Enhancing and Coordinating the Region's Simulation Infrastructure for Health and Social Care Education

Final report

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What were the concerns and challenges about the education and skills system that you were responding to via your pilot project?

Simulation is an important educational tool in developing a high-quality health and social care workforce. Using simulation-based learning effectively and proportionately has the potential to support learning and assessment, including helping to address insufficient placement opportunities for students (in line with regulatory requirements) and to support an increase in the volume of students entering and qualifying across the span of the workforce, from healthcare workers through to advanced practitioners. It also has the potential to help release staff capacity within 'traditional' placement areas to facilitate their ability to participate in upskilling for current and future roles and preparedness for future clinical environments. There is also the potential for simulation-based education to expedite and enhance current education pathways for those entering the health and social care workforce by ensuring they have access to alternative critical real-life clinical and social care experiences throughout their learning journey and throughout their careers. Finally, there is the potential for simulation to be used to expose school children to the opportunities of working in health and social care and increase interest in these careers – in the hope that this will inspire them to take up careers in these fields.

Whilst simulation-based education has these important roles, the infrastructure to support its provision can be expensive, it can require dedicated and bespoke space and it needs particular teaching skills to deliver effective training. Some of the elements that can come together to provide a simulation experience for students are shown in Fig 1. Clearly numerous components can come together to provide educational experiences for a range of different outcomes for learners. Several institutions across northeast Scotland are engaged in simulation education, both in higher education institutions and in health and social care workplaces, for example in NHS Grampian and the Scottish Ambulance Service. However, all of these groups face limitations in their ability to provide the education they would like. A number of these institutions were interested in how information sharing and collaboration might help to make better use of simulation resources to improve coherence and sustainability. This included understanding what infrastructure was available in the region and identifying where simulation was currently used for education.

The overall aim of our project was to address the lack of coherent planning and provision of simulation needs across the region. It was hoped that by developing a "road map" or strategic plan for simulation education, partners would be able to make better use of resources and that this would ultimately impact on current and future education pathways to help develop a sustainable health and social care workforce for the region.

