Classification: Official

Publication approval reference: PAR1465

Swarm huddle

Version 1, August 2022

A swarm is designed to start as soon as possible after a patient safety incident occurs.

Healthcare organisations in the US[1] and UK[2] have used swarm-based huddles to identify learning from patient safety incidents. Immediately after an incident, staff 'swarm' to the site to quickly analyse what happened and how it happened and decide what needs to be done to reduce risk. Swarms enable insights and reflections to be quickly sought and generate prompt learning. They can prevent:

- those affected forgetting key information because there is a time delay before their perspective on what happened is sought
- fear, gossip and blame; by providing an opportunity to remind those involved that the aim following an incident is learning and improvement
- information about what happened and 'work as done' being lost because those affected leave the organisation where the incident occurred.

This swarm tool integrates the SEIPS[3] framework and swarm approach to explore in a post-incident huddle what happened and how it happened in the context of how care was being delivered in the real world (ie work as done). We have created a set of SEIPS work system prompts to shape a swarm conversation (Figure 3).

Other system-based approaches and frameworks exist which you may choose to use to frame a swarm conversation, for example, the Human Factors Analysis Classification

[1] Li, J., Boulanger, B., Norton, J. et al. (2015). "SWARMing" to Improve Patient Care: A Novel Approach to Root Cause Analysis. Joint Commission Journal on Quality and Patient Safety, 41(11), 494-501.
[2] Motuel, L. (2017). Swarm: a quick and efficient response to patient safety incidents. Nursing Times. 13(9), 36-38.
[3] Holden, R.J., Carayon, P., Gurses, A.P., Hoonakker, P., Schoofs Hundt, A., Ozok, A.A. and Rivera-Rodriguez, A,J. (2013) SEIPS 2.0: a human factors framework for studying and improving the work of healthcare professionals and patients. Ergonomics, 56(11), 1669-1686.

System and AcciMaps (amongst others). Furthermore, if your organisation has invested in training and education on After Action Review (AAR), you may choose to capture insights and reflections as soon as possible after a patient safety incident has occurred using an AAR approach.

You can, if possible, include patients, their families and/or carers in a swarm to ensure their perspective on what happened is reflected in the learning.

When might we carry out a swarm?

Table 1 sets out some examples of where swarms could be used to capture learning after a patient safety incident:

Setting	Example
Acute	Learning Response Lead A led a swarm with an operating theatre team after a patient died following a cardiac arrest in the operating theatre whilst under-going routine surgery.
Mental Health	Learning Response Lead B led a swarm with ward staff after two patients absconded from a secure mental health unit.
Care home	Learning Response Lead C organised a swarm to capture learning after three residents suffered burns on two consecutive days from a radiator in Care Home X.
Hospice	Learning Response Lead D carried out a swarm with ward staff on Hospice Ward X following an incident involving an overdose of opiate medication with a patient receiving end of life care.
Ambulance	Learning Response Lead E led a swarm with call centre staff to capture their insights and learning after the ambulance service declared a critical incident due to an overwhelming number of 999 calls.
Community Nursing	Learning response Lead F carried out a swarm with a group of community nurses, physiotherapists, Speech and Language therapists and palliative care nurses, who had provided care to Patient A, after she was admitted to A&E with sepsis secondary to a urinary catheter infection.

What is the role of the swarm facilitator?

The swarm facilitator's role is to create a safe and brave space where the staff involved in a recent patient safety incident feel able to speak up and share their recollections without feeling blamed. Facilitating a swarm requires a facilitator who:

- models the values of a just and learning culture.
- has excellent active listening, emotional intelligence, and facilitation skills.
- is confident they can support a multi-disciplinary team to openly reflect on what happened and why soon after a patient safety incident.
- is inclusive and who will encourage everyone's voice and recollections to be shared, irrespective of their level of seniority, professional background and/or personality type (eg introvert or extrovert).
- will calmly and respectfully shut down conversations of blame and who recognises and acts on non-verbal and verbal cues that staff members are struggling with the swarm conversation.
- can clearly communicate the swarm's aims.
- is curious and open-minded, encouraging others to explore a work system.

What are the steps to carrying out a swarm?

An effective SEIPS swarm involves six steps (Figure 1):

1. Introduce all participants so everyone knows who each other's name and their role in the swarm.
2. Create a safe and 'brave' space by reassuring participants that the purpose of the swarm is to identify what happened and why by exploring the systems and contexts in which patient care was being delivered (ie work as done).
3. Replay the events that led to the swarm.
4. Explore what happened and why, through the lens of the SEIPS framework.
5. Identify where else in the organisation the learning from the swarm may be relevant.
6. Identify safety actions, and where feasible, assign specific deliverables and completion dates to leads.

