form part of the lasting legacy of the project.
- The *enhanced*SEA method is already described in the aforementioned freely-available short e-learning module on the project website and is under peer review as a BMJ Learning module.

- The *enhanced*SEA method is the subject of a chapter in two forthcoming books on patient safety in primary care and on good educational practice for GP training.
- The project team anticipates submitting three papers for journal publication, all of which are in varying stages of draft:
 1. On the conceptual framework for *enhanced*SEA;
 2. On the project evaluation outcomes; and
 3. On a review of the content and quality of submitted *enhanced*SEA reports by the different professional groups participating.
- Although the evaluation of the guiding tools is showing mixed results in terms of feedback on aspects of their usability, the project team is pleased that the 'Trojan Horse' goal of raising awareness of basic human factors science and how to deal with the emotional implications of significant events and linking these concepts with SEA appears to have succeeded.
- The revision and re-design of the guiding tools and related educational resources will focus on simplifying how to further integrate these issues into routine thinking and practice around learning from patient safety incidents.

Challenges

- The project group had intended developing an online Community of Practice as a lasting legacy of this project (a system administered by the NES Knowledge Services Team). However, it came to our attention that most potential participants did not have ATHENS passwords required to access the site, which to us was a potential additional barrier that may have blocked engagement with the project.
- Consequently, we needed to consult with web team colleagues and obtain additional administrative support to very quickly design, develop and maintain a dedicated project website to overcome this problem.
- One of the challenges for this project was always going to be engaging with groups who have no previous experience of SEA. In an effort to overcome this, members of the project team met with key stakeholders to discuss the project in order to clarify any potential issues. In addition, administrative support was offered to try and lessen any workload associated with trying to recruit participants.
- The evaluation logic model developed included many short-term outcomes of relevance to the project. However, it was realised that it would be difficult to meaningfully address many of these using quantitative methods, especially given that the project team did not want to implement questionnaire surveys that were excessively long. As a result, it was decided to focus on a small number of issues within the survey and address the remaining issues through qualitative means, which due to time constraints, resulted in the use of telephone interviews.
- A potential barrier to participation was the timing of the innovation, particularly when it came to the testing phase, such that some professional groups (Practice Nursing, Practice Management, Community Pharmacy) were not due to submit SEAs until later in the year (April 2014), although they have all committed to do this.

Learning for future projects

- A key learning issue was the time taken to develop and agree on the *enhanced*SEA conceptual framework and guiding tools, which impacted slightly on the testing period. It is perhaps difficult to manage time in the type of unusual situation where innovation/creativity is being driven by a steering group in terms of reaching consensus on a specific project output within a specific set time and when the starting point was a blank sheet of paper i.e. we underestimated the time taken to innovate.
- Evaluation feedback showed that there were usability concerns associated with the re-designed SEA report format and the newly-developed e-learning module. Although it is a pilot project and this is to be expected, nonetheless it was felt that more attention to

and robust testing of these issues at the beginning would have heightened participant satisfaction – particularly as some rated these very poorly.

- Future projects may benefit from gathering data about the educational/SEA cycles of professional groups based within primary care prior to their initiation. This may result in better uptake of related initiatives.
- Future endeavours may benefit from gathering initial data from prospective participants about preferred means of accessing information; this may avoid the difficulties experienced in relation to the online Community of Practice and would allow for the planning and development of a resource likely to have a legacy after the initiative has come to a close.
- It is worth noting that different professional groupings do not necessarily have a shared understanding or experience of, for example, what constitutes 'patient safety', 'human factors', 'significant event' or 'significant event analysis' at the outset. Indeed although progress was made on gaining a semblance of consensus on these issues (which takes up time and energy), there is still variability in understanding and interpretation, particularly around the science of human factors, which is being addressed via other related educational interventions.
- Despite attempts to include novel groups, such as optometry, within the initiative, uptake was poorer than expected probably because they are not incentivised to participate in SEA, either educationally or financially. This may provide useful learning for trying to engage with novel groups in the future and would benefit from future exploration, for instance, though the use of focus groups with leaders and practitioners.
- The use of ATHENS passwords by health care professionals appears to be very low in frontline clinical practice as indicated in our study and so we could not rely upon the assumption that practitioners would routinely use these to access electronic educational resources such as the oCoP that we proposed.

