

# A retrospective review of significant events reported in one district in 2004–2005

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## ABSTRACT

### Background

Patient safety is a key issue in primary care. Significant event analysis (SEA) is a long established method of improving safety. In 2004, SEA was introduced as part of the Quality and Outcomes Framework (QOF) of the new general medical services (GMS) contract.

### Aim

To review SEAs submitted for the QOF by general practices for a primary care trust (PCT) in 2004–2005.

### Design of study

A retrospective review of SEAs.

### Setting

St Helens PCT, Merseyside, North West England, UK (185 000 patients), now part of Halton and St Helens PCT.

### Method

Three hundred and thirty-seven QOF-reported SEAs were reviewed from 32 (91%) of a total of 35 St Helens PCT practices (mean 10.5, range 4–17).

### Results

Practices identified learning points in 89% of SEAs. Twenty-two of 32 (69%) practices successfully performed SEA and required no further support. Four practices identified learning points but needed further facilitation in implementing change or actions arising from SEA. Six practices had significant difficulties with SEA processes and were referred for extra SEA training locally. Ninety (26.7%) of all significant events were classified as patient-safety incidents. Of these, 22 (6.5%) were 'serious or life threatening' and 67 (19.9%) were 'potentially serious'. Ninety-six (28.5%) of the significant events related to medicines management issues; and 63 (18.7%) had key learning points for partnership organisations. Main outcome measures were review of SEA process as a team learning event; QOF significant event criteria; National Patient Safety Agency classification of significant events, and category of patient-safety incidents.

### Conclusion

SEA in general practice is a valuable clinical governance and educational tool with potential patient safety benefits. Most practices performed SEA successfully but there were performance concerns and patient-safety issues were highlighted. This review emphasises the need for primary care organisations to be able to analyse and share SEAs effectively.

### Keywords

audit; general practice; incident reporting; innovation diffusion; QOF (Quality and Outcomes Framework); patient safety; primary care.

## INTRODUCTION

Significant event analysis (SEA) attempts to bring orderly review and effective action to the complex systems of health care. It has been defined as occurring when:

*'... individual cases in which there has been a significant occurrence (not necessarily involving an undesirable outcome for the patient), are analysed in a systematic and detailed way to ascertain what can be learnt about the overall quality of care and to indicate changes that might lead to future improvements'.<sup>1</sup>*

SEA was first described when the number of medical audits increased dramatically with the 1990 NHS reforms,<sup>2</sup> but goes back at least 30 years to the first analyses of deaths in general practice.<sup>3</sup>

Most GPs have their first experience of SEA in problem case-analysis tutorials as registrars. However, it has been estimated that only a small proportion, perhaps 6%, of all adverse events in the NHS are reported,<sup>4</sup> and little has been published about SEA in general practice.<sup>5</sup>

Formal SEA was a minority activity until the 2004 Quality and Outcomes Framework (QOF) rewarded practices for carrying out either six or 12 significant events audits in the previous 3 years.<sup>6</sup> The new general medical services (GMS) contract appears to have delivered the first near-universal reporting of SEAs by NHS practices to PCTs.

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### Box 1. Classification of types of significant events developed from expanded QOF scheme.

- ▶ Death occurring in practice premises
- ▶ New cancer diagnoses
- ▶ Death where terminal care took place at home
- ▶ Patient complaint
- ▶ Suicide
- ▶ Section under Mental Health Act
- ▶ Other administrative
- ▶ Prescribing-related events
- ▶ Nursing-related events
- ▶ Other medical
- ▶ Other

QOF = Quality and Outcomes Framework.

However, when any activity changes from being the preserve of innovators and early adopters to majority participation, its nature and effects risk being changed.<sup>7</sup> The dual aims of this retrospective review were to learn more about the process of QOF SEA reporting within one district, and to understand more about the types of significant events that practices were prepared to report within this annual process. This will enable an understanding of how SEA in general practice has withstood the transition from minority to mainstream activity.

St Helens PCT was responsible for 35 general practices caring for 185 000 patients in an industrial town in North West England. Since 2000, several educational events have been held each year to promote and explain SEA to these practices.