Figure 2 provides some top tips for carrying out each step. Figure 3 includes SEIPS swarm work system prompts which help to frame the discussion in step 4 of the swarm

Figure 1: Six steps in carrying out a swarm

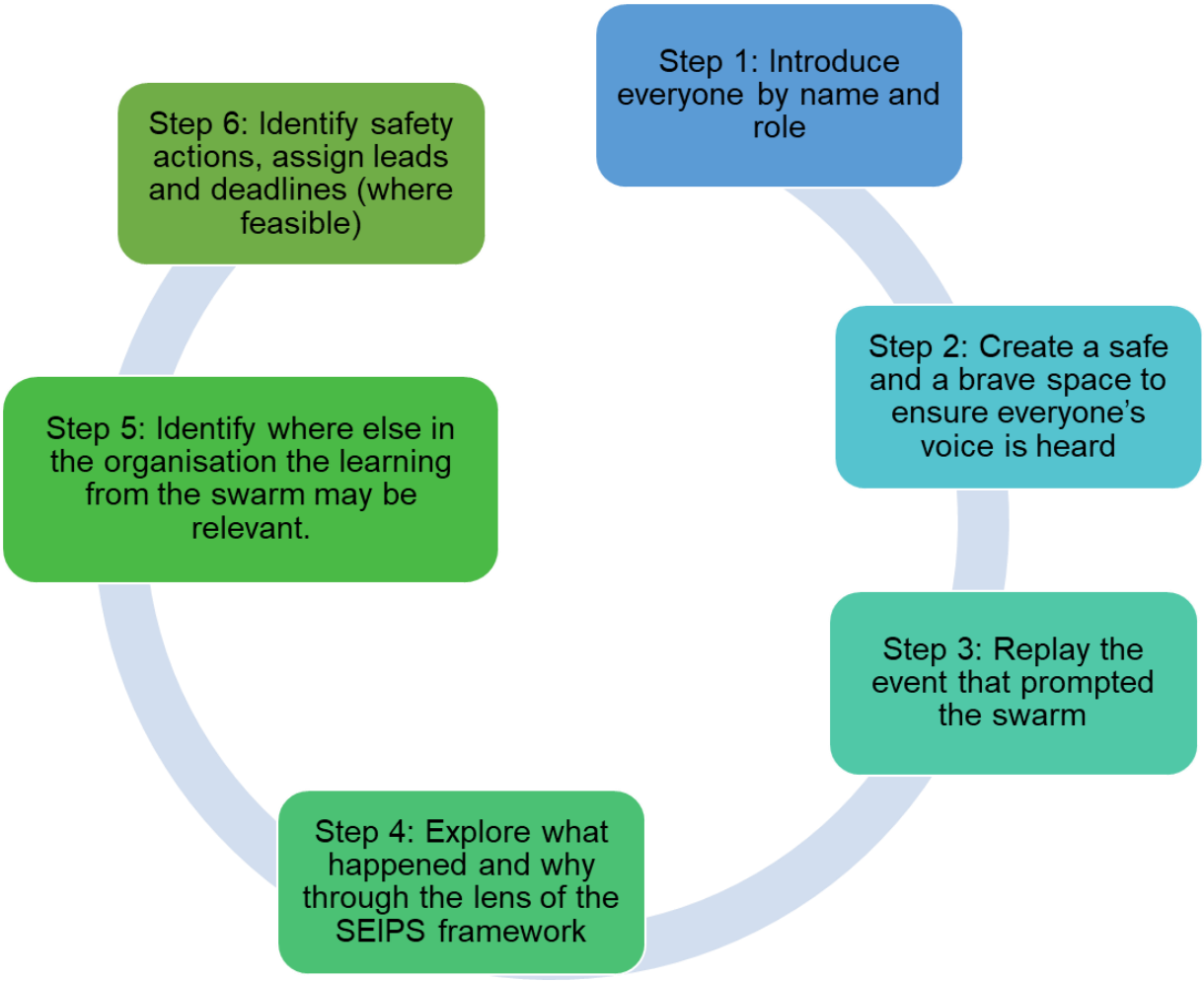


Figure 2: 10 tips for facilitating a swarm

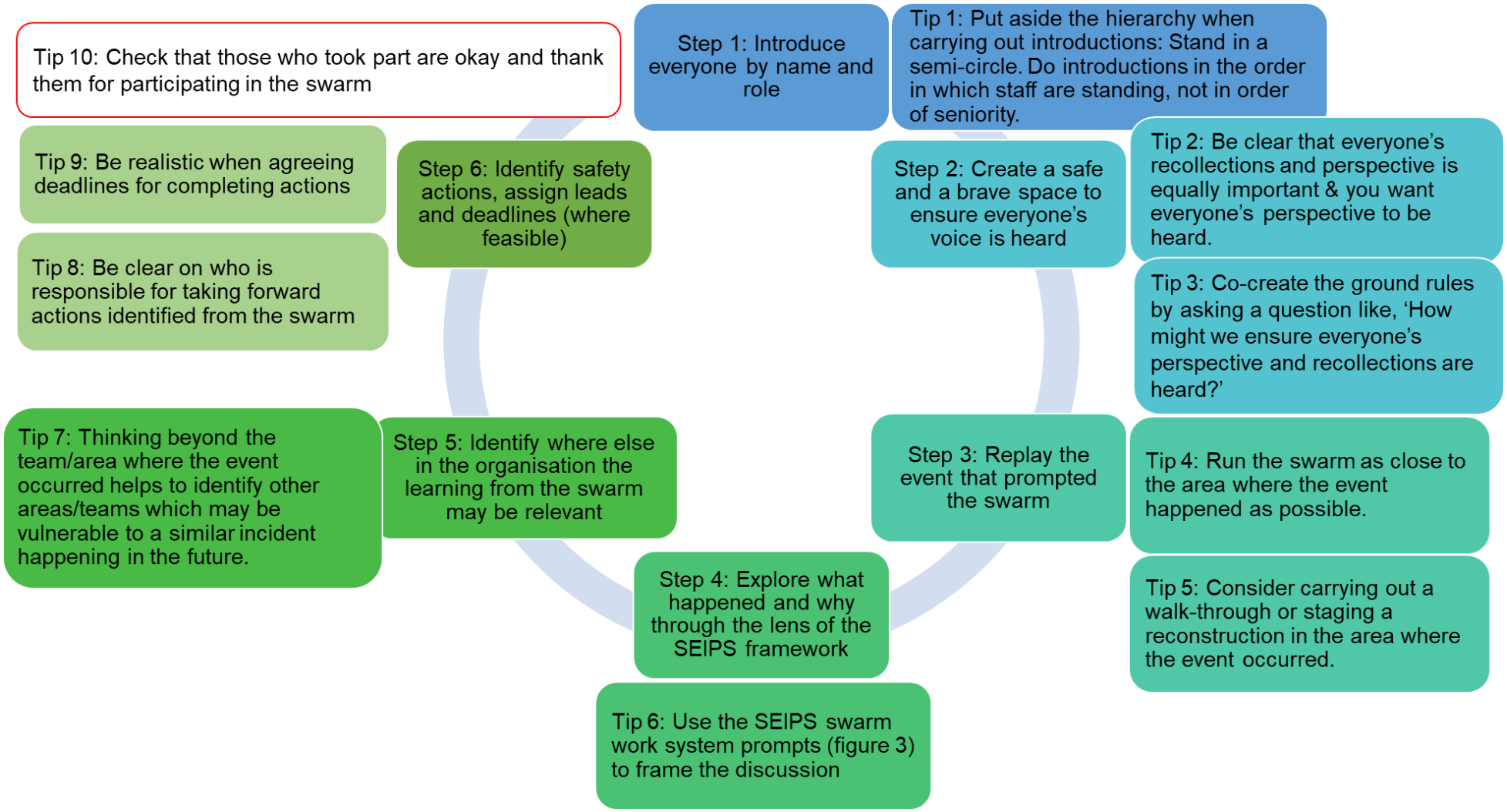


Figure 3: Swarm work system prompts (to support step 4)

Swarm work system prompts

Tools & Technology
Equipment/tools/IT:
- design (including how information is presented)
- availability appropriateness
- reliability
- positioning
- maintenance

Alarms and/or alerts
Automated tasks
Accessibility and usability of manuals, procedures, supports

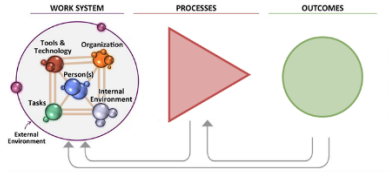
Organisation
- Patient pathways
- Information flow (how information is communicated)
- Communications workload
- How new information is flagged and where it is held
- Leadership and supervision
- Work scheduling and allocation
- Staffing levels and resourcing
- Safety/organisational culture
- Change management

Tasks
- Task demands (ie competing tasks)
- Task complexity
- Workload
- Time pressures
- Task repetition and monotony
- Task re-prioritisation or reorganisation

Person
- Patient mix
- The team (eg clinical, admin, domestic)
- Team familiarity with processes and pathways
- Clarity of roles and responsibilities
- Training and education
- Team dynamics
- Personal factors (eg stress, morale, tiredness)

Internal environment
- Physical workspace design
- Layout of the environment
- Workspace appropriateness for the tasks
- Distractions and their impact
- Interruptions and their impact
- Ambient environment (eg lighting, noise, air quality)

External environment
- Relevant national targets
- Policy and regulatory demands
- Accreditation standards
- Political decision making
- Global events



Desired Outcomes

System Performance:

Human Wellbeing:

Appreciative inquiry question:

The SEIPS model sets out desired outcomes– what are you aiming to achieve when you deliver patient care?

