Improving culture of care through maximising learning from observations and events: Addressing what is at fault

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Abstract
The term ‘culture of care’ in the context of using animals for scientific purpose describes the culture in organisations that provides support to staff to strive for continuous improvement in:

• animal care and welfare;
• support and recognition of staff involved in the animal care and use programme;
• scientific quality;
• openness and transparency.

We developed a systematic process for reporting observations and events that have the potential to help with continuous learning, improving animal welfare and supporting staff. The process took learning from the safety, health and environment arena on accident prevention. The two key aspects were (a) the systematic logging of observations and events; and (b) the learning approach to following up on observations. Underpinning our systematic process is the ‘Learning from Observations and Events Log’. Reported observations and events can relate to positive practices, general observations as well as near misses.

We created an environment to promote continuous improvement for both animals and staff by recognising, rewarding and sharing good practice, as well as where near misses are openly reported and learnt from. Supporting animal welfare, staff welfare, improving scientific quality and transparency are the four key pillars of a positive culture of care.

We recognised early on that using a system and learning approach to follow up on observations and events rather than a people and blame approach was key to developing open reporting and a positive culture. In the systems approach, errors are consequences rather than causes, having their origins in systemic factors.

Keywords
Care, welfare, animal facilities

Date received: 16 April 2021; accepted: 17 July 2021

Background
In the context of animal research the term ‘culture of care’ is used to describe an establishment-wide commitment to improving animal welfare, scientific quality, care of staff and transparency for all stakeholders, including the public.¹,² The European Federation of the Pharmaceutical Industry and Associations (EFPIA) have produced a five-category framework for assessing and benchmarking culture of care. Outlined within the EFPIA framework is the category ‘implementation structures’ which includes the following good practice indicator definition:

Learning and continuous improvement culture: the organization has a learning culture and processes that support open reporting of near misses and incidents as well as reporting positive observations. Mechanisms for sharing good practice and learnings across different parts of the organizations are established. Issues are shared widely to avoid repetition in other areas and to maximize benefits for animal and staff welfare.²

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In Europe the Animal Welfare Body (AWB) plays a fundamental role in fostering and promoting an appropriate culture of care and this is recognised as one of the benefits of an effective AWB.\(^3\) The Animal Welfare and Ethical Review Body (AWERB) at Astra Zeneca, Alderley Park, UK operates as an open forum. All staff (scientists and animal technicians) are encouraged to attend and to contribute to ‘provide a forum for discussion and development of ethical advice to the establishment licence holder on all matters related to animal welfare, care and use at the establishment’.\(^4\)

We have taken a two-part approach to addressing the good practice indicator of ‘learning and continuous improvement culture’ outlined in the EFPIA Framework:\(^2\) the first part is the systematic logging of observations and events, and the second part is the approach to following up on events that focuses on what is at fault rather than who is at fault. We use a philosophy known as ‘human and organisational performance’ (HOP, discussed later, e.g. Table 1). The systematic logging (part one) was initially inspired from the pioneering work of Heinrich in the safety, health, environment (SHE) arena based on the safety pyramid.\(^5\) Heinrich believed that workers’ unsafe acts were the main causes of occupational accidents. The long-standing and widespread tradition of the person approach focuses on their unsafe acts – errors and deviations from procedures, for example ‘lack of attention to detail’.\(^6\) Heinrich’s work also underpinned the hypothesis that reducing the frequency of accidents with minor injuries or no injuries would lead to a decrease in the number of severe injuries. This original concept of Heinrich has since been disputed as the predictive validity concerning major accidents is low, because the factors that cause low-severity incidents or accidents are typically quite different from the factors that cause high-severity incidents or accidents.\(^7\) However, the systematic reporting of near misses and

