

2020

## Using a clinical deterioration scenario (video) as an approach for interprofessional learning

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This article was originally published as:

Russell, K. P., Waldron, H., Tor, E., & Waldron, N. (2020). Using a clinical deterioration scenario (video) as an approach for interprofessional learning. *Journal of Interprofessional Education and Practice, 20*.

Original article available here:

[10.1016/j.xjep.2020.100341](https://doi.org/10.1016/j.xjep.2020.100341)

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This is the accepted manuscript version of an article published as:

Russell, K., Waldron, H., Tor, E., and Waldron, N. (2020) Using a clinical deterioration scenario (video) as an approach for interprofessional learning. *Journal of Interprofessional Education and Practice*, 20. doi: 10.1016/j.xjep.2020.100341

This article has been published in final form at <https://doi.org/10.1016/j.xjep.2020.100341>

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**Conflict of Interest:** The authors declare that they have no conflict of interest

**Funding:** The University of Notre Dame Australia

**Keywords:** Interprofessional learning, clinical deterioration

**CrediT author statement**

**Kylie Russell:** Methodology, Formal analysis, Writing Original Draft

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**Elina Tor:** Methodology, Writing – Review & Editing

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## **Abstract**

For effective management of clinical deterioration, health professionals must work together to recognise and respond to the patients changing health status. This paper provides an overview of the clinical deterioration video, used as a learning tool to engage medical, nursing and physiotherapy students and junior clinicians for the purpose of identifying the deteriorating patient and to support the development of interprofessional teamwork skills.

This paper describes the perspectives of educators who have used this resource, a description of the resource, its evaluation, and access to the resource. The educators felt that the clinical deterioration video provides a learning environment in which learners develop an insight into the essential knowledge and skills required to support interprofessional practice and good patient outcomes.

## **Format**

Small group case discussion embedded with video presentation and structured questions and resources. Classroom setting at the university or health service.

## **Target audience**

- Second year nursing (three year Degree), physiotherapy (four year Degree) and medical students (four year Master's Degree).
- First year nursing, medical and physiotherapy graduates' health service orientation program at participating health services.

## **Objectives**

The learning resource aims to promote effective interprofessional communication and understanding of roles and responsibilities of the healthcare team, in the delivery of patient care.

## **Activity Description**

The training of healthcare students and junior practitioners in the area of clinical deterioration is vital for good patient outcomes. This student learning journey begins in the university sector and is cemented throughout the early years of professional practice. Innovative learning approaches that quickly engage learners and advance practice is crucial due to limited time available in programs already experiencing curriculum overload and time constraints in clinical environments.

Clinical deterioration in the hospital setting describes the worsening of a patient's clinical state with increased risks of morbidity and/or mortality. It is characterised by physiological instability, evident as deranged vital signs, for several hours before other clinical signs signal that the patient is seriously unwell. Current conceptual definitions have evolved: from an end-point perspective observing adverse consequences, to a prospective focus of predicting risks and avoiding negative outcomes [1].

Early hospital-based interventions were based around assumptions that individuals lacked skills to recognize deterioration, whereas it is now widely accepted that systemic factors contribute substantially to reducing preventable deaths, and that contemporary interventions center on enhancing individual adherence to protocols [2]. Systems-based approaches, such as rapid response teams that provide intensive treatments, are most effective when patient deterioration is recognised as early as possible [2].

Frequent clinical assessment, including vital sign measurement, is the current gold-standard approach for detecting clinical deterioration[3]. Hospital observation charts are now sophisticated records of patient clinical status designed with in-built triggers prompting when escalation of care should occur [4].

There are a number of reasons proposed to explain why staff do not recognise or call for help in clinical practice. Issues relate to communication breakdowns, team hierarchy, lack of confidence and fears of being viewed as incompetent [6,7]. Despite widespread hospital adoption of protocols guiding escalation of care, staff still report barriers to responding to deterioration with the most common being a sense that they should be able to manage patients by themselves on the ward [7].

### ***The clinical deterioration video***

The aim of the clinical deterioration video (the video) was to provide a free learning tool to academics and clinicians that aligns with Australian healthcare protocols [5] and supports how individuals relate to systemic approaches with respect to teamwork, communication and confidence.

