

## Research papers

# Barriers to significant event analysis: an attitudinal survey of principals in general practice

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### ABSTRACT

**Background** Significant event analysis (SEA) is a qualitative method of audit which allows health-care teams to discuss specific events considered to be 'significant' in a formal and structured manner. Its use can potentially facilitate reflective learning and improve patient care and safety. There is pressure on general practitioners (GPs) to participate in SEA for various organisational and professional reasons, including revalidation. It is assumed that they possess the inherent abilities to perform this activity. However, there is limited knowledge about the attitudes of GPs towards SEA and any potential barriers to participation.

**Aim** To determine any perceived barriers to and beliefs about identifying and analysing significant events.

**Method** Cross-sectional questionnaire survey of 617 GPs in Greater Glasgow.

**Results** A 76% response rate was achieved; 41% of respondents agreed it can be difficult to determine when an event is significant. In addition, 26% were uncertain how to analyse a significant event, 59% agreed there is a lack of time to discuss significant

events, while 20% would require training in SEA. Fewer training practice respondents were in agreement with these attitudinal statements than colleagues from non-training practices ( $P < 0.001$ ). Only 4% of GPs found SEA to be threatening, while 76% agreed it should be part of revalidation. Less experienced GPs were more likely to agree it can be difficult to determine when an event is significant ( $P = 0.008$ ) and that they sometimes avoid dealing with events because of the complexity involved ( $P = 0.01$ ).

**Conclusions** The findings showed that GPs are generally positive about the SEA technique and its inclusion as part of revalidation. However, educational issues have been raised for a number of GPs in terms of their current ability to identify a significant event and perform a structured analysis, which may have implications for the reporting of adverse incidents, appraisal and the clinical governance agenda.

**Keywords:** appraisal, audit, general practice, revalidation, significant events

## Introduction

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Significant event analysis (SEA) is a qualitative method of audit, which is now heavily promoted and encouraged in general practice as a flexible and important quality improvement tool.<sup>1-6</sup> The SEA technique allows for a single event or related events that are considered 'significant' by individual practitioners and healthcare teams to be highlighted, discussed and analysed in a formal and structured manner. Learning issues are then identified and change can be implemented to minimise the risk of the event recurring, where applicable. Most highlighted events will tend to be of a clinical or administrative nature and can typically be classified as adverse or critical incidents, errors or near misses. A noted feature of the SEA technique is that it also encourages 'significant' events that demonstrate 'good practice' to be identified and reflected upon by the healthcare team.

The regular application of SEA by a healthcare team can potentially help to facilitate reflective learning, highlight needs assessment, address risk management issues, enhance patient safety and improve patient care.<sup>3,7-9</sup> There is also some evidence that SEA can improve team dynamics in a practice and increase respect and trust between team members.<sup>10</sup> However, there is limited research about the range and underlying causes of many significant events that occur in general practice, or of the adequacy of the analyses performed and the subsequent impact on practitioner behaviour and patient care. More specifically, knowledge about the personal attitudes of healthcare professionals and perceived barriers towards formally addressing and analysing significant events as part of everyday clinical practice is also limited.<sup>11</sup>

Gaining some insight into the attitudinal beliefs of general practitioners (GPs) about the application of SEA is vitally important for a number of practical and professional reasons. There is increasing pressure on GPs to show that they understand and can demonstrate use of the SEA technique. For example, general practices in Scotland seeking Royal College of General Practitioners (RCGP) Practice Accreditation must provide documentary evidence of involvement in this area. In the west of Scotland regional deanery, evidence of participation in SEA is now a compulsory requirement for all GP training practices and this is periodically checked and verified. The recent formation of the National Patient Safety Agency (NPSA) and its role in co-ordinating a national system of mandatory adverse incident reporting is another important reason why significant events are of potential relevance to all GPs and their teams.<sup>12</sup> But perhaps the most compelling reason is that participa-

tion in SEA is now a compulsory condition of the nascent system of appraisal and revalidation for all doctors in the UK.<sup>13</sup> It is now abundantly clear that the identification and subsequent analysis of significant events are firmly embedded in the NHS quality agenda and the professional regulation of medical practitioners in the UK.

Taking these various top-down examples into consideration, GPs and their teams may have little option but to cultivate a positive attitude towards the identification and analysis of significant events or, at the very least, be seen to take part in this activity even if unconvinced by the purported benefits.

We aimed to determine the attitudes of principals in general practice in Greater Glasgow to addressing significant events and participating in their analyses. In particular, perceived barriers to and beliefs about the SEA technique and its application were explored. Our null hypothesis was that there would be no difference in attitudes between GPs, regardless of their training practice status, membership of the RCGP or length of service as a principal in general practice.