### Table 1. The five principles of human and organisational performance (HOP).\(^{15,16}\)

| Principle | Key considerations/questions |
|-----------|-----------------------------|
| 1. Human error is normal | • What were the circumstances that created conditions in the work environment that led to what in retrospect is called an ‘error’?  
• Expecting perfect outcomes from imperfect humans working with imperfect processes and systems is not realistic. Expect error and design systems and processes to mitigate against the consequence of error. |
| 2. Blame fixes nothing | • When an undesired outcome occurs, there is a choice to be made. This choice will set the stage for learning and improvement or will create conditions driving organisational mistrust and fear. That choice is a deliberate one – organisations can learn and improve, or they can blame and punish. They cannot to do both.  
• Blame is emotionally satisfying, but operationally useless. Blame fixes nothing. Blames destroys the trust that is needed to surface an understanding of the factors and conditions needing improvement. |
| 3. Learning is vital | • The experts of work are the staff doing that work and they should be recognised as the ones with the solutions for sustained improvement.  
Gathering feedback through operational learning on how work is normally successful will help improve systems and the frequency of successful work outcomes.  
• Learning is a deliberate organisational strategy necessary for continuous improvement. |
| 4. Context drives behaviour | • Local workplace factors influence the actions, decisions, and behaviours of staff.  
• Organisational systems and processes determine performance outcomes.  
• To effectively change performance outcomes, systems and processes must be strengthened and local workplace factors must be carefully managed. |
| 5. How you respond to failure matters. How leaders respond to failure matters a lot. | • Create conditions for forward accountability.  
• Forward accountability is characterised by an organisational and personal commitment to learning and improvement. This stands in contrast to a traditional perspective of accountability which focuses exclusively on personal ‘ownership’ of a failure and the application of consequences meant to avoid a repeat of the incident.  
The leadership of the organisation owns and creates the conditions for its culture.  
This culture is reinforced by leader reactions to performance outcomes. |
incidents continues to be important as there is potential for improving safety by increasing the visibility of these events. Knowing what is happening, rather than what happened, regardless of how important it seems or not, improves the ability to more effectively manage performance risk and improve operational learning.

In the first part of our approach, we focused on the systematic logging of observations and events in the animal facility on the basis that visibility of these events would improve animal welfare. As already described, Heinrich’s pioneering work focused on the errors of people. Therefore, the second part of our approach related to learning from observations and events, moving away from the errors of people to systems failings.

Human error is frequently cited\(^8\) as the cause for issues, defects, deviations in all areas of business, and animal care and use is no exception.\(^9\) However, reporting human error as a cause often means that the underlying root cause is not identified, and therefore potential reoccurrence may not be prevented. In addition, reporting human error as a cause can lead to a culture of blame and a reluctance to report observations and events. A common response to errors made in animal facilities is to retrain staff.

HOP\(^10\) is often termed the new approach to safety and has its foundation in the work of Erik Hollnagel, James Reason, Sidney Dekker and Todd Conklin.\(^11–14\) HOP assumes that human error is inevitable and that through better systems and management practices supporting learning and improvement, it may be possible to reduce the consequence of human error and improve operational outcomes. The five key principles of HOP are outlined in Table 1.

Therefore, in the second part of our approach we considered the HOP principles and how they could be applied outside the health and safety area and within that of animal research and improving animal welfare.

The second part of the approach focused on addressing what was at fault rather than who was at fault. This philosophy avoids ‘blame’, which can also have the undesired result of the under-reporting of near misses and prevents organisational learning and the recognition of staff as the experts in how work is normally performed – highlighting performance risk and worker adaptations.

We also concluded the following were the additional requirements of a successful learning approach that underpinned promoting a positive culture of care:

- Transparency: a process and log that is accessible to all working in the animal care and use programme.
- Tracking trends of minor observations increasing value or effectiveness of the task itself. Common examples might include checking mirrors for adjustments prior to driving, checking tyre pressures and fluid levels when refuelling, using one hand on the steering wheel rather than two, and countless other examples.

Drift can reduce safety margins and increase the likelihood of adverse outcomes. To effectively manage drift, work teams must be willing to talk about how work is normally performed – highlighting performance risk and worker adaptations.

With this in mind our approach has developed, and we also hold learning meetings to understand how work is actually performed and involve staff in identifying solutions when undesired outcomes occur. This leads to a learning culture and a greater sense of ownership of the processes.

### Methodological approach

We systematically log observations and events that have the potential to improve animal welfare and to maximise learning from these. Our log is manual and spreadsheet based. This can be improved by using forms that can automatically load into a spreadsheet-based system. We log the following:

(a) Positive actions, for example small improvements made at the cage side. The positive actions are reinforced through recognition awards and further dissemination, for example to other sites where appropriate.

(b) Near misses and unusual animal observations.

Learning can be taken from all events logged. The capturing of both positive actions and unusual animal observations that are not errors of process built on the SHE approaches, enabling an additional focus on animal welfare and staff support.

We also concluded the following were the additional requirements of a successful learning approach that underpinned promoting a positive culture of care:

- Transparency: a process and log that is accessible to all working in the animal care and use programme.
Following up on learning from near misses. This may include the dissemination of learning to other sites or development of resources such as visual guides.