In the hospital setting the video has been used with junior doctors, physiotherapists and nurses to guide group discussions to promote communication, teamwork and the overall care of the deteriorating patient during health service orientation. The video is also available to all academic staff at the University, and local universities, as a resource to promote interprofessional teamwork, communication, and care of the deteriorating patient. More formally the video is used in an interprofessional learning activity including medical, nursing and physiotherapy students during their entry to practice program at The University of Notre Dame Australia (Notre Dame). The blended learning

approach aims to refine student knowledge, skills, attitudes and behaviours to manage clinical deterioration effectively as a team. Each year students participate in the 2-hour activity, working in teams of up to 10 review the video content, and with the addition of patient notes, address set questions in relation to the delivery of care. To date (2016-2019) close to 1600 students have participated in the interprofessional event. Research findings of the student group indicate a statistically significant improvement in attitude towards teamwork and role responsibilities[8].

### ***Video scenario***

The video, utilising a clinical narrative style, follows a female patient admitted to hospital post fall, with a fractured hip. When the patient unexpectedly deteriorates, the viewer sees how the healthcare team work, and the impact of communication on patient care. The 14-minute video shows the junior doctor and nurse move through the stages of recognising and responding to the episode of deterioration.

In particular two alternatives of patient clinical assessment and communication are illustrated, with their related patient outcomes. The video initially shows how the nurse's lack of confidence to voice their concerns about the patient to the junior medical officer resulted in a delay in patient review and their rapid deterioration, with subsequent admission to the intensive care unit. Revisiting the same scenario, the nurse's use of an appropriate clinical handover resulted in a prompt review with more senior medical staff. Students are in particular prompted to consider the impact of communication on patient care and outcomes.

As the staff navigate hospital protocols, the video highlights six relevant areas: roles and responsibilities, observation-based trigger systems, escalation pathways,

communication, addressing 'goals of patient care' (or patient preferences) and the importance of feedback.

The video is available <https://vimeo.com/139183068>

### **Assessment**

This evaluation aimed to investigate the perspective of both academic and clinical educators on the utility of the video as a blended teaching and learning tool in various health professional education settings. Both focus group and interview data were collected and analysed to provide the perspectives of both academic and clinical educators use of the video [9]. Ethics for the project was granted by Notre Dame Human Research Ethics Committee (0177099F).

This evaluation study sought to explore educator users' perspective on the utility of the video content and delivery in supporting students' and junior clinicians' development of necessary knowledge, attitudes and understanding that should translate into behaviours that will improve clinical management of patient deterioration and teamwork?

### ***Participants***

The focus groups (FG) and interviews (I) used a convenience sampling technique [10] of all academic and clinical educators that had been given access to the video (n=72) since 2017, a total of 26 (36%) participants participated (please note as the resource is freely available, these were known academics to have accessed the resource). Three focus groups were held for academic educators onsite at the university (n=17), whilst clinicians provided a time for a phone interview (n=9). All participants were provided with an information sheet and written consent obtained.

## **Evaluation**

The interview questions were semi structured and developed by the research team to explore the participants engagement with the video. The qualitative data was transcribed and examined to identify emergent ideas and themes according to Clark and Braun stages of analysis [10]. Participants were also asked to complete a survey providing demographic details and their use of the video.

## **Impact**

All of the participants had used the video in their respective work areas. University academics described attending the interprofessional activity (100%) as well as making the resource available to students on the university learning management system or in class. The clinical educators used the video during hospital and/or unit orientation (100%) to support medical emergency training.

The video, whether used as an educational resource at the university, or at a hospital for junior clinicians, provided an opportunity for learners to view a realistic account of a deteriorating patient and the implications for safe practice through effective teamwork. Three key themes were identified: Communication, Team work and Patient assessment.

## **Communication**

Participants felt that video depicts the importance of communication techniques and strategies, and how these impact on the healthcare team and patient care, in relation to the video scenario,

*The body language of the nurse... was the resident actually looking at the nurse closely and evaluating the body language and discerning that the person was a bit concerned, more than they vocalised... I think that was*

*good to be displayed in the video, you can't get that by just explaining (16).*

The participants felt that the students in the interprofessional activity were prompted to question the communication, was this appropriate, what could they do differently, and are they already making assumptions about interprofessional communication practices, and how they should engage. When sharing views about the students in the interprofessional event it was noted,

*There was this big discussion about (how) the nurse should have been more assertive... but then... they talked about how it was a two-way street so the doctor could have asked for more objective measures ... so they've been realising that it was a two-way communication (FG1).*

*It makes them realise when I'm out on prac, the medical person, and the physio, and the OT are not the untouchables that I cannot communicate with. They're actually someone that's working on my team... and they're not scary (FG2).*