QOF data and visit reports are public documents subject to the Freedom of Information Act. St Helens' practices have a long history of sharing data, such as prescribing and referrals, in an open, identifiable format. SEAs and their processes were discussed at the QOF visits. This review was further discussed with, and approved by, the PCT chief executive and chair, and the Governance Team.

### METHOD

All of the GP significant events submitted to the St Helens PCT for the year 2004–2005 were analysed. Events were assessed by practice according to process analysis and degree of seriousness.

### Process analysis

Practice SEA case reports were compared with a standardised SEA format,<sup>1</sup> which advocated the identification of learning points; an action plan with implementation dates and shared learning where

## How this fits in

Reporting significant event analysis (SEA) was an infrequently performed activity in UK general practice until financially rewarded by the 2004 Quality and Outcomes Framework. The effects on the SEA process of this transition to mainstream activity were unknown. Reports in one district suggested that most practices could complete the process of SEA appropriately. However, a substantial minority struggled to identify and implement the actions required to improve patient safety.

appropriate; and a resultant review or audit. This process has been a constant feature of the SEA training locally.

### Degree of seriousness

Events were also classified according to established National Patient Safety Agency (NPSA) and QOF criteria (Boxes 1 and 2) by type and seriousness. Events that were considered to be 'patient-safety incidents' were categorised according to an abbreviated version of the NPSA classification:<sup>8</sup> serious or life-threatening ('red'); potentially serious ('amber'); or unlikely to be life threatening ('green').

The PCT governance team discussed events where the classification was in doubt, or which were considered to be serious or life threatening. Reviewers shared the issues raised with the practices and a consensus on necessary action was reached.

### RESULTS

Thirty-three (94.3%) of the 35 practices submitted SEAs for the QOF process. One practice chose to retain their submitted data, which meant these data were not available to be analysed.

### Process analysis

Practices produced learning points from each SEA in 300 cases (89.0%), and action plans in 248 cases (73.6%). At the time of submission for their QOF (31 March 2005), practices reported implemented action plans in 147 SEA's (43.6%). Table 1 summarises the

**Table 1. Practices' analyses of their significant events, and distribution of serious and/or life-threatening events.**

	Practices, n (%)	Number of GP partners		Serious and/or life-threatening events, n (%)
		≥3	≤2	
Practices missed key learning points	6 (18.8)	0	6	4 (18.2)
Events and their learning points were recognised, but actions were not implemented	4 (12.5)	2	2	2 (9.1)
Practices understood SEA, took action and monitored change	22 (68.8)	13	9	16 (72.7)

$\chi^2$  for analysis of significant events by size of practice = 5.830, 2 degrees of freedom,  $P > 0.05$ . SEA = significant event analysis.

**Box 2. Seriousness and necessary action based on NPSA scheme.**

**Degree of seriousness**

- Red (serious or life threatening)
- Amber (potentially serious)
- Green (unlikely to be life threatening)

**Necessary action**

- Planned and implemented
- Planned
- Not identified
- Not applicable

*NPSA = National Patient Safety Agency.*

practice processes for SEA and the number of serious or life-threatening events.

Sharing SEA findings internally within teams was recorded in 262/337 events (77.7%). Sixty-three out of 337 events (18.7%) originated outside practices and within partnership organisations, of which 42 (66.7%) were shared by practices with that organisation.

**Degree of seriousness**

A total of 337 SEAs from 32 practices (mean 10.5 per practice; range 4–17) were analysed. In varying degrees of seriousness, there were 90 events (26.7%) that were patient-safety incidents according to NPSA classification (range 0–9 per practice). Of these, 22 (6.5%) were ‘red’ significant events (serious or life threatening; range 0–3 per practice) and 67 (19.9%) were ‘amber’ significant events (potentially serious; range 2–13 per practice). The one remaining significant event was assessed as ‘green’ (unlikely to be life threatening).

Categories of the significant events reported are shown in Table 2, with serious or life-threatening SEAs in summarised format. Prescribing events and other medicines management events (part of ‘other administrative’) accounted for 96 (28.5%) of the total number of SEAs.