- Effective root cause analysis, learning actions, and use of a systems approach, that is what is at fault
- Oversight: the AWERB provide support which aligns to one of the tasks of an AWERB, that is ‘establish and review management and operational processes for monitoring, reporting and follow-up in relation to the welfare of animals housed or used in the licensed establishment’.

**Process overview**

A process was developed to support logging of observations and events. An approach to follow up on these events then focused on asking ‘what was at fault’. This was described in a standard operating procedure shared with all staff working within the Animal Care and Use Programme. The key points are outlined in Table 2.

### 2019 and 2020 statistics

To put the numbers of items on the 2019 and 2020 logs into context, a conservative estimate of the numbers of activities conducted each year in relation to the research conducted in our facility is 40,000 (this includes tasks such as environmental monitoring, washing cages, writing protocols, growing cells, formulation of materials for dosing, ordering animals, health checking animals, conducting regulated procedures, data capture, record keeping).

In terms of numbers of items on the log in 2019 there were 98 items and in 2020 there were 137 items. This represents 0.25–0.35% of the conservative estimate of activities conducted annually, highlighting the strong focus we place on a very small number of observations and events in the spirit of continuous improvement.

| Description of observations and events captured |
|------------------------------------------------|
| - A positive action that could enhance welfare if shared for learning and wider implementation (e.g. Animal Welfare and Ethical Review Body (AWERB) recognition awards, coffee awards, team awards, good practice highlighted in the monthly veterinary report). |
| - Near miss, for example something that has potential to have an adverse impact but didn’t in the specific incident (e.g. short-term temperature reduction with cage temperature outside Code of Practice, sample analysis not possible due to technical failure). |

**Example categories**

Observations and events are classified into categories for ease of tracking:

- AWERB recognition awards: peer-to-peer recognition or recognition from persons with specific roles in animal care and use such as the vet, the animal care and welfare officer and/or the licence holder. The staff are recognised at each AWERB meeting and the good practice is highlighted and shared more widely if appropriate (e.g. to other sites in the company).
- Observations: to capture unusual observations in animals that are not typically related to procedures (e.g. rash, sore eyes, unusual behaviours).
- Facility, for example changes in environmental conditions (e.g. temperature; breakdowns (e.g. cage wash)).
- Procedures: *in-vivo* procedures. These can be reported by staff or be picked up from the veterinary report.
- Materials: relating to events that connected to materials/equipment (e.g. cell lines, restraint tubes, formulation).

**Responsibilities**

- All staff working under the animal care and use programme are responsible for reporting observations and events to be included on the log. Any member of staff can nominate another member of staff for a AWERB recognition award.
- An individual is responsible for maintaining a central log (in our process this is the Named Information Officer).
- An individual is responsible for deciding the course of action (in our process it is the Head of the Animal Sciences Group). This individual is also responsible for compiling a report for the AWERB which will typically summarise numbers of log items, describes patterns, along with a status update which may include root cause, solution and ongoing actions as appropriate. AWERB is responsible for providing oversight.

**Process**

- Some observations/events can be closed with an immediate response, this action is documented.
- Certain events will be categorised as ‘Monitor’, for example an observation in one animal. Items classed as monitor may be tracked for a period of time to see if there is a recurrence.
- Other items may be discussed more widely through post-event learning and learning teams and root cause established. These involve staff in open discussions on how work is actually done, or to provide context on the environment.
- Events are closed in conjunction with the relevant personnel once a cause is established, any process changes required have been implemented and/or where there are is any learning this has been shared with staff working under the animal care and use programme or wider.
More than 99.5% of activities go well and as planned. Although, it is also important to recognise errors happen in successful work and there is often no notable consequence of an error.

By the end of 2019 and 2020, 82 and 86% respectively of the items were closed, and remaining items had actions ongoing. In addition, we endorse positive re-enforcement of good practice of which the most evident is our open recognition through the AWERB awards which involve a ‘thank you’ from the AWERB Chair and Establishment Licence Holder as well as a reward. There were 17 AWERB awards given across 22 individuals and one team in 2019, and 11 awards across eight individuals in 2020. Other positive re-enforcement mechanisms involve coffee awards and team recognition events. For a breakdown of the 2019 and 2020 log items by category see Figure 1.

