



Expert Opinion: Ann Mullen

“As safety advocates, we must discuss and learn from risks, close calls and accidents stemming from our work.”

The Article :

“Practically Saline”

Schroeder J, O'Neal C, Jagneaux T.

[J Investig Med High Impact Case Rep. 2015;3\(4\):2324709615618980 PMID 26663812.](https://doi.org/10.1177/2324709615618980)

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Simulcast Journal Club is a monthly/ series that aims to encourage simulation educators to explore and learn from publications on Healthcare Simulation Education.

Each month we publish a case and link a paper with associated questions for discussion.

We moderate and summarise the discussion at the end of the month, including exploring the opinions of experts from the field.

The Case :

“He’s dead.” sobbed Catherine as Nimali hugged her tightly. The steady thumps of hail hitting the roof outside partially muffled the sound of her tears.

“I mean, Snythe was the meanest paediatric intensivist I’d ever met, but he didn’t deserve to be stabbed through the heart with an Intercostal Catheter Trocar while acting as a Simulated Trauma Patient.”.

Nimali winced. “The police are going to be here any minute. Catherine, what happened? Tell me every detail.”.

Catherine’s eyes glazed with painful recollection.

“Well, we had the end of year staff meeting, everyone was here except you and Nitin, and some of the junior trainees had organised a ‘Registrar Revenge’ Simulation. Snythe had agreed to be the Simulated Patient, and he was wearing a metal chest protector with a box of fake blood over the top of it. We were supposed to put a chest drain in, but we had just started the scenario when the power went out. It was pitch black in the Sim room, and we were joking around. Then we all heard a scream.”

“When the lights came back on, Snythe was dead. And for a few seconds we laughed! We thought it was a Sim!”.

“Surely it was an accident?” asked Nimali. “A horrible horrible accident. I know Snythe had a lot of enemies, I mean, but why would you think this was murder?”.

“The note.” Whispered Catherine in shock. She slowly opened her clenched fist and a crumpled piece of paper unravelled. A sentence made out of paper clippings was just visible on the inside.

Nimali unrolled it and read the words aghast.



Nimali shuddered. Next month’s Quality and Safety meeting was going to be interesting.

Discussion :

While our case study has descended into a farcical murder mystery, simulation safety remains a serious and potentially deadly issue. Scaffolding on from last month’s simulcast coverage of Raemer et al’s [“Simulation Safety First : An Imperative”](#) we’d like to explore one of the cases referenced within that article : a case report in which 45 patients were exposed to simulated (and non sterile) saline. The case report is open access and well worth a read. We hope in combination with Raemer et al’s editorial it will provide you a stimulus for reflection on Sim safety within your hospital.

For our journal clubbers this month :

- What reflections does this case report prompt on your own facility’s practice?
- What resources and strategies have you found useful to maintain simulation safety within your own service?

In December 2014, the FDA reported that :

45 Patients

had been exposed to **non sterile** saline created for use in simulation.



25 Adverse Events



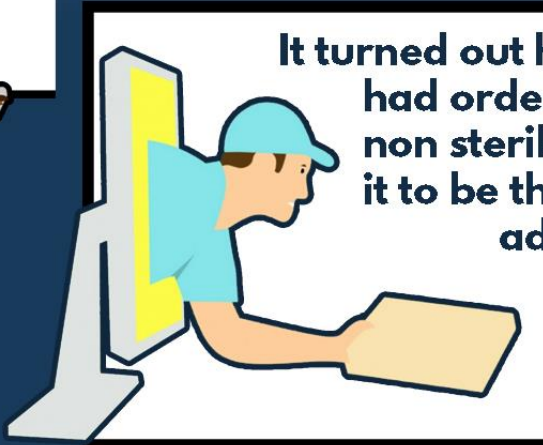
11 Hospitalisations



2 Associated Deaths



After a cosmetic procedure, one man presented septic with a lactate of **9**. His blood cultures grew an unusual bug : *Empedobacter brevis* which was successfully treated.



It turned out his surgical clinic had ordered simulated, non sterile saline believing it to be the real thing, and administered it IV.

Does this case make you reconsider the 'safety' of using fake meds in our simulations?



Expert Opinion: **Ann Mullen, MSN, RN, CHSE**



Ann is President of the [Foundation for Healthcare Simulation Safety](#) and Program Manager, Institute for Medical Simulation at the Center for Medical Simulation.

Prior to joining CMS, Ann was the Program Manager of the Shipley Medical Simulation Center at Newton-Wellesley Hospital. Ann was responsible for program planning, faculty training and ongoing faculty development. She has over 30 years of experience in critical care nursing and staff education.