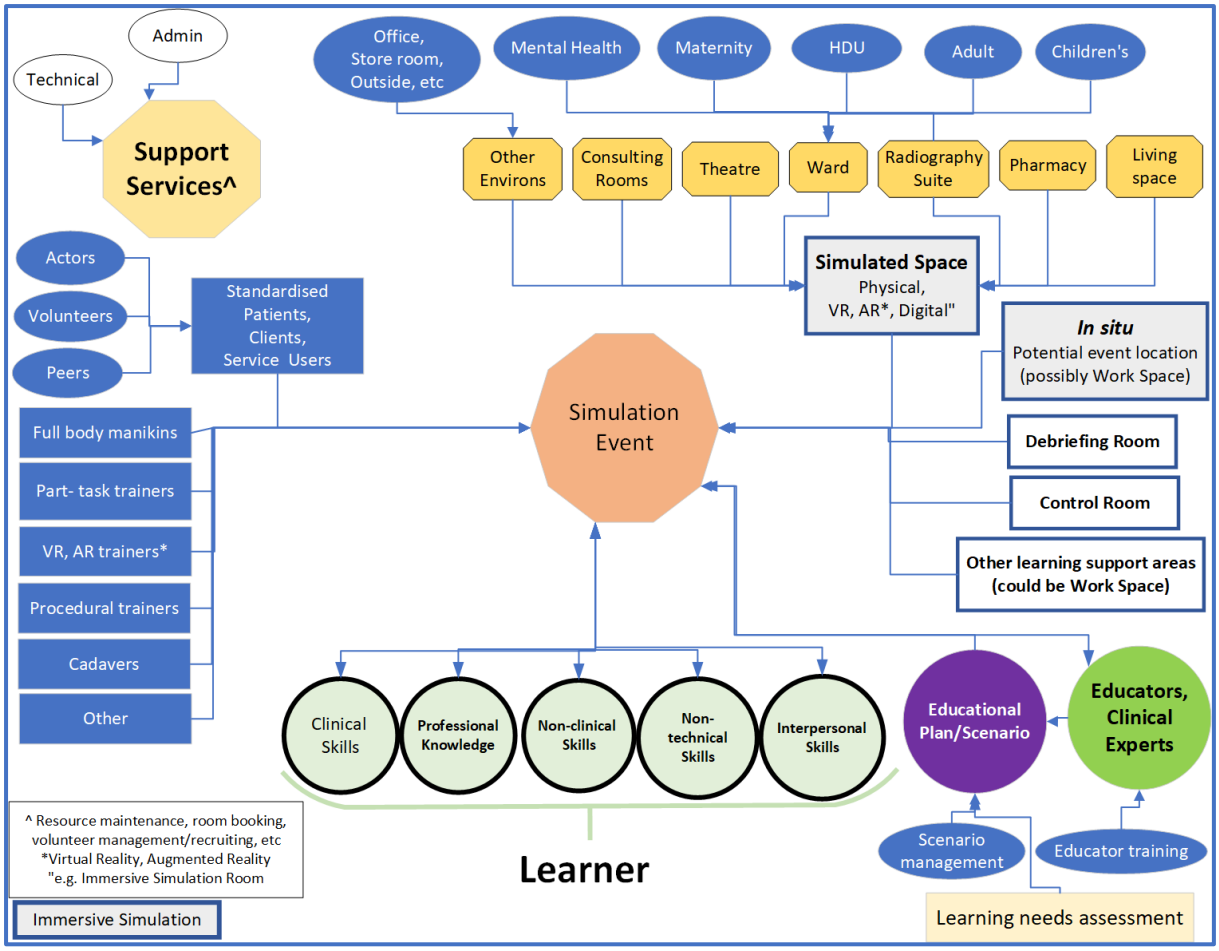

Fig 1. Some of the elements that can come together to provide a simulation education experience.

What was already working well for your partnership/institutions and what features did you want to build on/maintain?

Simulation is used effectively by many institutions in the northeast. This is both in academic institutions, such as the universities and colleges (NE Scotland College, Moray UHI, Robert Gordon University, the University of Aberdeen) but also within other health bodies such as NHS Grampian and the Scottish Ambulance Service, where there is considerable continuing professional development across the health professions. Many relationships exist between these institutions. For example, Robert Gordon University and the University of Aberdeen have very successful, ongoing interprofessional learning events for health and social care students as a feature of the academic year. Likewise, there are strong links between education institutions and employers in the region where students from numerous courses are put on placements during their training.

Rather than being based on a profession, our project was focused on a teaching methodology that spans professions. Therefore, our aim was to build on existing

relationships and to expand networks where possible. By addressing a generic issue, such as simulation education, we brought together groups both within and between organisations that might otherwise not have cause to meet. Several networks exist for simulation education on a local scale (RGU has an internal simulation group) and nationally. We were keen to explore what would be useful on a regional scale.

What inspirational practice or new ways of working emerged via the pilots?

Our project started with a "working group" that comprised of members from the Aberdeen and Aberdeenshire Health & Social Care Partnerships, NHS Grampian, NE Scotland College, Robert Gordon University, and the University of Aberdeen. The knowledge within this group helped identify potential missing partners and key links for the project. It also included members with strong expertise in the simulation-based education field, that helped us narrow down definitions and the scope for the project. Consequently, we were able to expand the working group to include other important partners, such as representatives from other employers in the care sector, the Moray Health & Social Care Partnership, Moray UHI and the Scottish Ambulance Service. When we held a workshop to discuss issues with simulation education in the northeast in September 2023, the working group had identified approximately 40 potential participants who were likely to make a valuable contribution to the discussion.

Through using the professional expertise within the working group we were able to agree on a definition of simulation education that we used for the rest of the project. Whilst this may seem trivial, there is no general agreed definition of simulation education and it can mean different things to different people (especially across organisations and professions), so getting a working definition helped to maintain a focus for the rest of the project. The definition of simulation adopted by the group is shown in the box below.

Simulation-based education (SBE) creates situations and environments to allow all learners to experience a representation of a real event for the purpose of practice, learning, evaluation, testing - or to gain an understanding of systems or human actions.

Simulation-based education can be divided into three broad groups of activities:

1. Procedural skills training using 'part task' trainers e.g. cannulation, catheterisation etc.

2. The use of simulated scenarios (e.g. clinical, non-clinical or case-based) during:

- Courses e.g. ALS
- Training days or other planned activities e.g. communication skills training
- Ad-hoc training in clinical areas

3. Simulated activity (clinical or otherwise, regardless of location) which in its planning and delivery aspires to or reaches standards of INACSL/ASPiH.

Fig 2. The definition of simulation adopted in the project. The project concentrated on Activities 2 & 3.

The workshop we held in September 2023 helped to form the basis of a strategic plan for simulation-based education (see Appendix 1). It was also a chance to see what bringing together a group of educational professionals who might not necessarily meet could yield. And indeed, this did, unexpectedly, lead to the development of the simulation education day that we discuss later.