**Examples of observations and events: learning outcomes**

**Example 1**

Samples placed in liquid nitrogen were not removed from the Dewar at the end of necropsy and were later found defrosted. Focusing on what was at fault, the discussions with individuals involved highlighting a lack of clarity on roles and responsibilities during necropsy. Necropsies generally involve multiple people, and as such clarity on who is responsible for what is important. Roles and responsibilities were therefore discussed and clarified with input of all those involved in necropsy.

A similar event occurred approximately six months later. Focusing on the process again, the individual involved reviewed the process with colleagues again focusing on what might prevent recurrence. It was decided that a simple visual cue would serve as a useful way of alerting the responsible person in the necropsy area, and others working in the vicinity, that there were samples present in the flasks.

Labels stating ‘Samples Present’ are fixed to the Dewar using Velcro when samples are placed into the Dewar and when all samples have been removed and transferred the label is then removed. This amendment to the process provides a helpful visual cue. The individual was recognised through an AWERB award and commended for their behaviour in taking forward accountability to gather learning and implementing actions in response to the error. This is important because individuals can often blame themselves for an error, but this does not lead to operational learning.

**Example 2**

There was a trend for a number of ‘one off’ errors that appeared to relate to checking procedures, for example errors on labels, study protocols and dosing sheets. These all occurred within a period of weeks. Animal research is largely a manual job and there are a lot of checks required throughout a day to ensure animals are treated according to the details within the study plan and that they are observed and checked regularly. Concentration and attentiveness are required throughout the day and as a consequence the checking processes are simplified to try and minimise any potential for errors. Staff feedback suggested there had been a high workload during that six-week period. Workload is planned in advance to avoid these types of peaks, however with the type of research undertaken, studies can go on longer than initially planned, sometimes causing unexpected overlaps in studies and/or studies can finish sooner than expected if the scientific goal is achieved sooner than anticipated. This need to respond to the studies as they progress to ensure the best scientific outcomes means that on occasions, despite extensive advanced planning, study activities can unexpectedly change. The workload was retrospectively reviewed across the year and the data confirmed that there had been an unexpected high peak at the time the errors occurred thus demonstrating that the context in which the increase in errors was seen was the high workload – principle four of HOP. We continued to support and

![Figure 1. Log items by category for (a) 2019 and (b) 2020.](image-url)
promote effective checking procedures as well as supporting staff by listening to their feedback by implementing a ceiling limit for workload for the future. Since then, error frequency of this type has significantly reduced.

**Example 3**

Another pattern was in relation to errors in formulation labelling. These events were all spotted by the animal technicians prior to administering the formulation illustrating a good system of label checking. However, correcting the errors was disruptive to the schedule as it took time to contact the relevant people to resolve. This time could have been minimised if the errors had been spotted earlier, that is at the point of acceptance of formulation into the animal unit rather than just before use.

In response to these events the formulations staff performed a broad review of their formulating processes (including communication, scheduling, information provided and labelling) to assess if any of the processes could be refined. In this broad review a representative from the animal technician group was included to enable an integrated review of the processes involved when the formulation left the laboratory.

The review provided a greater understanding of the work required by both teams and, rather than blaming the other team, enabled the workflow to be reviewed and improved to reduce further errors. The group agreed that the formulation description would be discussed at the 'Study Handover' meeting so the animal technician would know what to expect. In addition, the formulation labels were amended to include a description of the formulation (e.g. colour, suspension, solution). The study protocol was supplied with the formulation when transferring it from the lab to the animal area and the animal technician is now responsible for collecting the formulation. This change led to an earlier check of the formulation against the protocol before accepting it for use. Previously the responsibility for transferring the formulation to the animal room for use resided with support staff. By changing this responsibility to the animal technician responsible for the study it has enabled any potential errors to be spotted much sooner.

**Example 4**

Staff reported a low incidence of small lesions associated with the subcutaneous administration of Carprofen in anaesthetised mice given as a postsurgery analgesic. These lesions were generally small and often difficult to see, and generally did not appear to cause welfare concerns for the mice. The initial discussions at AWERB based on harm benefit analysis, concluded Carprofen provided a superior benefit over previous analgesic protocols and that this benefit outweighed the low incidence of small lesions observed. Staff were keen to continue to explore possibilities to refine the administration of Carprofen in anaesthetised mice as they considered this a refinement over the use of a conscious administration procedure.