In the hospital, the clinical educators in particular noted that the video helped to reinforce the preferred communication culture,

*The videos we found actually more effective in promoting positive attitudes towards teamwork and the importance of multi-disciplinary care (11).*

*The video provides a true picture of what medicine is, that's a collaborative approach ... this comes across loud and clear (15).*

### **Team Work**

The video captures both effective and ineffective teamwork during clinical handover that impacted patient care. In particular participants felt that the video prompted thoughtful consideration of other professions viewpoints,

*That whole team approach of looking through each other's lens, of what we're focussing on. Yes we have a patient, but we're all on different thought processes about where this patient needs to go as well [FG3].*

*Get a real understanding of how all those different people play a role in managing patients, and I think that's something that we struggle to deliver [12].*

Seeing this interaction in the video seemed to prompt group discussion about the disciplines, and impact on how they engaged with each other, both at the university and at the hospital orientation,

*They seemed to really engage with each other, finding out what the physio would do with this. They really did a lot of that and same with the nursing. And it was like, "wow, you do so much", and it was good (FG3). I think for me the idea there's an appreciation of different roles... and also about the immediacy of information that different disciplines need to make different decision at different points in care (19).*

Students were also prompted to consider the lines of communication, and how it works in,

*They were asking me 'should the junior nurse have gone to the CNS (senior nurse) ... they were quite kind of unsure about the lines of communication and if that was actually what's expected in the clinical area. We talked a lot about that (FG1).*

*Our physio students got a lot out of the communication side... the type of communication they need to be displaying... its opening their eyes to the world of what hospitals can look like (FG2).*

Students from the different professions quickly noticed that they were trying to say the same thing but with a different language that they had acquired for their speciality,

*It's about finding a shared language. Because we know that clinical errors happen when we've got poor communication, and it's usually around terminology or language that we use they're not familiar with (14).*

## **Patient Assessment**

Participants described how the video prompted discussion about early detection and management of clinical deterioration,

*I really enjoyed listening to all this theory coming out and the students trying to put that into practice... you could tell that they had all this knowledge (FG1).*

*I think it does give them a little bit of confidence to know that they have that gut feeling that you sort of talk about. To listen to it and don't ignore it and just run it by someone (FG2).*

*They basically all had to work together and share all that different knowledge base they had. I actually was really proud of them, I thought they did extremely well (FG1).*

In particular the video highlighted how a patient situation can change rapidly and the need for prompt healthcare intervention is crucial to improve patient outcomes, no matter what level of seniority you might hold,

*It demonstrates nicely how a seemingly simple patient case can require escalation quickly, and how important the role of staff who see the patient regularly can be (I2).*

*The video empowers them that they do have a role in these types of clinical scenarios (I8).*

### **Summary**

The clinical deterioration video has been utilised by both academic and clinical educators in a variety of settings and learning conditions. In each of these contexts the video has been widely viewed as a valuable resource to promote learning. Whether the student be an undergraduate nurse or physiotherapist, a postgraduate medical student or junior medical doctor, nurse or physiotherapist in the hospital, the content of the video was perceived as relevant and purposeful in promoting not only the care of the deteriorating patient, but the role of the interprofessional team that cares for these patients.

## **Required material**

All session materials are freely available.

- Clinical Deterioration Video - <https://vimeo.com/139183068>
- Example of Patient Notes (theatre notes, integrated patient notes, observation chart) - email: [Heidi.waldron@nd.edu.au](mailto:Heidi.waldron@nd.edu.au)
- Group questions and form completion (multidisciplinary goal setting record, discharge summary, physiotherapy referral form) - email: [Heidi.waldron@nd.edu.au](mailto:Heidi.waldron@nd.edu.au)

As a standalone session the activity can be completed in one hour, larger groups require further time to allow for cross group comparisons of the activity questions. The Notre Dame annual interprofessional event requires 2 hours with approximately 300 student in attendance. One academic is allocated per two student groups, with the intent of engaging only when asked, to promote student group discussion and problem solving.

## **Acknowledgements**

Participating academics from the School of Medicine, School of Nursing & Midwifery, and the School of Physiotherapy.

Palliative Care Network and clinicians from Armadale Health Service, Fiona Stanley Hospital, Royal Perth Hospital, and School of Medicine Fremantle, The University of Notre Dame Australia.

Chris Hetherington and Mitchell Yeats – Video Production

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