




Videos of simulated after action reviews: a training resource to support social and inclusive learning from patient safety events

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ABSTRACT

Innovation in the education and training of healthcare staff is required to support complementary approaches to learning from patient safety and everyday events in healthcare. Debriefing is a commonly used learning tool in healthcare education but not in clinical practice. Little is known about how to implement debriefing as an approach to safety learning across a health system. After action review (AAR) is a debriefing approach designed to help groups come to a shared mental model about what happened, why it happened and to identify learning and improvement. This paper describes a digital-based implementation strategy adapted to the Irish healthcare system to promote AAR uptake. The digital strategy aims to assist implementation of national level incident management policies and was collaboratively developed by the RCSI University of Medicine and Health Sciences and the National Quality and Patient Safety Directorate of the Health Service Executive. During the COVID-19 pandemic, a well-established in-person AAR training programme was disrupted and this led to the development of a series of open access videos on AAR facilitation skills (which accompany the online version of this paper). These provide: (1) an introduction to the AAR facilitation process; (2) a simulation of a facilitated formal AAR; (3) techniques for handling challenging situations that may arise in an AAR and a (4) reflection on the benefits of the AAR process. These have the potential to be used widely to support learning from patient safety and everyday events including excellent care.

INTRODUCTION

The lack of worldwide progress in reducing adverse event rates^{1 2} is a compelling reason for enhancing how organisations and teams learn.³ Learning from patient safety events is often reliant on incident reporting and requires an understanding of the individual and systems factors involved.³ The goals are to find out and learn from what happened, repair harm to patients and families, respond justly to staff at the ‘sharp end’ of events and improve health system defences.^{3 4} Yet, increasingly, there is a demand for learning

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ In healthcare, debriefing patient safety and everyday events is considered an imperative but is not widely practised.
- ⇒ Evidence from other industries suggests that the development of a culture of after action review (AAR) practice, requires leadership support and staff training in AAR facilitation skills.

WHAT THIS STUDY ADDS

- ⇒ National incident management policy, supported by academic partnerships, can be used to promote uptake of AARs.
- ⇒ Digital resources can be purposefully designed to target implementation outcomes such as enhanced frequency and adaptation of AAR to support learning from events.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Future research will identify the effect of digital resources on AAR uptake in the healthcare system.

from events to be in ‘near-to-real-time’ and in support of patients and staff alike.⁵ ‘Investigative learning approaches’ provide valuable actionable knowledge to improve safety yet are time-intensive and risk compounding harm for patients and staff.⁴ ‘Facilitative learning approaches’ that promote near-to-real-time learning and improvement and mitigate against staff blame are also needed.^{4 5} For a comprehensive approach to safety learning, organisations and teams also require to learn from care that goes well.⁶ This promotes awareness about the mechanisms by which organisations and teams adapt and achieve intended care outcomes, despite varying conditions.⁷ Innovation in the education of healthcare staff is required to support complementary learning approaches that are time appropriate and can be applied to the wide range of events in healthcare: from



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Table 1 Characteristics of AARs in the Irish health system

The four AAR questions	<ul style="list-style-type: none"> ▶ What did we expect to happen? ▶ What actually happened? ▶ Why was there a difference? ▶ What have we learned?
Formal AARs	<ul style="list-style-type: none"> ▶ A facilitated process that staff are released to attend. ▶ Reviews moderate and minor incidents. ▶ Debriefs staff in the aftermath of major incidents. ▶ A short AAR report is prepared to summarise the background to the event, the learning and actions, agreed by staff attending. ▶ The report may be stored on the National Incident Management System.
Informal AARs	<ul style="list-style-type: none"> ▶ For routine events within the team environment. ▶ May take a short time duration. ▶ A trained facilitator or the production of an AAR report are not required.

AAR, after action review.

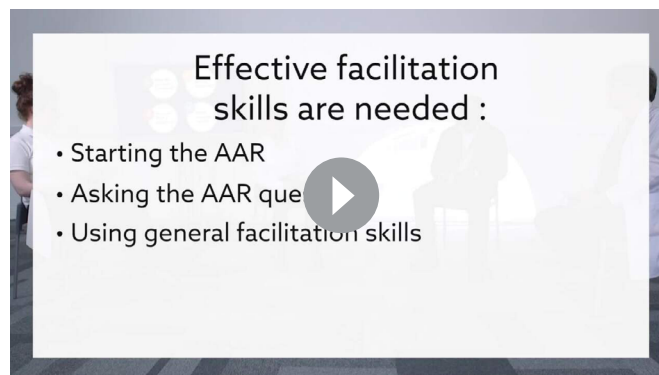
near misses and patient harm, to exemplary healthcare. This paper describes the digital-based implementation strategies associated with the promotion of after action review (AAR), as an innovative approach to learning and improving from patient safety and everyday events in the Irish health system.