After the initial observations staff awareness was heightened and additional effort was made to look for the lesions, since for example, these could be hidden by the fur and thus be easily missed. On occasions the fur was shaved around the injection site to aid visibility. The observation continued to be monitored and logged and the trend was then fully assessed. Staff considered whether there were any process improvements and continued to further refine the procedure. This included reassessing the injection technique (change of needle gauge to reduce jetting) and diluting the formulation. There was some improvement, but there continued to be a low incidence of lesion. Finally, having explored all possible refinements to the anaesthetised route of administration and alterations to the formulation, the decision was made to change the route of administration to oral gavage in conscious mice prior to surgery. This has been further refined; for example, Carprofen jelly is given for mice to eat in some circumstances avoiding the need for a procedure. The log enabled a systematic deeper look into the initial observations and led to an evidence-based change to the administration procedure.

**Benefits of the learning from observations and events process**

The ‘learning from observations and events log’ has been in place for three years and has evolved over that time. In addition to specific examples of improvement in processes and welfare outcome there have also been general benefits.

- **A shift in the culture to one of open reporting.** By eliminating an environment of blame and managing our reactions to undesired outcomes, staff have become more open to sharing observations and events. For example, there are more cases of self-reporting now than when this process first started.
- **Not accepting human error as a root cause.** Example two describes this well. An approach that focused on
human error as the root cause would have led to a reminder to staff to be diligent and/or retraining. However, focusing on what was at fault – local workplace factors – we were able to ascertain the root cause as high workload. Since then, we have further refined our workload planning process.

- **Support to management of compliance.** The structured documented approach to continuous improvement in animal welfare provides reassurance to competent authorities that compliance oversight is well managed at an establishment. For example, in the UK the Animals in Science Regulation Unit has published a document on managing patterns of low-level concerns. The Learning from Observations and Events log provides a systematic approach to identify patterns of low-level concerns.

- **Increased focus on animal welfare through the ability to spot low level trends.** Example 4 highlights the benefits of logging low-incidence observations. These types of observation can often be overlooked as “one off” and the logging gives visibility and heightened vigilance enabling staff to be on the lookout for similar occurrences. Being able to systematically log incidence and then look at ways of improving processes and animal welfare and care can continually evolve in response to observations. In addition, by having systematic and documented follow up its possible to provide robust data for posters, for example animal technology and science conferences supporting technicians in their personal development.

- **Public assurance.** The UK 2018 Ipsos MORI public attitudes to animal research report indicated animal welfare is becoming a bigger consideration for some members of the public and the link between animal research and human health appears weaker. Our approach has extended the original concepts from the SHE arena particularly HOP and focuses on improving animal welfare.

- **Operational excellence.** Many organisations and institutions are implementing tools such as ‘Lean’ and ‘Six Sigma’ as they drive improvement under the banner of operational excellence. True operational excellence is the integration and application of any number of performance philosophies to drive desired outcomes. HOP is another weapon in our armoury that can improve the effectiveness of how we work. As stated above, HOP assumes that human error is inevitable and that through better systems and management practices supporting learning and improvement, it may be possible to reduce the consequence of human error and improve operational outcomes. The operational outcomes we were focused on were improved animal welfare and improved support to staff.

### Challenges in implementation

As with anything new there were some challenges to the implementation of both the log and the learning process. When establishing a systematic process such as the learning from observations and events log it is important that the context and approach is discussed and shared widely within the establishment from the outset. For example, it is essential to be clear that the process is a systems approach focusing on what is at fault. Even where the intent is clear from the beginning it can take time to build trust in an organisation. A recent simple staff survey showed that 86% of staff had increased their positive view about the process and its learning focus on establishing what is at fault compared to how they felt initially; 14% were neutral (i.e. they felt positive from the beginning). It has taken a long time for staff to feel more comfortable with self-reporting. Reasons for this were discussed at an AWEB meeting and staff suggested that there is an additional emotional element of guilt and often self-blame when an error occurs within research involving animals, due to the strong care bond between the staff and the animals. Even where staff accept that the intent of logging and follow up is to assess what is at fault, their own feelings of self-blame may hinder self-reporting, and this takes time to overcome.

Senior level buy-in and commitment is required, and this commitment needs to be shared across management lines. Our establishment is relatively small, and the reports are written by the Head of the Animal Facility (who also happens to be the Establishment Licence Holder). In a larger establishment this type of task could be delegated. However, given the nature of the observations and events occurring across management lines (animal technicians, scientists, facility maintenance staff) and the natural tensions that may develop in animal research, the person responsible for this needs to have sufficient respect across teams. The individual must also be a leader who values learning from errors and seeks improvement of processes.

