

# A day in the life of a maternity unit: immersive simulation for final year midwifery students

## Abstract

Simulation is an established transformational and experiential learning strategy in health education, drawing on creative and innovative teaching techniques. This article discusses a large-scale unfolding case study using real-time simulation with a multiprofessional facilitation team, to explore how using several simulation techniques can provide a rich learning experience for both midwifery students and their facilitators. Many midwifery students find the application of theoretical learning to practice settings a challenge, and report lacking confidence in certain elements of clinical practice, which can become more concerning in the latter stages of their training. By using multiple approaches with a student-centred outlook, this immersive simulation event positively impacted students' clinical confidence and assurance in their assessment skills, and enabled them to feel more fully prepared for everyday midwifery practice.

## Keywords

Midwifery education | Midwifery students | Multiprofessional simulation | Simulation-based learning | Simulation education

Midwifery education aims to provide students with the skills, clinical knowledge, life-long learning philosophy and decision-making ability to become safe, competent and compassionate midwives in a maternity landscape of uncertainty and change (Deegan and Terry, 2013; Vermeulen et al, 2017). Student midwives report challenges with applying their theoretical learning to the clinical practice (Folliard and Sanders, 2022), and so innovative educational approaches are needed for students to feel secure in their knowledge and ability to apply theory to practice upon nearing completion of their course and entering the midwifery profession.

Simulation-based learning events and roleplay scenarios are well-established educational approaches, used widely across midwifery undergraduate programmes (Deegan and Terry, 2013; Schweitzer et al, 2024). Forming part of experiential learning philosophy (Laverie et al, 2022), simulation provides students with the opportunity to extend existing knowledge and enhance their problem-solving skills in an interactive and creative format, replicating many of the challenges student midwives face in practice learning settings (Lee and Peacock, 2020; Moloney et al, 2022). Many healthcare students report that simulation-based learning techniques are preferable learning strategies, providing the freedom to consolidate skills in a safe learning environment without the emotional burden of worrying about mistakes being made while caring for people in practice (Lendahls and Oscarsson, 2017).

## Unfolding case study and real-time simulation: a powerful combination

An unfolding case study is a scenario that changes and evolves over time. The case study 'unfolds', incorporating elements that reflect certain changes in service user conditions over time. Unfolding case study promotes systematic logical thinking, information-seeking and critical analysis of clinical data (Englund, 2020). Active learning strategies, including case study, promote higher order skills, increasing students' agency in their learning

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and critical thinking at a deeper cognitive level (Bristol et al, 2019). A 'day in the life of a maternity unit' was organised for 56 final-year midwifery students, providing the opportunity to combine a series of 12 unfolding patient case studies with real-time immersive simulation for final year midwifery students. The day was held at the simulation centre at the University of East Anglia, as part of one of the students' final theory modules. The unfolding cases comprised of caring for 12 different patients accompanied by their birth companions and partners, who had a range of clinical presentations, including induction of labour pathways, threatened pre-term labour, emergency transfers, waterbirth, deteriorating mental health, neonatal examinations, sepsis bundle care and other maternity specific clinical situations. Real-time simulation was used to promote students to replicate clinical areas, advancing their technical skills, such as cannulation, with reflection and interprofessional communication skills across a range of simulation modalities (McKelvin and McKelvin, 2020). Students were given space and time to complete tasks, such as suturing, as they preferred, using a combination of roleplay and simulation models. This enabled the students to practice all stages of each skill combined with non-technical skills (Figures 1 and 2).

At the outset of the simulation, clear, concise communication was used in a pre-brief that included exploration of learning objectives and key roles. This allowed facilitators time to prepare their roles and an opportunity for suggestions, feedback and orientation to the learning environment for those unfamiliar. To ensure a wide range of simulated experiences, students were given professional and patient roles, transitioning halfway through the day to experience both sides of the caring relationship. Careful consideration and planning involved a timeline of patient location and care episodes to ensure there was no overlap between student and service user roles.

Students identified issues in the planning stages, which concerned them about qualifying. One of these challenges was keeping contemporaneous records while providing routine care. The resources used to support simulation teaching had often been heavily procured from a larger trust partner, which could create disparity in student familiarity with documentation. These were incorporated into the simulation experience, and 'patients' had personalised pre-filled paper maternal notes, completed to the point of care the patient would be attending. Some of these notes contained errors or medication contraindications, to promote thorough history-taking skills and patient-centred communication. Completing safety huddle attendance records, observation charts, handover tools and emergency proformas, among other documentation, required students to manage their time between contemporaneous documentation and care



Figure 1. Preparation for suturing by student Lauren



Figure 2. Simulation of caesarean birth by Midwifery Clinical Educator Mel Applegate

delivery, which was reportedly separated in the clinical learning environment.