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## Methods

### Study participants

Ideally this study would have involved a mix of staff from the primary care healthcare team, but it was restricted to principals in general practice because of the availability and easy access to an accurate and up-to-date local database with details of these doctors.

### Data collection

A postal questionnaire was sent to all 617 principals in general practice in Greater Glasgow Primary Care Trust (PCT). Non-respondents were sent two additional reminders and the survey was completed in January 2002. The questionnaire was devised by the authors and pre-tested amongst five departmental colleagues who are part-time GPs. A pilot survey involving twelve principals in general practice based in the Eastern Glasgow Local Health Care Co-operative (LHCC) was undertaken in October 2001. Minor amendments were made to the design of the questionnaire based on the feedback received from pilot participants.

Data were collected on a variety of GPs' professional and practice characteristics. Respondents were also asked whether they agreed or disagreed with a series of 11 attitudinal statements specifically concerned with perceived barriers to and beliefs about

identifying significant events and undertaking relevant analyses. The statements used were adapted from various comments made by different groups of GPs at previous educational meetings on significant event analysis and risk management.

## Statistical tests and analysis

Calculations of 95% confidence intervals (CIs) were carried out to quantify the differences in the proportions of respondents agreeing to each statement by both training practice status and RCGP membership. Relationships between attitude and length of time as a principal in general practice were examined using a chi squared test of association ( $\chi^2$ ).

## Results

### Response rate and characteristics

A total of 617 principals in general practice were surveyed and 466 responded (76%), with 162 responses (35%) from training practice principals and 304 (65%) from non-training practice principals. GPs from training practices were more likely to respond (162/186, 87%) than colleagues from the non-training practice environment (304/431, 71%). The characteristics of respondents and their practices are outlined in Table 1.

### Perceived barriers to significant event analysis

The proportions of GPs who agreed with the various statements about perceived barriers to addressing and analysing significant events are outlined in Table 2. Sizeable minorities of respondents were in agreement with most of the barrier statements, but in particular they agreed with the two statements about the difficulty in determining when an event is significant and being uncertain how to analyse a significant event. In addition, a minority of respondents also agreed that significant events can cause problems between staff and that they sometimes avoided dealing with them because of the complexities involved. Lack of time was agreed by a majority of GP respondents to be a specific barrier to the discussion of significant events.

Further analysis of the results showed that there were clear differences in some of the reported attitudes of GPs from the training and non-training environments. Similar, but less statistically significant differences were also evident between RCGP mem-

bers and non-members. In particular, training practice GPs were less likely to agree with certain barrier statements than colleagues from the non-training environment. For example, there were statistical differences in the levels of agreement with

**Table 1** Principals in general practice: summary of respondents' and practice characteristics

Factor	Level	<i>n</i>	%
GP characteristics			
Gender	Male	252	54
	Female	214	46
Age group (years)	25–34	63	14
	35–44	193	42
	45–54	139	30
	≥55	70	15
Commitment	Full-time	350	76
	½ time	44	10
	¾ time	69	15
Time as a GP principal (years)	0–5	80	17
	6–10	88	19
	11–15	113	24
	16–20	71	15
	> 20	110	24
Professional status	GP trainer	61	13
	GP deputy trainer	32	7
	Undergraduate tutor	118	25
	RCGP member	202	43
Practice characteristics			
Number of patients	< 2000	27	6
	2000–4999	161	35
	5000–8999	184	40
	≥ 9000	92	20
Number of partners	Single-handed	31	7
	2–3	173	37
	4–6	215	46
	≥ 7	46	10
Training practice	Yes	162	35
	No	304	65

**Table 2** Barriers to SEA: proportion of GPs in agreement with attitudinal statements, by training practice status and RCGP membership