Time to prioritise and hold learning meetings can be challenging. These need to be proactive (i.e. reviewing how work is successfully done) as well as in response to an undesired outcome.

### A culture of learning and the role of the animal welfare body: surfacing conditions that support a culture of care

The ‘learning from observations and events log’ process is part of our induction process for all new staff, meaning that the expectation of an open reporting and learning culture is set from the beginning of their employment in our establishment. It is the provision
of a learning culture where blame is not apportioned, and the focus is on systems that nurtures the conditions that support a culture of care. No human endeavour can be undertaken with care for others when the environment those humans work in does not provide for their own care. This includes not only physical safety but also psychological safety. Physical safety can often be evaluated through observation of facilities, tools and work practices. Psychological safety must be evaluated by observing the interaction of people and information with each other. By creating formal processes that underpin learning we give animal care staff and scientists a voice and agency to improve the work they do and the conditions they work in. When leaders act on that voice with an assumption of positive intent, leaders are showing they value the thoughts, opinions and observations of staff. Agency and value of others promotes psychological safety.

The Animal Welfare Body (AWERB in UK) has a key role in fostering a Culture of Care as well as to ‘establish and review management and operational processes for monitoring, reporting and follow-up in relation to the welfare of animals housed or used in the licensed establishment’.

The learning from the observations and events log process is a proactive example of an effective animal welfare body in delivering both of these roles. Our AWERB oversees the observation and events log through reviewing a report produced for each meeting. This report is shared not only with the AWERB but with all staff working in the establishment ensuring that all voices can be heard, and any concerns addressed. The members of AWERB are able to contribute to the outcomes and request further information on anything raised in the report. By making observations and events visible drives further investigation into areas that could easily be missed, for example an observation in isolation that is not logged can be lost. Our process makes minor observations visible, and this means that staff look harder and work more proactively to improve the welfare of the animals. Oversight of such details by the AWERB and the desire to learn what was at fault demonstrates a number of values that are important features in a positive culture of care such as:

- senior management taking the lead and providing support to high welfare standards;
- providing a critical forum for day-to-day application of the 3Rs where improvements no matter how small are driven proactively;
- improving the communication and links between scientists and animal care and technical staff, developing a shared responsibility towards improving animal welfare, care, use and scientific quality;
- motivation and support for a proactive approach to animal welfare. This is boosted through recognition and rewarding of staff embodying a culture of care. By recognising proactive problem solving and care we demonstrate the importance of these behaviours in staff. By sharing these recognitions more widely other staff can acknowledge and learn too.

The EU document on Animal Welfare Bodies and National Committees states ‘simply having animal facilities and resources which meet the requirements of the legislation will not ensure that appropriate animal welfare, care and use practices will automatically follow’. An environment of learning led from a senior level is therefore critical to surface some of the fundamental features that support a positive culture of care.

**Discussion**

Animal research is conducted by humans in a largely non-automated environment. In order to minimise potential for error there are quality management systems in place that ensure training, competency and written frameworks for processes (e.g. standard operating procedures). However, as in any field, human error is inevitable. Much of the work is manual and relies on staff checking labels, protocols, cage cards and data-capture systems, alongside conducting regulated procedures and observing animals to ensure their welfare is monitored. Ways of working can evolve as staff become more experienced and adapt to find more efficient ways of working and it is important to see staff as the experts in the work they do and adapt procedures as required to reflect work as it is done.

The learning log and approach to learning from observations and events is a tool that supports a positive culture of care and continuous improvement in animal care and use programmes. It provides a systematic approach allowing specific learning and improvements to be made in a transparent and inclusive way. The approach takes compliance management to a mature level, recognising staff as the experts and that focuses on learning and improving systems both proactively as well as in response to undesired outcomes. The avoidance of human error as a root cause alone means the approach does not focus on the individual or inadvertently blame individuals and this is critical in an animal facility where the emotional element of making an error can be an additional factor in under reporting of observations and events.

The goal of HOP is to increase the frequency of successful work outcomes through the effective management of performance risk and operational learning. All work, regardless of its apparent simplicity and
routine nature, is performed under dynamic constraints. The human capacity for resourceful adaptation under dynamic constraints means work outcomes are successful more than they are not. However, hidden within these successful work outcomes are the conditions that occasionally lead to undesired outcomes. Creating a culture of learning is critical to surfacing these conditions and taking proactive steps to improve the processes and systems of work. This culture is created by the leader’s publicly espoused commitment to learning and improvement and is reinforced by their reactions to open reports and undesired outcomes.