### Embedding everyday practice

The simulation ran continuously, with students covering staff shortages and a lunch break acting as the mental pause to move seamlessly to the next role, covering care delivery

**Box 1. Student feedback**

'I feel it was really supportive and lecturers and facilitators were able to really understand the pressures and uncertainties and help me build on those!  
Despite my tears in the labour room'

'A really fun and open day to make mistakes, ask for help, be creative,  
thank you'

'I loved it. I was able to take my time getting things done and felt supported. It was nice to have another student as the patient, and a friendly facilitator. We've had emergency simulations before, so I found it really helpful to have a day of being a midwife with routine care'

'Such a brilliant day. A lot of our simulation work is primarily skills based,  
was really nice to practice wider thinking and multidisciplinary working too.  
Thank you'

for peers and managing arising emergencies as per in the hospital setting. While in the student role, learners used the freedom of acting as patients to optimise peer learning, prompting their allocated carer to document clinical activities, reminding each other of guidelines, protocols and exploring differences in clinical placement policies. Students also used their patient roles to create common clinical scenarios, such as aggressive patients requiring conflict resolution, reasons for incident reporting, mental health deterioration and raising parental concerns about neonatal care, providing non-technical skills refinement.

The simulation focus was on fundamental aspects of care, rather than emergency management. This included checking the resuscitaire and liaising with different maternity areas via telephone calls, where the students used walkie talkies to contact each other to arrange transfer of patients and co-ordinate care appropriately. Students moved between clinical areas and although the focus was on everyday skills from clinical practice, some of these elements caused anxiety and needed to be refreshed because of extended periods away from certain clinical areas, as they rotated in their student learning through different maternity departments.

Embedded in a research module, the experience required students to provide a rationale for each action and decision taken, combining elements of theory and practice acquired throughout their course, aligning learning outcomes with evidence-based best practice. Educators aimed to increase students' critical thinking and confidence in evidence-based rationale, providing case studies through which they could demonstrate professional, evidence-informed knowledge in a psychologically safe environment without the pressures of making mistakes with patients or usual placement demands (Vermuelen et al, 2017; Changuti et al, 2023). Psychological safety supports peers to trust and respect each other (Edmondson, 2019). This philosophy for the day-long immersive simulation enabled students to engage with midwifery skills and patient-centered holistic care

delivery, reflecting in action, auditing personal practice and relating the episodes of care, considering biopsychosocial-spiritual health and maternal wellbeing in the context of midwifery care provision and care planning.

Facilitators guided students' clinical decision-making via coaching techniques, prompting self-assessment and identification of knowledge gaps and areas for development. Using a coaching philosophy allowed students to envisage themselves in professional roles, with facilitators offering collegial advice when called upon, rather than providing answers to student queries. Students were able to 'step up', taking responsibility for care while the educational team 'stepped back', creating space for students to problem solve collaboratively in a supportive facilitated environment (Lobo and Kenward, 2021). The range of professional facilitators enabled students to fully immerse themselves in the simulation with each maternity area (midwife-led pool room, obstetric theatre, in patient wards) with allocation of roles complementary to specialist expertise (nurses, midwives and operating department practitioners).

**Evaluation**

Simulation draws on higher level thinking, encouraging students to move away from memory recall, instead learning through tacit experiences, practicing skills and the essential components of care, such as relationship building, and holistic assessment required for professional practice (Bristol et al, 2019). However, these elements of student training can be compartmentalised in practice environments, leading students to feel anxious about how they will 'cope' with the competing demands of clinical practice. An immersive, real-time unfolding case study simulation can mitigate against this concern.

Students acknowledged that they needed to think more widely than just delivering the necessary 'skill', (McKelvin and McKelvin, 2020) and instead were able to consider this in the wider context of patient experience. During the debrief, students critically reflected on effective multidisciplinary teamworking, exploring leadership principles and how they felt their teamwork and effective communication skills had been enhanced (Eisenmann et al, 2018; Changuti et al, 2023). Using several simulation strategies created a closer sense of community across learners and facilitators and an appreciation for different multidisciplinary roles (Bristol et al, 2019).

The power of enacting both sides of the caring relationship featured strongly in student evaluation. Students highlighted the value of taking a patient role, identifying how this would impact their future practice. During an unanticipated bradycardia and a transfer from the birthing unit to theatre, both students and facilitators reported an increase in anxiety and surge in adrenaline, emulating their feelings in practice. When

students felt moments of their simulation decisions had been unsuccessful, or that their actions had been incorrect, they were able to step outside the simulation, have a rapid, immediate debrief with facilitators and re-enter the experience immediately, rectifying their previous approach and making positive changes to their care delivery and knowledge base. Examples of student feedback are shown in *Box 1*.