Barrier statements	Number of principals in general practice in agreement								
	Total ( <i>n</i> = 466)	Training practice	Non-training practice	Difference in proportions (95% CIs)	<i>P</i> value	RCGP members	Non-RCGP members	Difference in proportions (95% CIs)	<i>P</i> value
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)			<i>n</i> (%)	<i>n</i> (%)		
Determining when an event is 'significant' can be difficult	189 (41)	56/162 (35)	133/299 (44)	9% (-0.2–18.2)	0.04	72/198 (36)	117/260 (45)	9% (-0.02–18.0)	0.06
I am uncertain how to properly analyse a significant event	119 (26)	16/160 (10)	103/296 (35)	25% (17.9–32.1)	< 0.001	43/198 (22)	76/260 (29)	7% (-0.98–15.0)	0.07
There is a lack of time to discuss significant events	272 (59)	77/161 (48)	195/299 (65)	17% (7.6–26.4)	< 0.001	122/199 (61)	150/259 (58)	7% (-2.2–16.2)	0.46
Significant events cause problems between partners or staff	141 (32)	40/156 (26)	101/287 (35)	9% (0.2–17.8)	0.04	65/192 (34)	76/251 (30)	4% (-4.8–12.8)	0.42
Significant events expose practical issues that are too difficult to resolve	1 (11)	12/160 (8)	39/292 (13)	5% (-0.7–10.7)	0.04	21/198 (11)	30/254 (12)	1% (-4.9–6.9)	0.68
I sometimes avoid dealing with significant events because they are too complex	97 (21)	34/160 (21)	63/296 (21)	0% (-7.8–7.8)	0.99	42/195 (22)	55/258 (21)	1% (-6.6–8.6)	0.95
I can confidently identify a significant event when it has occurred	381 (83)	149/162 (92)	232/299 (78)	14% (7.7–20.3)	< 0.001	149/201 (74)	232/260 (89)	15% (7.9–22.1)	< 0.001

the statements about confidence in identifying a significant event, about being uncertain how to analyse a significant event and about the lack of time to discuss events. There were similar but less significant differences towards these particular statements depending on whether respondents are RCGP members or not, with non-members tending to agree more with the barrier statements.

## Beliefs about significant event analysis

The vast majority of respondents were in agreement that they can always learn something from a significant event after it has occurred and also that SEA should be undertaken by all GPs as part of the revalidation process (see Table 3). Similar numbers agreed that SEA is not threatening or that it should only be undertaken by clinical staff. A significant minority agreed that they would require further training to analyse a significant event, although significantly fewer training practice respondents were in agreement with this statement. RCGP membership or non-membership did not appear to be an important factor in determining the proportion of responses to the various belief statements, although there were minor differences between both groups.

## Attitudes and experience of general practice

Using length of time as a principal in general practice as a proxy for 'experience', there are clear associations between two of the selected attitudinal statements and depth of experience (see Table 4). Less experienced respondents (those who had been a GP principal for five years or less) were statistically more likely to agree that they have difficulty in determining when an event is 'significant' and also agreed that they avoid dealing with events because of the complexity involved. Overall, the same age group is proportionately more likely to agree with the majority of the barrier and belief statements outlined than their more experienced colleagues, although there is a lack of strong statistical evidence to add further support.

## Discussion

A very good survey response rate was achieved from the large group of GPs who were identified for the study. However, cross-sectional surveys of this type

have a number of methodological limitations. In particular we relied on GP respondents to self-report, which potentially limits the reliability of the data collected as there is no independent means of verifying their responses. A slight bias may have been introduced because GPs in training practices responded in greater numbers than colleagues from non-training practices. This may reflect their local knowledge and experience of SEA and audit in general.

The survey focused on the views of the principal in general practice, who is, of course, only one member of the primary care team, in order to gather attitudinal information about SEA and its potential role in the revalidation process. In doing this it is acknowledged that SEA is essentially a team-based activity, which has the potential to enhance both team working and practice learning and as such it should be seen in this context.

The mounting pressure on GPs from a variety of sources to undertake regular SEA and provide documentary evidence of participation appears to be dependent on the assumption that there are no apparent barriers to being involved in this activity. There is a further assumption that individual GPs possess the inherent ability and knowledge to instinctively identify a significant event, bring it to the attention of the practice team in a suitable forum and perform a structured analysis. In addition, the independent nature of general practice culture may point to a lack of consistency in the approaches taken to quality and patient safety issues. In reality, this might make it difficult for some practice teams to actually meet and sit down together, never mind discuss the implications of potentially sensitive significant events.

However, it is possible our findings may have identified some specific barriers to GPs' potential participation in SEA. The ability to determine when an event is 'significant' is an integral part of the SEA process and the potential link to local adverse incident reporting systems and the national system co-ordinated by the NPSA. It is clear that a sizeable minority of GPs agree that they have difficulty in this particular area, which may impact on their ability to potentially report relevant adverse incidents and also participate in SEA for revalidation purposes, although this may be highlighted as part of the appraisal process. The issue or definition of 'significance' is an area that perhaps merits further research if practical guidance is to be developed to assist GPs in determining which events are relevant and require in-depth analyses or even reporting.