**HOP** is not a process but a philosophy. This philosophy is rooted in scientific disciplines such as sociology, psychology, resilience engineering and industrial engineering. The philosophy is underpinned by principles that define ways of thinking and behaviour – all humans are fallible, blame fixes nothing, Context drives behaviour, Learning is vital, and how we respond to failure matters. To adopt this philosophy, these principles must become the commonly held values by all members of the organisation. These strongly held values drive the tools and solution sets employed to manage performance risk and drive operational learning. When system and process-based solutions, including those utilising automation, are deployed based on these commonly held values, respect for staff and their expertise is protected and valued. Wherever there are humans involved with work, there will be human error and a need for HOP.

We have described the approach within our facility and these precise procedural details may not translate exactly to other facilities. Starting with a philosophy of a learning culture set from a senior level is key. Thereafter, when establishing a similar type of process elsewhere it’s important that the intent of an open and learning culture is part of staff induction and training, that leaders accept human error is normal, that roles and responsibilities are outlined – for example, deciding on an appropriate process owner and on the role of the animal welfare body – that taking time to listen and learn from those doing the work is valued, and that recognising and rewarding staff can support and promote the right behaviours. HOP is the philosophy that can underpin successful implementation of an event logging and learning process in an animal unit.

**Conclusion**

Taking established processes from the SHE arena has enabled us to develop a robust logging process for observations and events within our facility. These types of logging process are not completely unknown within animal facilities. However, what is unique about our approach is the assumption that human error is inevitable and that it also occurs in successful work. When an undesired outcome occurs, it is important to fully understand the root cause and in doing this we must assess ‘what’s at fault’. Proactive learning meetings (for example reviewing standard operating procedures) involve staff sharing how work is really done. Following up on undesired outcomes involve staff sharing the context and taking forward accountability to create solutions that are more likely to stick as they have been involved in developing those solutions. In addition, reinforcing good practice through recognition awards, and sharing these more widely, not only supports a positive culture but maximises learning. Overall, the learning from observation and events log approach fully supports the four pillars that underpin a positive culture of care: where staff feel included and valued as the experts, where animal welfare is systematically addressed, where the impact can improve scientific quality and where the process is open and transparent.

**Acknowledgements**

The authors acknowledge Sharon Miller, Sarah Boffey, Lynne Vicary, Dianne Tibbs, Kate Shenton, Lucy Whitfield, as active members of the log follow-up learning team, and Alderley Park AWERB for oversight and input.

**Declaration of conflicting interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this report.

**Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this report.

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Améliorer la culture des soins en maximisant l’apprentissage tiré d’observations et d’événements: palier les lacunes

Résumé

Dans le contexte de l’utilisation des animaux à des fins scientifiques, le terme « culture de soins » décrit la culture des organisations qui aident leur personnel à s’efforcer d’améliorer continuellement dans ce qui suit:
- soins et bien-être des animaux
- soutien et reconnaissance du personnel participant au programme de soin et d’utilisation des animaux
- qualité scientifique
- ouverture et transparence

Nous avons mis au point un processus systématique de déclaration des observations et des événements ayant le potentiel de favoriser un apprentissage continu, d’améliorer le bien-être des animaux et de soutenir le personnel. Le processus a tiré des enseignements du domaine de la sécurité, de la santé et de l’environnement en matière de prévention des accidents. Les deux aspects clés étaient 1) l’enregistrement systématique des observations et des événements; et 2) l’approche d’apprentissage suite à ces observations. Notre processus systématique repose sur le « Journal des observations et des événements ». Les observations et événements signalés peuvent être liés à des pratiques positives, à des observations générales et à des quasi-accidents.

Nous avons créé un environnement visant à promouvoir l’amélioration continue, tant pour les animaux que pour le personnel, en reconnaissant, récompensant et partageant les bonnes pratiques, ainsi que les cas où les quasi-accidents sont découverts et ouvertement signalés. Le soutien au bien-être des animaux et du personnel, à l’amélioration de la qualité scientifique et à la transparence sont les quatre piliers d’une culture de soins positive.

Nous avons reconnu dès le début que l’utilisation d’un système et d’une approche d’apprentissage faisant suite aux observations et aux événements, plutôt qu’une approche reposant sur les personnes et les
Responsabilités, était essentielle au développement de signalements ouverts et d’une culture positive. Dans l’approche des systèmes, les erreurs sont des conséquences plutôt que des causes, ayant leur origine dans des facteurs systémiques.