Appendix: Worked example - carrying out a swarm huddle

Learning Response Lead G led a swarm following an incident in which Patient A suffered a cardiac arrest at 8.45am whilst an in-patient on Ward X, an adult in-patient acute psychiatric unit.

Learning Response Lead G was contacted by Ward Manager B and agreed to facilitate the swarm that afternoon. Ward Manager B was concerned that two of the ward nurses who had been involved in responding to Patient A's cardiac arrest had expressed concerns they would, 'now be under investigation': He saw the swarm as an opportunity for staff to take a 'time out,' for their recollections to be shared and for reassurance to be provided by a senior manager (i.e., Learning Response Lead G) that the focus going forward was on learning (both from what had been done well and what could be improved).

Doing the groundwork for a successful swarm

Healthcare support workers 1 and 2, registered mental health nurses 3 and 4 and ward sister 5 attended the swarm and Ward Manager B attended the swarm. Prior to the swarm being carried out. Ward Manager B had checked with each staff member individually whether they felt able to talk about what had happened and all had agreed that they would welcome an opportunity to share their reflections, insights, and feelings.

Learning Response Lead G carried out the swarm in an office next to the main ward area which had sufficient space for everyone, and which provided a confidential location where they would not be interrupted.

Step 1: Introduce everyone by name and role

Learning Response Lead G introduced herself and the purpose of the swarm. She then asked Healthcare support workers 1 and 2, registered mental health nurses 3 and 4 and ward sister 5 to introduce themselves

Step 2: Create a safe and a brave space where everyone's voice is heard

When setting the scene for the swarm, Learning Response Lead G emphasised that everyone's voice was equally important, and that it was likely that there would be different perspectives and recollections amongst team members.

Participants co-created ways of working throughout the swarm including not interrupting a colleague who was sharing their recollections and being mindful of not making comments which blamed other team members. It was also agreed that if anyone felt upset and could not continue with the swarm, they would stop and take a 'time out,' then agree as a group how to proceed.

Steps 3: Replay the event that prompted the swarm

Healthcare Support Worker 1, who had been carrying out fifteen-minute observations of Patient A at the time of his cardiac arrest, started off the discussion by sharing his recollections. He had just received handover and started the day shift when Patient A had his cardiac arrest. He commented that the start of the shift, just after handover was always a busy time: That morning, he had not yet had chance to take Patient A's vital sign observations because another patient on the ward, Patient B, had tried to abscond and he had been assisting Healthcare Support Worker 2 and RMN 3 to de-escalate Patient B who was angry because he had been told his discharge was delayed.

Each participant shared their recollections in turn.

Step 4: Explore what happened and why through the lens of the SEIPS framework

After each staff member had finished sharing their recollections, Learning Response Lead G used the SEIPS swarm work system explorer (Figure 3) to explore systems gaps and contributory factors through the six dimensions of the SEIPS model. By revisiting the work system prompts after each staff member shared their recollections, Learning Response Lead G was able to iteratively build insights into systems gaps and contributory factors including:

- Organisation/Technology and Tools: Weaknesses in the information flow around Patient A's underlying physical health and difficulties for ward staff of accessing historical physical health information on the electronic patient record system.
- Organisation: The 999 call was made by Healthcare Support Worker 2 and she had given clear information to the call handler which enabled the paramedics to navigate the site and find the ward.
- Organisation/Person: Calm leadership by Ward Sister 5 who led the CPR before the paramedics arrived on the ward.
- Task: Challenges of ensuring patient vital sign observations are recorded and acted on when they need to be taken after the morning handover, especially if staff are distracted by other incidents or situations on the ward.

- Physical environment/Person: Challenges carrying out CPR in the room where Patient A suffered his cardiac arrest due to physical space constraints: RMN 4 had to repeatedly ask staff and patients who were not directly involved in the CPR for Patient A to move away from the corridor outside the room where the arrest happened because whilst they were concerned and wanted to help, the created access issues for both the ward staff and paramedics.
- Technology and Tools/Person: The emergency response bag was easily accessible, and all team members knew where it was located.

Step 5: Ask the question, 'where else in the organisation could this event happen?

Learning Response Lead G and the swarm participants discussed where else the incident could happen, identifying which other clinical areas the learning was relevant. Participants agreed the systems gaps relating to weaknesses in information flow on patient's physical health was an organisation-wide issue and that other wards would benefit from hearing what had been learnt from the swarm.

Step 6: Identify safety actions, assigning leads and deadlines (where possible)

Learning Response Lead G was given responsibility for sharing the learning around accessibility of physical health information with a team who were re-designing the electronic patient record. Ward Sister 5 agreed to share the learning at ward huddles and a ward sister's meeting.