BACKGROUND TO AAR IN THE IRISH HEALTH SERVICES

National-level patient safety incident management frameworks have, since 2018 in Ireland,⁸ and 2022 in England,⁹ formally included the debriefing methodology AAR as part of graded responses to patient safety learning. Originating from the US army, AAR is a facilitated discussion of an event that enables staff to come to a shared mental model of what happened, why it happened and to identify learning and improvement.¹⁰ The Health Service Executive (HSE) in Ireland advocates the facilitated use of the four AAR questions for incidents (formal AARs) and everyday events (informal AARs) (table 1). Depending on the severity of the event, the AAR may be stand-alone or complementary to another incident review type.

DEVELOPMENT OF AAR IN THE IRISH HEALTH SERVICES

Use of AAR in organisations is strongly dependent on the availability of trained AAR Facilitators. Since 2018, the Graduate School of Healthcare Management (authors TK and SEM) trained up to 500 clinical and non-clinical staff in the Irish health system as AAR Facilitators using a codesigned in-person simulation-based programme.¹¹ In November 2022, there were approximately 300 incidents recorded on the National Incident Management System which used the AAR methodology. These AAR reports relate mostly to learning from medication events (23%), falls (17%) and exposure to viral hazards (eg, COVID-19)

**Video 1** An introduction to the AAR facilitation process

(17%),¹² suggesting that the AAR approach has started to be used in the healthcare system.

DIGITAL IMPLEMENTATION STRATEGY: TRAINING VIDEOS OF SIMULATED AAR FACILITATION

From 2019, the HSE and RCSI formed a research collaboration to assess the implementation and effect of AAR at a hospital site.¹¹ In case of interruption to the in-person training due to COVID-19, a series of videos of simulated AARs were developed. These videos were codesigned by the RCSI (SEM and NR) and HSE (CH, LJ and LS) and were informed by learning from the in-person delivery, HSE guidance on facilitating AARs,¹³ and existing video simulations from other industries.¹⁴ The open access training videos were designed to help spread and sustain AAR awareness and facilitation skills in the healthcare system. The four videos (V1–4) (available in videos 1–4) include: (1) an introduction to the AAR facilitation process (video 1); (2) simulation of a facilitated formal AAR (video 2); (3) techniques for handling challenging situations that may arise in an AAR (video 3) and (4) a reflection on the AAR process (video 4). The video learning outcomes are to understand the purposes of an AAR, the AAR process and the skills required to facilitate an AAR effectively.

The codesign process took place over 6 months. SEM first developed the case scenario, character profiles and script to guide the actors' responses. NR, CH, LJ and LS provided inputs to support the online learning format and case scenario including its alignment with HSE incident

**Video 2** Simulation of a facilitated formal AAR



Video 3 Techniques for handling challenging situations that may arise in an AAR

management policies and nomenclature.^{8,13} Prior to filming, the scenario and script was externally validated by healthcare professionals familiar with the professional roles played by the actors. Filming took place at the RCSI and the actors had prior experience in simulating AARs as part of the face-to-face delivery. Using the services of an e-learning company, SEM, CH, LJ and LS guided the direction of the on-set filming and postproduction editing. NR and LS approved the final version of the videos, which were then made available on the HSE website for use by staff. Using quantitative and qualitative approaches, an evaluation of the video usage and effect will take place when the videos have had opportunity to embed in the system.

Box 1 describes the implementation-based teaching and learning strategies applied to the development of the videos.

Introduction of AAR philosophy to learners

The introductory video outlines that AAR can be used formally and informally for incidents and everyday events irrespective of the outcome. This helps support the adoption of AAR for learning from patient safety and everyday events.⁷ Use of AAR on positive events may encourage the development of confidence in AAR facilitation skills, prior to using these skills for a patient safety event, which may be more challenging.



Video 4 A reflection on the AAR process

Box 1 Implementation-based teaching and learning strategies applied to the development of training videos of simulated AAR facilitation skills

Introduction of AAR to learners (V1)

Align AAR to patient safety and everyday events.

Development of case scenario (V2, V3)

Align to a patient safety priority in the health system.

Choose a patient safety event which AARs are likely to be used for, at local level and across disciplines.

Devise a scenario that promotes the use of AAR with teams of healthcare teams.