Part 5. Plans for sustainability and spread

Spread/sustainability

- It is entirely realistic to expect the *enhanced*SEA method (or more specifically an updated version based on project feedback) developed as part of this project to be sustained beyond March 2014.
- The NES project steering group has agreed that all existing organisational SEA educational materials, guidance and resources will be updated to incorporate the *enhanced*SEA method.
- Importantly the group will continue to meet and function as a safety and improvement sub-group of the main organisational primary care steering group.
- The expectation is that once this is achieved (and in parallel with talks between project group members and national leaders e.g. medical appraisal, pharmacy and dental) then this will pave the way for wider implementation of this approach as it becomes the expected method by which these professional groups will perform investigations of patient safety incidents.
- Decisions have already taken place at the individual profession level to have this new approach implemented in existing training/CPD arrangements on a national basis (e.g. Dentists, Practice Managers and Nurses) and on a regional basis (e.g. GPs in specialty training in west and east regions) in Scotland.
- Similarly positive feedback was received about the principle of the *enhanced*SEA method from various professional stakeholders (e.g. NES executive leads, clinical directors at NHS Board level and the leadership of the Scottish Patient Safety Programme in Primary Care)

- The pilot project will continue on for a few months after submission of the final report to the Health Foundation to enable expert review of the SEA reports – outputs will be reported to the Health Foundation and via our SHINE website. The steering group expects a move to the widespread use of *enhanced*SEA (certainly from a NES perspective) from the summer of 2014, once all project feedback has been acted upon.
- This project may have spread potential at a UK national level given the interest of the RCGP in this study (a few RCGP Scotland leaders participated), although this will be followed up post March 2014. Certainly there is early agreement that the new approach is better suited to the GP training environment than the existing method.
- In terms of further UK and international impact, the award holder is currently involved in the revision of a BMJ Learning module addressing SEA. It will be possible to include learning to date, such as the conceptual framework, within this module. The guiding tool may also be included with this module. The previous version of the module did not include any information about the emotional impact of a significant event and how to deal with this, or in applying human factors principles, thus the learning from this project may be of great benefit internationally (e.g. via the EU funded EURO-PC Linneaus collaboration for primary care patient safety).
- Interest was received from the Scottish Ambulance Service, NES Healthcare Scientists and Allied Health Professional groups not included within the original bid, who were keen to participate in the pilot. These groups are less familiar with the process of SEA and their inclusion would have provided an opportunity to embed new ways of working within these professional groups. Attempts will be made to re-engage these groups in SEA, for instance, by sharing with them the results of this innovation.
- NES Postgraduate Deans are aware of the development and it is intended that the new approach can be tested with doctors-in-training and care teams in secondary care.
- Oral and poster presentations of the project work have already taken place (e.g. RCGP conference) or are planned (e.g. NES Human Factors conference and Patient Safety Congress)
- Related workshops have been delivered and are planned for key groups (e.g. GP Trainer conferences, Practice Manager and GP trainee workshops)
- The final report will be shared with existing UK, European and Australasian networks of primary care patient safety leaders and researchers who are already aware of the pilot project aims.
- The additional resources (mainly staff time and support) needed to spread and sustain will be borne by NES. However, this is an area in which NES has a significant vested educational and patient safety interest and so it is an organisational priority area.

Appendix 2: Resources from the project

Please attach any leaflets, posters, presentations, media coverage, blogs etc you feel would be beneficial to share with others

Posters, Powerpoint presentations, e-learning module, relevant literature, leaflets, PDF designs of guiding tools, *enhanced*SEA report format etc can all be viewed and downloaded from the project website: www.nes.scot.nhs.uk/shine/

The website will continue to function and be updated as the *enhanced*SEA method is implemented more widely