**DISCUSSION**

**Summary of main findings**

Self-analyses of the SEA process by 22 (69%) practices showed that, irrespective of size, practices were performing SEA in a systematic fashion requiring no further support. Four practices appeared

**Table 2. Summary of significant events.**

Category	n	‘Red’	Detail of serious/life-threatening events
Death occurring in practice premises	0	0	–
New cancer diagnosis	32	1	Delayed diagnosis of rectal carcinoma
Death where terminal care took place at home	15	1	Possibly an avoidable death from malignant melanoma
Patient complaint	17	0	–
Suicide	3	1	Suicide of patient referred urgently to mental health team
Section under Mental Health Act	8	1	Violent psychotic patient absconded from section on ward
Other administrative	95	2	Delayed diagnosis of ectopic due to unlabelled sample New diabetic moves away before diagnosis given
Prescribing-related events	46	4	Gastrointestinal (GI) bleed from warfarin and Cox II drug reaction Incorrect phenytoin dose prescription The wrong dose of warfarin dispensed Two different hospitals gave contra-indicated drugs to one patient leading to GI bleed
Nursing-related events	23	3	Failure to act urgently in new diagnosis of diabetic child Unwitting duplication of oral hypoglycaemic drugs in nursing home Failure to hydrate a patient with dementia in nursing home
Other medical	70	8	Refusal of readmission when aneurysm patient deteriorated Absent emergency drugs in surgery Inappropriate management of chest pain Missed diabetes diagnosis in a child Anti-depressant overdose Unprepared for childhood immunisation anaphylaxis Emergency oxygen unavailable Discharge of dying patient without notification to GP or family
Other	28	1	Assault on GP
Total	337	22	–

to require additional facilitation to implement their identified action plans, but six appeared to have significant difficulties with the whole process of SEA. Table 1 shows that these six practices struggling with the SEA process were small practices ( $\leq 2$  partners in GP practices).

SEA has been considered an effective educational strategy for general practice.<sup>9</sup> Its strength is probably linked to adult learning theory<sup>10</sup> and doctors' predilection for tell anecdotes.<sup>11</sup> The authors were among many who had facilitated SEA;<sup>1,12,13</sup> over 10 years finding that most participants could understand and plan the process in facilitated groups. This study also revealed that most practice teams were able to review SEAs and make plans to prevent their recurrence. However, there remains a need to help practices with the implementation of actions identified in SEA, as the action required to improve practice is often more difficult than initially realised.<sup>14</sup>

SEA is a 'dynamic technology', developing rather than being fixed, and inevitably being changed by local practitioners as they adopt it.<sup>15</sup> The regulations specify that some events (such as suicide, or death on practice premises) be included, but are otherwise open to broad interpretation. The right set of rewards seems to have been devised for practices to analyse SEAs, but they do not automatically result in effective change.

### Strengths and limitations of the study

These routinely reported SEAs are the largest published single series that the authors have discovered from general practice in the UK. Their collection from the routine work of practices across a district should reduce the selection bias inherent in many special projects which commonly involve enthusiasts alone.

The investigation of a large series of SEA reports depends on the understanding of process within practices and their willingness to report appropriate incidents; the format of the reporting scheme; and subsequent analyses. Although practices could have reported incidents in a selective manner, the wide spectrum of events reported here along with the training events observed, suggests this is an appropriate reflection of general practice.

Furthermore, Table 2 shows that 22 serious or life-threatening events were reported, implying local arrangements were trusted to some extent at least. Although it is impossible to know if some events were culled either before or after open discussion in practices, there appears to be openness in the sharing of significant events locally which, it may be assumed, the QOF process has contributed to.

The selection from a single district may limit the

application to other settings, perhaps those with a very different history or culture.

### Comparison with existing literature

Mechanisms for learning from adverse events in primary care are considered to be less well developed than those in hospitals.<sup>16</sup> Little work has been carried out into the analysis of patient safety in primary care.<sup>17</sup> Reflection and action from SEAs should be a major part of the drive for quality improvements in the NHS.<sup>18</sup> In an analysis of the process of 662 events occurring in Scottish general practices in 2000–2004, most 'unsatisfactory' SEAs also showed problems with implementing appropriate action plans.<sup>5</sup> Prescribing problems were also a major event category in that series, emphasising the importance of medicines management for patient safety.