## Conclusions

Simulation gives students active experiential learning opportunities to consolidate, refine and perform technical and non-technical skills in a safe and supportive learning environment. Student evaluation has demonstrated that this is a positive addition to their preparation for upcoming qualification and provides a holistic experience in a multidisciplinary sphere to prepare them for professional work. **BJM**

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- Bristol T, Hagler D, McMillian-Bohler J, Wermers R, Hatch D, Oermann MH. Nurse educators' use of lectures and active learning. *Teach Learn Nurs.* 2019;14:94–96. <https://doi.org/10.1016/j.teln.2018.12.003>
- Changuti O, Marfak A, Saad E, Hilali A, Benjouad A, Youlyouz-Marfak I. Simulation and midwifery education 2011–2021: a systematic review. *Br J Midwifery.* 2023;31(5):286–293. <https://doi.org/10.12968/bjom.2023.31.5.286>
- Deegan M, Terry L. Student midwives' perceptions of real-time simulation: a qualitative phenomenological study. *Br J Midwifery.* 2013;21(7):590–598
- Edmondson A. *The fearless organization: creating psychological safety in the workplace for learning, innovation, and growth*. Hoboken, NJ: John Wiley & Sons; 2019
- Eisenmann D, Stroben F, Gerken JD, Exadaktylos AK, Machner M, Hautz WE. Interprofessional emergency training leads to changes in the workplace. *West J Emerg Med.* 2018;19(1):185–192. <https://doi.org/10.5811/westjem.2017.11.35275>
- Englund H. Using unfolding case studies to develop critical thinking skills in baccalaureate nursing students: a pilot study. *Nurse Educ Today.* 2020;93:104542. <https://doi.org/10.1016/j.nedt.2020.104542>
- Folliard K, Sanders R. Research skills in practice. *Br J Midwifery.* 2022;30(8):426–427. <https://doi.org/10.12968/bjom.2022.30.8.426>
- Laverie D, Hass A, Mitchell C. Experiential learning: a study of simulations as a pedagogical tool. *Market Educ Rev.*

## Key points

- Real-time simulation provides opportunities for students to hone their skills holistically, getting used to everyday stressors from practice and assisting to ameliorate human error.
- Simulation-based learning creates strong links between taught theory and clinical practice, enabling students to translate best practice with increased levels of confidence.
- Using a multiprofessional approach enables students to have greater understanding and compassion for the intricacies and pressures of others' roles.
- Unfolding case study enables students to actively practice skills they may not get to fully demonstrate in practice, including assessment skills, history taking and referrals/escalation.

## CPD reflective questions

- How might using different simulation techniques (unfolding case study, real time simulation, pre-briefing, debriefing, high fidelity simulation) affect midwifery education?
- What have your own experiences of simulation been like? How might this influence the way you can incorporate this into your own midwifery role?
- When providing simulation-based learning, how can you facilitate a psychologically safe space for facilitators and students?
- Simulation is an opportunity for continued professional development, what opportunities can you take to increase your knowledge of simulation pedagogy?

2022;32(1):3–17. <https://doi.org/10.1080/10528008.2020.1843360>

- Lee N, Peacock A. Using simulation to teach undergraduate nursing and midwifery students research design. *Nurse Educ Pract.* 2020;45:102804. <https://doi.org/10.1016/j.nepr.2020.102804>
- Lendahls I, Oscarsson MG. Midwifery students' experiences of simulation and skills training. *Nurse Educ Today.* 2017;50:12–16. <https://doi.org/10.1016/j.nedt.2016.12.005>
- Lobo C, Kenward J. The clip model©. In: Lobo C, Paul R, Crozier K (eds). *Collaborative learning in practice, coaching to support student learners in healthcare*. Hoboken, NJ: Wiley Blackwell; 2021
- McKelvin R, McKelvin G. Immersive simulation training: comparing the impact on midwifery and paramedic students' confidence to perform basic life support skills. *Midwifery.* 2020;87:10217. <https://doi.org/10.1016/j.midw.2020.102717>
- Moloney M, Murphy L, Kingston L et al. Final year undergraduate nursing and midwifery students' perspectives on simulation-based education: a cross-sectional study. *BMC Nurs.* 2022;21:299. <https://doi.org/10.1186/s12912-022-01084-w>
- Schweitzer J, King S, Lavender S, Del Fabbro L, Brazil V. Exploring preparation practices of nursing and midwifery educators for in situ simulation-based education: a qualitative study in a large healthcare service. *Nurse Educ Pract.* 2024;78:104030. <https://doi.org/10.1016/j.nepr.2024.104030>
- Vermeulen J, Beeckman K, Turcksin R et al. The experiences of last-year student midwives with high-fidelity perinatal simulation training: a qualitative descriptive study. *Women Birth.* 2017;30(3):253–261