Ann received a Master of Science in Nursing at Regis College. She is a graduate of the Institute for Medical Simulation Comprehensive course and the IMS Graduate Program. Her interests include faculty development, debriefing and simulation safety.

This commentary draws on the collective wisdom and experience of many colleagues and friends in the simulation community. I am grateful for the invitation from the Simulcast team; thanks to Dan Raemer, Alex Hannenberg for their invaluable contributions.

Simulation activities can introduce unexpected hazards into the complex healthcare system. Despite these risks, simulation is a highly effective method for improving patient safety, and exposing accidents is not meant to cause unnecessary alarm or diminish the importance of simulation. Open discussion is necessary, and should not shut down good work nor discourage the growth of simulation programs.

As I reflected on the impact of this article on the sim community, I am struck by the threat that this incident poses to our identity as patient safety advocates. Simulation professionals play a key role in promoting safe practice, and the realization that simulation can cause harm is jarring. We hear examples of the same error occurring repeatedly, yet the story is not shared, perhaps because of the absence of a reporting process, risk of embarrassment, harm to reputation or other possible consequences. There are many barriers to open discussion of our mistakes. However, if we are safety advocates, we must make our simulation community aware of risks, close calls and accidents so we can learn from them. The authors of this case report have done us a service by publishing this incident.

The IV fluid incident was a tragic example of patient harm caused by simulation. Like many other accidents, it happened despite good intentions and usual safeguards. This accident was truly a sentinel moment, and it led to the formation of the Foundation for Healthcare Simulation Safety. Our first step was to develop and distribute a simulation warning label. However, labelling is only one part of a safety program. When a busy clinician picks up a medication, he “reads” the label, yet we know that our ability to perceive and process visual information is quite limited, and is impossible to prevent errors with labelling alone. This overview of inattentive blindness reminds us that we should not be too hasty to assign blame to individuals for such errors: *Simons, D. (2019). Failures of awareness: the case of inattentive blindness. In R. Biswas-Diener & E. Diener (Eds), Noba textbook series: Psychology. Champaign, IL: DEF publishers. DOI:nobaproject.com*

We hoped that our website could be used to share incidents and best practices so we can learn from one another. We have heard many stories from our simulation colleagues, and have posted them on the website without identifying the source. We have also posted news articles of simulation-related incidents.

We saw a need to reach a wide audience and engage all of our simulation colleagues to address the hazards of simulation, and decided to submit an editorial. In order to increase the impact of this message, we urged the editors to consider simultaneous publication. This was no small task; the editors invested a great amount of effort and coordination to accomplish this goal. We are so grateful to: Mark Scerbo, Deborah Nestel, and Bijendra Patel, the editors of *Simulation in Healthcare*, *Advances in Simulation*, and the *Journal of Surgical Simulation*, respectively.

It seems logical to capture incidents in a formal simulation case report system, However, that is a complex topic. If serious harm occurs, it is important to assure confidentiality and legal protection. Incidents could be entered into an official incident reporting system, built with appropriate safeguards, to protect those involved from liability and legal discovery. Simulation safety is a



Journal Club Summary February 2019 "Dial M for Trochar"

world-wide issue, but there is great variation in the laws, and the implications for reporting are quite different. With such a wide variation of liability, it is difficult to craft an appropriate method for international reporting. The Anesthesia Quality Institute (AQI) is a good example of a confidential reporting system for collecting individual adverse events. The Anesthesia Incident Reporting System (AIRS) is an online reporting tool, and the data is used to help clinicians learn from these events. These reports are collected and stored in highly protected manner by virtue of AIRS' status as a federally recognized Patient Safety Organization in the US. <https://www.aqihq.org/airsIntro.aspx>

The Foundation for Healthcare Simulation Safety welcomes stories from our colleagues and we are keen to share them to help others avoid accidents. We have not received reports of any serious incidents, and we recommend those only be reported via institutionally based reporting mechanisms. At this time, the FHSS is a small volunteer organization, and we do not have the resources take on the responsibility for formal reporting. We are focusing on raising awareness, and hope to catalyze interested parties to take on some of these challenges.

A final thought about simulation safety. Gun violence is a topic of great concern, and simulation professionals are called upon to help organizations prepare for assaults by armed intruders. I am truly frightened to imagine how many ways these well planned and well intentioned active shooter drills can go wrong. Even with meticulous planning and notification, it is quite conceivable that an armed citizen could witness an active shooter drill in progress. The "good guy with a gun" could shoot a embedded simulated person, believing that he is protecting a doctor or nurse who appears to be in danger.

