

A rapid report to identify key lessons from the initial response of the UK simulation community to the COVID-19 pandemic

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Background

During the initial response to the COVID-19 pandemic in the UK, simulation providers across the UK shifted rapidly from their normal activity into responding to emerging needs predominantly in the acute hospital setting. This activity included:

- Orienting staff with the use of personal protective equipment (PPE) and experiencing its impact on face-to-face communication
- Cross-skilling clinical staff to support care in unfamiliar clinical settings
- Rehearsing team-based drills for resuscitation and acute medical emergencies while wearing PPE
- 'Stress testing' clinical areas and standard operating procedures that had to be redesigned and introduced at speed
- Supporting workforce requirements in the Nightingale hospitals, which were set up as temporary specialised care facilities to offer additional capacity at scale in several larger cities.

Aim

This rapid response research project had several aims:

- to identify the nature, scope, and scale of response activities that were undertaken by the UK simulation community in the immediate pandemic response
- to explore the nature and ways in which existing policies, processes, networks, and structures - both formal and informal - had an impact on that response
- to assimilate key lessons from this period that may enhance our ability to maintain a state of readiness to respond to the fluctuating levels of challenge from the existing pandemic or any future large-scale emergencies or crises
- to offer recommendations relevant to simulation and immersive technology-based learning as part of the wider endeavour in the NHS and Higher Education Institutions (HEI) sectors of re-establishing and sustaining normal levels of activity in education, training, and delivery of care.

Methods

The research, which was granted ethical clearance by King's College London (MRA-19/20-18975), consisted of one-to-one semi-structured interviews with members of the UK simulation community who were involved in the initial pandemic response. Participants were invited to participate, based on existing knowledge and experience of simulation providers and networks held by Health Education England (HEE). Participation was voluntary and by direct engagement with the researcher, after reviewing the study protocol and giving informed consent. Semi-structured interviews were conducted, recorded, transcribed, and analysed by the researcher to identify emergent themes.

Results and discussion

Participants spoke freely about the ways in which their work contributed to the COVID-19 response and detailed how they had engaged with emerging needs at strategic, tactical, and operational levels. They offered clear indications of how their experiences could help inform future strategy and operations for both simulation and larger educational activities, which are described below under specific key themes along with initial recommendations for policy implementation.

1. Existing connections enabled an immediate and effective response

Participants spoke about their existing relationships across disciplinary, professional, and organisational boundaries as being a key factor influencing their response activities. These connections reflected existing formalised 'networks' as well as personal contacts and included a mix of contacts within and beyond the simulation community.

These existing relationships and communication channels shaped their response in many ways, including:

- identifying the nature of the threat in the early stages
- identifying who could participate in the response and how they could contribute
- helping to make sense of the emerging needs as the pandemic and response continued
- helping to identify, access, and use resources as new needs emerged
- creating and sustaining lines of communication during stressful periods
- enabling collaborations across boundaries that might not otherwise have occurred.

Recommendation: Recognise and encourage the use of personal and professional connections as valuable in times of crisis. Continue to provide active support for formal networks, which allow and support the development of those connections, but recognise the need for cross-boundary connections and continue to develop and support opportunities for colleagues to work beyond professional, specialty and organisational structures.

2. Flattened hierarchies and broken-down silos became reality

Participants spoke extensively about how the pandemic gave rise to a new way of working without traditional hierarchical structures that frequently permeate healthcare. They noted that this has been a desirable goal for many simulation educators but has tended to be more elusive in practice. Participants said they felt valued for their skills and contributions, and extended that same value to their colleagues, regardless of their profession, specialty, or grade. The benefit participants articulated seemed not to come from a lack of management or direction, nor from a sense of agency that they normally feel is lacking, but rather from a general sense of being valued and appreciated regardless of their role and status. Participants articulated that the flattened hierarchies helped everyone on the team perform better, because there was an implicit expectation of contribution based on one's ability and not based on profession.

Recommendation: Continue efforts to recognise benefits and value of team-based healthcare in education and clinical practice to achieve high-quality safe outcomes. Highlight contributions to teams rather than solely focusing on ultimate decisions (which tend to be medically driven). Model team leadership from different professional backgrounds.

3. Cooperating to respond in crisis: Act First, Think Later

Participants spoke extensively about a positive attitude and willingness to do what needed to be done amongst colleagues and across all the workstreams. Even though people were stressed and working hard to contribute as needed, they clearly articulated that they were committed to the work and delivered what needed to be done. This highly positive attitude was, and is, reflective of the larger crisis response shown throughout the NHS during the pandemic (and during other crises).