Recent research has highlighted a potential educational issue for a large number of GPs in terms of the quality of significant event analyses they have

**Table 3** Beliefs about SEA: proportion of GPs in agreement with attitudinal statements, by training practice status and RCGP membership

Belief statements	Number of general practitioners in agreement								
	Total ( <i>n</i> = 466)	Training practice	Non-training practice	Difference in proportions (95% CIs)	<i>P</i> value	RCGP members	Non-RCGP members	Difference in proportions (95% CIs)	<i>P</i> value
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)			<i>n</i> (%)	<i>n</i> (%)		
I am always able to learn something from a significant event after it has occurred	394 (86)	144/162 (89)	250/297 (84)	5% (-1.4–11.4)	0.17	171/199 (86)	223/259 (86)	0% (-8.4–8.4)	0.96
I would need training before I could undertake significant event analysis	93 (20)	10/162 (6)	83/295 (28)	22% (15.6–28.4)	< 0.001	36/198 (18)	57/259 (22)	4% (-3.0–11.0)	0.31
Significant event analysis is too threatening for me	19 (4)	2/161 (1)	17/301 (6)	5% (1.9–8.1)	0.02	5/201 (2)	14/261 (5)	3% (-0.25–6.25)	0.12
Significant event analysis should be undertaken by clinical staff only	25 (5)	2/161 (1)	23/298 (8)	7% (3.6–10.4)	0.003	9/201 (4)	16/258 (6)	2% (-1.95–5.9)	0.41
Significant event analysis should be undertaken by GPs as part of the revalidation process	341 (76)	127/157 (81)	214/291 (74)	7% (-0.9–14.9)	0.08	153/191 (80)	188/257 (73)	7% (-0.8–14.8)	0.08

**Table 4** Principals in general practice: proportion in agreement with selected 'barriers' and 'beliefs' attitudinal statements and length of time as a principal

Attitudinal statements	Principals in agreement <i>n</i> (%)	≤ 5 years service <i>n</i> (%)	6–15 years service <i>n</i> (%)	≥ 15 years service <i>n</i> (%)	$\chi^2$ ( <i>df</i> = 2) <i>n</i>	<i>P</i> <i>n</i>
Determining when an event is 'significant' can be difficult ( <i>n</i> = 454)	187 (41)	44 (55)	69 (35)	74 (42)	9.64	0.008
I am uncertain how to properly analyse a significant event ( <i>n</i> = 453)	116 (2)	25 (32)	49 (25)	42 (23)	2.17	0.34
I sometimes avoid dealing with significant events because they are too complex ( <i>n</i> = 452)	96 (21)	22 (28)	49 (25)	25 (14)	9.08	0.01
I would need training before I could undertake significant event analysis ( <i>n</i> = 453)	92 (20)	22 (28)	34 (17)	36 (20)	3.98	0.13
Significant event analysis is too threatening for me ( <i>n</i> = 458)	19 (4)	3 (4)	8 (4)	8 (4)	0.10	0.95
Significant event analysis should be undertaken by GPs as part of the revalidation process ( <i>n</i> = 443)	337 (76)	62 (82)	149 (78)	126 (72)	3.6	0.16

performed. Approximately one-third of completed SEA reports voluntarily submitted in confidence by motivated GPs (as part of their postgraduate education) to be independently assessed by peer review were considered unsatisfactory by their GP colleagues.<sup>14,15</sup> GPs who could have implemented change as part of their analyses, but failed to do so, or who were inexperienced in SEA in comparison to GP trainers, were much more likely to have their SEA report assessed as unsatisfactory.

Our results appear to support these findings by highlighting that one-quarter of GPs agreed that they are uncertain how to properly analyse a significant event, with one-fifth of all respondents admitting that they would require training in SEA. The SEA technique is relatively simple to put into practice and a structured method of doing this from an educational perspective has previously been described.<sup>15</sup> However, it is clear that there is a potential education and training issue for many GPs if SEA is to be adequately understood and applied in a robust manner. An additional problem may be passivity in the process of SEA (similar to what can happen in criterion-based audit), whereby some individuals do not highlight any significant events but 'take part' in the discussion of others. These are perhaps areas that primary care organisations may wish to consider and tackle as part of their ongoing clinical governance agenda. Unfortunately, it appears that simple documentary evidence of participation in SEA rather than the quality or

effectiveness of the analyses undertaken by the GP will be monitored during the appraisal process. It could be argued that this is potentially a missed opportunity to provide formative educational feedback to GPs on the quality of SEA performed.