An influential Department of Health report, *An Organisation with a Memory*,<sup>16</sup> encouraged the development of an 'informed organisational culture' where errors and near-misses could be assessed as the basis for developing safer organisations. The QOF for general practice has now encouraged and rewarded this.

### Implications for clinical practice and future research

From public PCT records, 33/35 (94.3%) practices qualified for QOF payments by submitting SEAs, usually by submitting the full quota of 12 SEAs (28/35, 80%). SEAs cost the NHS in England about £4 million in direct payments in 1 year, excluding SEA training and facilitation costs. The events in Table 2 show that a proper system for SEA could deliver savings from greater patient safety and preventable litigation far exceeding this cost.

This review discovered 63/337 (18.7%) SEAs where the major learning points were with another organisation, such as the local hospital. In 42 cases (67%) these learning points were shared appropriately; but in 21 (33%) sharing did not take place (6.2% of all SEAs). This remains a potential weakness of current schemes.

### Conclusions and implications for the NHS

In these general-practice SEAs, clear learning points were identified in most (89%) cases. In many cases (74%), action plans had been produced or implemented by the time of submission for the QOF.

SEAs within the QOF reveal many events with important patient safety learning benefits. If SEA is effectively facilitated it is expected to be both cost-effective and increasingly used. The development of local SEA systems, and shared learning with partnership organisations, could do much to support this. Struggling general practice teams are usually

ready for help with the SEA process, and this is a critical opportunity to improve patient safety. Primary care organisations and national agencies should build on the momentum of the QOF and nurture the potential of this audit process.

**Ethics committee**

This is a retrospective review of documents held in the public domain by St Helens PCT

**Funding body**

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**Competing interests**

The authors have stated that there are none

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**REFERENCES**

1. Pringle M, Bradley CP, Carmichael CM, et al. *Significant event auditing*. Occasional Paper 70. London: Royal College of General Practitioners, 1995.
2. Buckley G. Clinically significant events. In: Marinker M (ed.). *Medical audit and general practice*. London: The MSD Foundation, 1990: 120–143.
3. Ashton J, Oliver G, Grant A, Taylor GK. An audit of deaths in general practice. *Update* 1976; **12**: 1019–1022.
4. Joshi MS, Anderson JF, Marwaha S. A systems approach to improving error reporting. *J Health Inf Manag* 2002; **16**: 40–45.
5. Bowie P, McCoy S, McKay J, Lough M. Learning issues raised by the

- educational peer review of significant event analyses in general practice. *Quality in Primary Care* 2005; **13**(2): 75–84.
6. British Medical Association, NHS Confederation. *Investing in general practice — the new general medical services contract*. London: BMA, 2003.
7. Rogers EM. *Diffusion of innovations*. New York: Free Press, 1995.
8. National Patient Safety Agency. <http://www.npsa.nhs.uk> data set release (accessed 14 June 2005).
9. Cantillon P, Jones R. Does continuing medical education in general practice make a difference? *BMJ* 1999; **318**: 1276–1279.
10. Greenhalgh T. Change and the individual 1: Adult learning theory. *Br J Gen Pract* 2000; **50**: 76–77.
11. Bradley CP. Turning anecdotes into data — the critical incident technique. *Fam Pract* 1992; **9**: 98–103.
12. Berlin A, Spencer JA, Bhopal RS, van Zwanenberg TD. Audit of deaths in general practice: pilot study of the critical incident technique. *Qual Health Care* 1992; **1**: 231–235.
13. Holden JD. The value of visits to non-involved and single-handed practices from a primary care audit group. *Clin Governance Int J* 2003; **8**(1): 57–64.
14. Buetow SA, Roland M. Clinical governance: bridging the gap between managerial and clinical approaches to quality of care. *Qual Health Care* 1999; **8**: 184–190.
15. Greer AL. The state of the art versus the state of science. *Int J Technol Assess Health Care* 1988; **4**: 5–26.
16. Department of Health. *An organisation with a memory*. London: Department of Health, 2000.
17. Stead J, Sweeney G, Westcott R. Significant event audit — a key tool for clinical governance. *Clinical Governance Bulletin* 2000; **1**: 13–14.
18. Scally G, Donaldson LJ. Clinical governance and the drive for quality improvement in the new NHS in England. *BMJ* 1998; **317**: 61–65.