Significant Event Audit Case example: Drug calculation error

Section A: Case example on the six stages of a significant event audit

A Significant Event Audit (SEA) is a quality improvement technique. It is a retrospective audit, which looks at one case in detail from beginning to end to either increase the likelihood of repeating outcomes that went well or to decrease the likelihood of repeating outcomes that went badly. SEAs may result in further development of guidelines, protocols or checklists and may result in the need for additional clinical audits (process/ structure or outcome). SEAs are conducted by bringing your team and the relevant case notes together to discuss the event. It is important that the event is discussed without any blame – allowing team members to provide honest and constructive feedback on how they contributed to the care process. An SEA is completed in 6 stages. The following points will take you through the steps that this practice took to put an SEA into practise.

1. Identify the significant event

Create a brief description of the event, context and outcome to be discussed in the meeting.

A patient received an overdose of an alpha 2 adrenergic agonist due to a calculation error. The drug was reversed and the patient had no adverse effects

2. Collect all the relevant information

Gather all relevant information, such as case files and staff accounts etc., which contribute to the case.

A significant event audit was completed. Information was collected from the team members involved with the patient; the team members working on site; the hospital sheets and records and the veterinary surgeon directly involved.

3. The meeting and analysis

In a team discussion regarding the event, analyse the event and its causes to suggest where changes can be made. Indicate changes that could aid in achieving the desired outcome. It is important to ensure this meeting provides an environment where all staff members are encouraged to speak freely and honestly, for example by using The 5 whys strategy or root cause analysis, plus identifying contributory factors. Any discussion should be kind and constructive.

A meeting was led by the veterinary surgeon involved. The results of the meeting were split into factors that affected the overall results. These were system, human, patient, owner, communication and other. This helps to create a blame-free meeting, looking at all contributions and getting input from all member of the team.

4. Decide what changes need to be made

Confirm which changes should be made, and make a prediction on the effect this will have. It may be that no change is required or there is only a need to disseminate the findings. Where changes are made, they could be in the form of checklists, guidelines or protocols. Following the meeting, a final report detailing the key points raised in stages 1-4 should be written.

Changes to the culture of reporting near-misses needed to occur, as many team members reported similar experiences. Improved communication was required to prevent the error from reoccurring.

5. Implement the changes

Develop an action plan. What needs to be done by whom, when and how? Ensure the whole practice team is aware of the changes and what role they play in implementing them. Monitor the changes once implemented and set a time to review them. The length of time required for monitoring will be dependent on the event.

A dose chart for easy reference and double checking was created. Improved communication techniques were discussed.

6. Review the changes

The team should sit down together to review the changes and discuss what went well and what didn't. You could also share what you have found with clients and the profession. Further audit may be required to monitor the change.

A process audit of the general anaesthesia sheets will be completed in three months' time.

Significant Event Audit Case example: Drug calculation error

Section B: Significant event audit after a drug calculation error

QI Vets
PATIENT OUTCOMES FIRST

Title:	Significant event audit for a drug calculation error
Date of significant event:	20/08/2020
Date of meeting:	22/08/2020
Meeting lead:	Miguel
Team members present	The whole practice team; Vets, RVNs, ACAs & Receptionists

What happened?

It was Miguel's first day back after being on furlough for the past few months. . Miguel had a full morning of consults and was needed at the branch later that afternoon to help with another procedure. His favourite Lurcher, Grace, had been booked in that morning for a dental as requested by her owner Dr. Caine. While it was Miguel's only procedure, several extractions were expected.

Lucy was working that morning and knew she had to help with Miguel's procedures to be able to get him out to branch on time, she also had time constraints as she had to help with a busy afternoon of car park consults in the rain. As soon as Grace was dropped off by her owner she started whining and barking so they were keen to get her home as soon as possible.

Miguel wrote down the pre-medication dosages for medetomidine and methadone and went to finish his last consult. Lucy went about preparing for the dental and administered the pre-med. When Miguel returned, Grace was found in her kennel profoundly sedated and bradycardic. It was then discovered that the volume of medetomidine that was written down was 1 ml when it should have been 0.1 ml.

As soon as the error was discovered, the medetomidine was reversed and IV fluids administered. Grace made a full recovery and her dental was delayed for another day. The reason for the delay was explained to Dr. Caine who was grateful that the error had been found and that Grace seemed unfazed by the events of the day.

At the SEA meeting we found out the following

Miguel and Lucy felt under pressure to get the dental underway as quickly as possible given the time pressures of the day and the length of the procedure. They both felt that it was difficult to focus, Miguel was feeling overwhelmed and Grace's whining was shaking the walls of the practice.

Why did it happen?

System factors:	· No double checking of doses. · No dose quick reference chart.
Human factors:	· It was Miguel's first day back and he was feeling overwhelmed. · Both Miguel and Lucy were time pressured due to other commitments in the afternoon. · Short staffed.
Patient factors:	· Grace was stressed and very vocal.
Owner factors:	· None
Communication factors:	· No closed loop communication
Other:	· None ·

What has been learned?

Upon reviewing the incident with the team, it was found that others had experienced similar events, but had realized the error before giving the drug (near miss). It was felt that having a dose chart by patient weight would help to prevent dose calculation errors and would help the nurse to sense check any dose that was written down. It was also felt that double-checking the dose with the vet, e.g. saying 'you want me to give 'x' ml of medetomidine' and the vet verbally confirming the dose may provide another sense check (closed loop communication).

Adam said that at times he has trouble reading the vets writing, while all the nurses nodded their heads in agreement, and he was concerned as this had led to a near miss in his experience. Harriet shared that in her nursing course they were taught to ensure that a digit is written down on either side of the decimal point. For example:

.1 ml becomes 0.1 ml
1 ml becomes 1.0 ml

They all agreed that this was a much clearer system.
Overall, the team felt that Miguel and Lucy handled the error well. They communicated the error honestly to the owner and had Grace's safety as their primary concern.

As many of the practice team had previously experienced similar near misses, it was felt that sharing them could have prevented this error from occurring. It was decided to include near misses in significant event review so that measures can be put into place before harm comes to patients.

What has been changed?

CPD/training required:	· No official training was required, however discussion of the learnings with the team took place.
New or updated protocols/checklists/guidelines:	· Dose chart created for easy reference and double checking. · All doses should be written legibly, with a digit on either side of the zero. · Use closed loop communication to provide a sense check.
Further audit required?	· Audit GA sheets for legibility and leading/ending zeros.
Other:	· None

Follow-up date

Today's date:	22/08/2020
Review date:	20/12/2020
Signature:	