Simulate effective AAR facilitation skills at the outset, during and conclusion of the AAR (V2–4)

Outset of AAR process:

- Conduct introductions
- Describe the AAR facilitator role
- Define the focus of the AAR
- Describe the purpose of an AAR
- Set ground rules
- Invite questions
- Address resisters
- Highlight how information from the AAR will be stored and used.

During the AAR process:

- Ask the four AAR questions in an equitable fashion
- Use open, probing, clarifying and closed questions to support an understanding of issues
- Apply ground rules when needed
- Demonstrate empathy, impartiality, listening and positive reinforcement.

At the end of the AAR process:

- Draw out learning and improvement actions from participants
- Conclude the AAR and positively reinforce the AAR learning approach.

Promote a culture of AAR practice (V2–4)

Conduct the AAR as near as possible to the event.

Promote ownership of the improvement actions among participants. Highlight how patients and families may become involved in the AAR process.

Encourage reflection on the AAR process.

Note: V1= introduction to the AAR facilitation process, V2=simulation of a facilitated formal AAR, V3= techniques for handling challenging situations that may arise in an AAR, V4= reflection on the AAR process. AAR, after action review.

Development of the case scenario

The case scenario on which the AAR was based concerned the transition of an older patient with dementia from a care home by ambulance to an emergency department. The reason for the transfer was a patient fall. Key challenges were ineffective handover, misdiagnosis and incorrect treatment (see online supplemental file 1 for a written summary of the case). The prevention of falls, and incidents arising from care transitions or handovers, is a patient safety priority across health systems.¹⁵ AARs have been used for learning from these issues, as evidenced in the AAR report data in the Irish health system¹² and international literature.¹⁶ The selection of this case scenario encourages adoption of AAR beyond use within teams only. A shared-mental model about how to make



healthcare safer across boundaries is promoted, which is an identified practice gap, highlighted in the debriefing literature.¹⁷

Video simulation of effective facilitation skills at the outset, during and conclusion of the AAR

Outset of the AAR

In the videos, the facilitator generates an inclusive atmosphere by role modelling use of first names, democratic setting of ground rules and invitation to ask questions. This is important for encouraging the voice of participants and overcoming hierarchical barriers.¹⁸ The AAR facilitator deals with potential resistance at the outset, through clarification of questions and encouragement of participants to trust the AAR process and ground rules agreed. In practice, resistance may be about time demands, confidentiality and the rationale for an AAR meeting being held in-person. Due to the documented barriers to open communication in virtual debriefings, the videos encourage AARs to be held in-person.¹⁹ Should AARs take place online, explicit strategies are available in the literature to support psychological safety in virtual debriefings.¹⁹

During the AAR

Skilled facilitation is essential to effective AAR practice²⁰ including listening, empathy and an open questioning approach. The videos highlight the practical application of these skills within the context of an AAR facilitation. Each AAR question must be directed to each individual participant, before moving on to the next question. To maintain impartiality and avoid anchoring bias, each new question should be directed towards a different start person.¹³

Concluding the AAR

AAR facilitators invite suggestions for improvement to encourage engagement in and ownership of the actions. Key to attracting healthcare staff to the AAR facilitator role is ensuring that the work of facilitation does not add unnecessary time demands or burden. The videos highlight that the role of the AAR facilitator is to draw out the improvement actions for the participants to own, and to positively reinforce participant engagement with the learning approach. The AAR facilitator, however, may take ownership of some of the improvement actions should their job role (eg, falls prevention manager) relate to the issue in question.

Promote a culture of AAR practice

To avoid barriers to real and fast learning, AARs should be held as near as possible to the event, as demonstrated in the videos. The AAR process is primarily to support staff learning after an event.¹³ However, there is a need for organisations to explore how patients and families may become involved in the AAR process.¹³ At a minimum, AARs should triangulate with other mechanisms for disclosing incidents to patients and engaging them in the safety learning process.¹³ For example, the video simulation highlights how an open disclosure of the event was communicated to the patient

and family, and how the learning from the AAR will also be communicated with them.

The videos demonstrate participants' reflections on the AAR process. An AAR on the AAR process is recommended where time permits, to support the development of a shared mental model about how the team learns and thinks about safety.¹³

CONCLUSION

Use of digital-based implementation strategies is a valuable addition to support effective AAR facilitation skills and may promote uptake of the AAR facilitator role within the health service. Provision of videoed examples to healthcare staff is likely to increase awareness of what a well facilitated AAR looks like and may also increase interest in participating in AARs. The videos may prompt trained AAR Facilitators to further develop their own facilitator style and organisations to consider how best to adapt the AAR approach to fit their context. Future research will identify the effect of digital resources on AAR uptake in the healthcare system.

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