Verbesserung der Kultur der Fürsorge durch maximales Lernen aus Beobachtungen und Ereignissen – Fehler beheben

Abstract

Der Begriff „Kultur der Fürsorge “im Zusammenhang mit der Nutzung von Tieren zu wissenschaftlichen Zwecken beschreibt die Kultur in Organisationen, die das Personal beim Bemühen um eine kontinuierliche Verbesserung in folgenden Bereichen unterstützt:

• Tierschutz
• Unterstützung und Anerkennung der Mitarbeiter, die am Programm zum Haltung und zur Nutzung von Tieren beteiligt sind
• Wissenschaftliche Qualität
• Offenheit und Transparenz

Wir haben einen systematischen Prozess für die Meldung von Beobachtungen und Ereignissen entwickelt, die zum kontinuierlichen Lernen, zur Verbesserung des Tierschutzes und zur Unterstützung der Mitarbeiter beitragen können. Der Prozess stützt sich auf Erkenntnisse zur Unfallverhütung aus dem Bereich Sicherheit, Gesundheit und Umwelt. Die beiden Hauptaspekte waren 1) die systematische Protokollierung von Beobachtungen und Ereignissen und 2) das Lernkonzept zur Weiterverfolgung von Beobachtungen. Die Grundlage unseres systematischen Prozesses ist das Protokoll „Lernen aus Beobachtungen und Ereignissen“. Dabei können sich die protokollierten Beobachtungen und Ereignisse auf positive Praktiken, allgemeine Beobachtungen sowie Beinahe-Unfälle beziehen.

Wir haben ein Umfeld zur Förderung kontinuierlicher Verbesserung sowohl für Tiere als auch für Mitarbeiter geschaffen, in dem gute Praktiken anerkannt, belohnt und geteilt werden und über Beinaheunfälle offen berichtet und daraus gelernt wird. Förderung des Tierschutzes, Wohlbefinden der Mitarbeiter, Verbesserung der wissenschaftlichen Qualität und Transparenz sind die vier wichtigsten Säulen einer positiven Kultur der Fürsorge.

Wir haben schnell erkannt, dass die Nutzung eines systematischen Lernkonzepts zur Nachverfolgung von Beobachtungen und Ereignissen anstelle persönlicher Schuldzuweisung der Schlüssel zur Entwicklung eines offenen Meldewesens und einer positiven Kultur ist. Im Systemansatz gelten Fehler nicht als Ursachen, sondern als Folgen, die aus systemischen Faktoren resultieren.

Mejora de la Cultura del Cuidado maximizando el aprendizaje mediante la observación y los eventos: Gestión de los aspectos problemáticos

Resumen

El término de Cultura del Cuidado en el contexto de utilización de animales para fines científicos describe la cultura llevada a cabo en las organizaciones para ayudar al personal a mejorar regularmente en las siguientes áreas:

• cuidado y bienestar animal
• soporte y reconocimiento del personal involucrado en el cuidado animal y la utilización del programa
• calidad científica
• apertura y transparencia

Hemos creado un proceso sistemático para registrar observaciones y eventos con el potencial de ayudar con el aprendizaje continuo; además de mejorar el bienestar animal y respaldar al personal. El proceso se alimentó del método de Seguridad, Salud y Ambiente respecto a la prevención de accidentes. Los dos aspectos clave fueron: 1) el registro sistemático de observaciones y eventos; y 2) el método de aprendizaje para realizar un seguimiento respecto a las observaciones. En la base de nuestro proceso sistemático se encuentra el «Aprender del Registro de Observaciones y Eventos». Los eventos y observaciones registrados
pueden guardar relación con prácticas positivas, observaciones generales así como con conatos de accidentes.
Hemos creado un ambiente para fomentar la mejora continua de animales y personal mediante el reconocimiento, la recompensa y el intercambio de buenas prácticas, así como el registro de conatos de accidentes y aprender de ellos. Fomentar el bienestar animal y del personal así como mejorar la calidad y la transparencia científica son los pilares fundamentales de una Cultura del Cuidado.
Desde muy temprano supimos que utilizar un sistema y un método de aprendizaje para llevar un seguimiento de las observaciones y eventos en lugar de un método enfocado en las personas y las denuncias fue clave a la hora de crear un registro abierto y una cultura positiva. En el método de sistemas los errores son consecuencias y no causas, con sus orígenes en los factores sistemáticos.