We have heard several anecdotes of confusion and communication errors during the drills and accidents that were averted. In one such instance, notification of an active shooter drill was disseminated throughout an entire organization, and the team felt sure that they had warned everyone of the planned drill. A person in an adjacent building looked out the window and saw the events unfolding and called the police.

Two active shooter mishaps have been reported in the news recently: Miscommunication during an active shooter drill led to a lockdown and evacuation of Walter Reed National Military Medical Center.

<https://www.cnn.com/2018/11/27/politics/walter-reed/index.html>

The second example is even more troubling:

"A breakdown of communication led to a completely uncoordinated and ineffective combined response that could have resulted in serious injury or property damage," the Air Force said in a report summarizing the findings of its investigation into an incident at the Wright-Patterson Air Base.

<https://www.cnn.com/2018/12/19/us/air-force-base-active-shooter-confusion/index.html>

These particular kinds of simulations are on such a large scale and sufficiently complex that their planning begs for a robust Failure Modes and Effects Analysis (FMEA) to maximize the communications strategy - the common thread - and minimize the risk of unintended harm.

Summary of this Month's Journal Club Discussion :

Blog Contributors :

- Ian Summers, Ben Symon, Laura Joyce, Zachary Buxton, Susan Eller, Eve Purdy, Jennifer Dale-Tam, Chris Nickson, Ann Mullen, Jenny Rudolph, Farrukh Jafri, Sonia Twigg, Melissa Cirino, Janine Kane, Shannon McNamara.

Summarising this month was quite a challenge as we had a wonderfully diverse set of responses from an incredible line up of journal club participants. Big themes included :

- The boundaries between the Simulated and Real Worlds are more blurred than we recognise.
- How organisations respond to safety breaches

The Boundaries between the Simulated and Real Worlds are more blurred than we often recognise.

Interestingly the case study involved patient harm from simulation equipment but no involvement of a simulation team. In some ways this made the case easier to dismiss, but in other ways it highlighted that simulation effects our real world in unanticipated ways.

Some journal clubbers such as Jennifer Dale-Tam and Janine Kane shared stories of near misses in simulation safety. The team described events with equipment and simulated patients but also the implicit role confusion that can occur from being a clinician who is intermittently 'playing pretend'. As Laura Joyce outlined in her anecdote :

In the past month I have had two experiences of dragging very unwell patients out of cars at the front of the department, and having to repeatedly say to my colleagues "This is Not a Simulation, This is Not a Simulation"

Shannon McNamara voiced concern regarding both physical damage and in particular psychological damage that might be sustained through simulations and voiced concern regarding the impact of private companies running active shooter drills.

How organisations respond to safety breaches

A number of responders noted caution about taking an overly restrictive approach to simulation safety. Chris Nickson, for example, argued : *"An awareness of the safety considerations is vitally important – however, I think we also need to make sure we don't throw out the simulated baby with the real non-sterile bath water."*

Jenny Rudolph added to this through sharing her experiences investigating nuclear power plant safety breaches : *"When processes that are tightly coupled (think of chemical or physical chain reactions) intersect with complex systems (think: distributed, adaptive, computer networks with multiple interdependencies) none of us should be surprised when small anomalies chain together in unexpected ways to produce catastrophic accidents."* Perhaps most importantly she shared the following findings :

"The safest organizations balanced high standards for the tight control of safety practices on the one hand, with learning through transparent reporting practices and assuming the best of people on the other."

Eve Purdy went even deeper and asked us to explore our own beliefs about simulation.

Can we do a more thorough job of exploring the 'near misses'. The most common belief I have seen is that sim educators and participants think using "fake" medications is a better idea than real medications in the sim environment. An exploration of those beliefs – not just correction of them – might lead to more enhanced understanding. There are probably any number of underlying values related to that belief – the most significant of which is cost savings for the hospital/healthcare system – but as this case report shows that just doesn't play out...

Acknowledgements :

Thank you to Ann Mullen for her expert commentary this month.

Thank you to all commenters this month for sharing your thoughts and allowing us to learn from you.

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References :

1. [Schroeder J, O'Neal C, Jagneaux T. Practically saline. J Investig Med High Impact Case Rep. 2015;3\(4\):2324709615618980 PMID 26663812.](#)
2. [Raemer, D., Hannenberg, A. and Mullen, A. \(2018\). Simulation safety first: an imperative. *Advances in Simulation*, \(1\).](#)
3. <https://healthcaresimulationsafety.org/>