The vast majority of respondents agreed that SEA should be undertaken as part of the revalidation of doctors in the UK, although around one-quarter disagreed with this statement. This generally positive attitude augurs well for the revalidation process and it is hoped that those who disagreed may see the benefits and need for SEA when participating in annual formative appraisal. Failure to do so may potentially impact on their fitness to practise as a doctor in the future.

The findings highlight significant differences in the level of responses to certain statements between GPs from training and non-training practices. Training practice respondents were significantly less likely to agree with many of the barrier statements compared with colleagues from the non-training environment. This is exemplified by the difference in attitude between these respondents to the statement about there being a lack of time to discuss significant events. An explanation for this and the other differences may be related to the fact that GP training practices in the west of Scotland (which covers six PCT areas) have participated in a regional audit programme since 1996, part of which involves undertaking SEA. Evidence of participation is checked and verified on a periodic basis. It is possible that taking part in a

compulsory, rolling programme of verifiable audit activity may have an impact on GPs' attitudes, as well as their knowledge and ability to perform SEA, compared with those whose participation in audit may be on an ad hoc and unchecked basis.

The RCGP provides leadership to its members on a range of professional and quality matters amongst which the need to participate in regular SEA is made clear. We reported some proportional differences in the responses to certain statements between RCGP members and non-members. However, this may also be partly explained by the responses of those GPs from training practices, many of whom are RCGP members, and so it is difficult to state with confidence that RCGP membership or non-membership were major factors in the formation and development of GP attitudes towards SEA. With hindsight, including RCGP membership as an independent comparative variable may have been misplaced.

The finding that those GPs who have less experience as principals are more likely to agree with certain statements about potential barriers to SEA than those more experienced colleagues is perhaps not surprising. Given the complexity and uncertainty associated with modern general practice, it is possible that exposure to significant events and dealing with them over time may become less daunting as experience of general practice is gained and attitudes change accordingly. However, a potential issue is still raised for those less experienced GPs in this specific area and it may be that a combination of training and additional support from more experienced colleagues could assist these particular GPs where this is deemed necessary.

The study set out to gauge the attitudes of a large group of GPs towards identifying and analysing significant events in light of the current requirements from different professional and organisational bodies for GPs and their teams to participate in SEA and provide verifiable evidence. In summary, GPs are generally positive about SEA being part of the revalidation process and do not view the technique as threatening. However, educational issues may have been raised for a number of GPs, particularly with regard to identifying and analysing 'significant' events and blocking off the necessary time to do this in the practice. There were significant differences in the reported attitudes from different groups of respondents and it is clear that the training practice environment, certainly in the west of Scotland, may have been a strong influence on the development of more positive attitudes towards SEA amongst the particular GPs surveyed. The local training practice environment may be better placed to guide and support GPs with the SEA technique because of the existing quality agenda and educational infrastructure. However, it is possible that lessons can be

learned by others from the quality model in use and the approach to audit taken.

Further study is required into the whole area of significant events and their analysis in general practice. In terms of exploring in detail the variation in attitudes to dealing with significant events amongst GPs and the potential areas this could impact on, it may be that in-depth qualitative research is required to gain a deeper understanding of these issues before potential solutions can be realised.

## Recommendations

Our study may have identified an important clinical governance and educational issue. Primary care organisations appear to be under the assumption that clinicians instinctively support the use of the SEA technique, are knowledgeable about it and are able to put it into practice satisfactorily. However, our findings show this is not necessarily the case. If primary care organisations are serious about improving risk management procedures and enhancing patient safety then local education and training in related areas should be provided (see Box 1).

As a first step, consideration should be given to winning the 'hearts and minds' of those unaware of or unconvinced by the SEA technique as a key team-based activity. Next, education and guidance is required in the identification of significant events and in assisting staff to develop a threshold for when these are 'significant' enough to necessitate a structured analysis or not. The role of SEA in identifying and promoting examples of good practice should also be highlighted. Importantly, training in performing an adequate structured analysis (perhaps using real or simulated significant events) should also be offered. Clinicians and other staff need to be

### Box 1 Suggested recommendations

Primary care organisations may wish to consider the following issues regarding the use of significant event analysis as a risk management tool.

- GPs may have difficulty in determining when an event is 'significant'.
- Training in performing a structured analysis of a significant event is required.
- Less experienced GPs may have more difficulty in addressing these areas.
- It is important to reinforce the need for SEA to be performed as a method of reflective learning, enhancing patient safety and improving healthcare.

confident that they can apply SEA properly so as to make best use of the technique both as a reflective learning and as a potential change management tool.

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