Recommendation: Recognise the goodwill that colleagues across the NHS offer in support of crises like these. This should be done explicitly, by recognising that it will be needed and by acknowledging and praising it when it emerges. The comradery and goodwill reported by participants is not endless and needs to be tempered by ensuring that support structures are in place and that colleagues' physical and emotional wellbeing are supported.

4. Challenges of responding in a highly dynamic environment

Almost all participants explained how rapidly changing priorities in the pandemic led them to frequently change tack. This rapidly changing and dynamic environment was reflected in the focus of their work as trainers, the needs of the colleagues they were supporting, the emerging understanding of the disease and how to treat it, and in the impact of the dynamic and changing environment on their work and that of their teams and colleagues. Participants reported concerns that a bias towards action rather than strategic or tactical planning, combined with the highly dynamic environment, had the potential to lead to extra work and lower quality patient care in the medium and longer term. Examples included:

- multiple revisions of treatment protocols and patient care pathways
- lack of clarity about the design and subsequent revisions of staffing models
- attempting to reuse existing training material only to find it not applicable
- multiple simultaneous overlapping workstreams leading to duplication of effort; and
- lack of clarity about trainee and trainer competencies alongside subsequent responsibilities and accountability in the clinical setting.

Recommendation: Be aware of the bias for action and balance with reminders to think and plan strategically before taking steps. Reminders of the benefits of this approach in clinical practice (for example, time outs from WHO Safer Surgery Checklist; 10-Seconds-for-10-Minutes) may be helpful. Similar principles modelled at leadership level and reinforced within work processes would help capture and promote learning and improvement from adaptations to 'work-as-imagined' when put into practice in such a dynamic situation.

5. Simulation was central to quality of care

Participants often spoke about larger scale educational interventions of which simulation was a part, rather than about simulation as a specific training modality. Further, participants spoke about the role of simulation promoting effective patient care by stress testing and refining response protocols, preparing, and testing the design of clinical environment, and assisting in final orientation of staff to unique clinical settings. This was especially true in the dynamic environment where information and needs were constantly emerging, and processes were necessarily changing in response to new information.

For example, simulation was mentioned in:

- technology-enhanced learning of various sorts to help convey critical knowledge (e-learning, virtual immersive learning, etc.)
- face-to-face facilitated sessions and workshops using various simulated technologies (part-task trainers through to simulated participants and full-body manikins)
- run-throughs of patient care pathways and potential infection issues (for example, suspected COVID-19 positive patient being transferred through different clinical areas as part of their admission)
- stress-testing novel patient care pathways in Nightingale field hospitals
- practicing of new COVID-19 therapies and treatments
- allaying fears and anxiety associated with staff not used to working in PPE.

Recommendation: Continue to develop simulation in the context of overall healthcare and education efforts that align work design with workforce preparation and transformation, rather than as discrete activities that may only be accessed by specific individuals / staff groups and not integrated into how care is delivered. Provide strategic funding and support for simulation as a way of enhancing and developing high-quality patient care.

6. Hold on to what we've got

Interview participants articulated that their intention was to hold on to some of the amazingly productive aspects of the pandemic response and integrate it into their respective clinical and training environments. When they spoke about concerns, it was frequently about how to hold on

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to what they experienced as quite transformative experiences that had previously been idealised, but elusive, in NHS business-as-usual.

Participants spoke about how the pandemic brought simulation front-and-centre in terms of the NHS response, whereas previous experience with promoting simulation as a modality and approach for education and patient safety for years had met with a more limited response from system leaders.

Recommendation: Document the positive benefits of the simulation community response and use this evidence to continue to gather support for simulation as a more strategic approach to test, introduce and evaluate new ways of working within the NHS.

Summary

This rapid response study has demonstrated the willingness and ability of the community of simulation providers to respond to a critical situation at speed, and with the ability to adapt and flex in an agile manner to changing requirements. The pandemic has also highlighted the value of simulation at a strategic and operational level in several specific ways. First, simulation supported the design and safety testing of novel care systems and pathways, leading to better and safer patient care and working conditions for clinicians. Second, simulation offered targeted training for cross-skilling staff, at scale, as part of a blended approach that was combined with comprehensive access to e-learning and other knowledge sources. Third, simulation helped to orientate staff within new working environments and different ways of working in an efficient, practical, experiential manner.

The report highlights several recommendations that request this level of recognition and engagement with the simulation community is sustained and assisted further by strengthening opportunities for effective communication, coordination and collaboration across traditional boundaries that exist in health and care.