It was clear from the workshop that a group that could bring expertise together and help promote simulation education in the northeast was necessary to facilitate coherent planning and provision of simulation education in the future. Consequently, we asked for volunteers from the workshop attendees to be a part of such a group. We had 15 people

from across organisations in the region volunteer. In addition to this, at the behest of the group, we invited some representatives from the patient partner programmes at University of Aberdeen and Robert Gordon University to join the group, and three people have attended meetings. The patient partner programmes are groups of volunteers who help with simulation education through role playing in simulation education sessions. They therefore bring another valuable perspective to the provision of simulation education. This group has adopted the name the "Grampian Interprofessional Simulation Group".

The Grampian Interprofessional Simulation Group will be chaired in the first instance by Helen Henderson from RGU School of Nursing, Midwifery and Paramedics. Representatives for the group are drawn from RGU Schools of Nursing, Midwifery and Paramedics, School of Health Sciences and the School of Applied Social Studies and the Centre for Employability and Community Engagement, NE Scotland College, the University of Aberdeen (with links to the Scottish Clinical Skills Managed Education Network), NHS Grampian and the Aberdeenshire Health & Social Care Partnership, Aberdeenshire Council, a representative from private industry and members of the public.

The Grampian Interprofessional Simulation Group has met three times since people volunteered to be a part of it and another meeting is being scheduled for June 2024. As a part of its formation the group discussed governance arrangements and agreed that having a less formal arrangement would help the group develop and evolve. The strategic plan, developed through the September workshop, aims to bind the group, provide it with a remit as it goes forward and facilitate a basis for sustainability of the project (see Appendix).

What innovations have been delivered as a result of your pilot project and who benefits?

The first objective of our project was to "Generate shared understanding of existing simulation infrastructure and anticipate future need". In order to do this, we undertook a data collection exercise to describe the simulation resources available to the organisations across the northeast and to get a qualitative understanding of their experience accessing and utilising those resources. We also gathered data on which students were receiving some of their education through simulation and where the providers thought there was unmet need.

During the early phase of our project a national group released a database of simulation resources that spanned organisations across Scotland. However, it only included one group from the northeast and therefore missed many of the groups that deliver simulation education here. Our data collection was more inclusive, but it was still not comprehensive:

not all of the groups we hoped would contribute were able to and there are undoubtedly areas that we missed. The data are held on MS Excel sheets and describe the physical infrastructure that partners have available for simulation activity (for example simulation wards) and also information on the resources that might be used as a part of simulation training (for example mannikins and "part-task" trainers). The data set provides a basis from which the partners can build upon and can now use to help them find resources when the need arises. The data were made available to the working group partners through a Power BI report that was shared on a MS Teams site. The Grampian Interprofessional Simulation Group has set up a new MS Teams site and the resource data has been added to it as an MS Excel file. We have experimented with a website for this group but they have not decided if they require one going forward, but if they do, then making the data available on the site would be trivial.

Information collected on the partners' experience accessing and utilising simulation resources were collected using MS Forms and the results were summarised into the Power BI report mentioned earlier. Access to appropriate training environments was mixed between partners with some having the correct space available and others not. However, most providers did not find it easy to access those spaces and, although the settings were appropriate, they were not as extensive as partners required. Access to other resources, such as part-task trainers, was a mixed picture with some being able to readily get the equipment they needed and others not.

Our skills provision data collection showed that training using simulation is very active for many professions both in education institutions and within employment settings. However, partners assessed the amount of unmet need as very high with potentially thousands of students per year likely to benefit from more simulation education if there was the capacity to deliver it.

All of these data were put into a MS PowerPoint slide pack and distributed to the working group and attendees of the September workshop. They helped inform the discussion that took place during that workshop. The PowerPoint summaries are also available on the Grampian Interprofessional Simulation Group MS Teams site.

The workshop we held in September included a representative from the Aberdeenshire Foundation Apprenticeship (FA) program. Following on from the workshop she wondered if the group would be interested in supporting a simulation day for the FAs. As consequence of this, a Foundation Apprentice Simulation Day was held on the RGU Garthdee campus on 10 January 2024 with 90 students from across Aberdeenshire taking part. The day was organised by RGU and NHS Grampian and students were exposed to simulation learning opportunities for a range of health and social care professions through the day. Other partners are keen to be involved in future events, and this is being discussed within the Grampian Interprofessional Simulation Group meetings. Feedback gathered on the day and subsequently, indicates that the students found the day very valuable. For them it was an opportunity to be exposed to occupations that they may not have previously considered and

to learn about working in a number of different professions. The institutions benefited from being able to showcase their professions, their teaching approaches, and the learning environments that students might come to in future (ie the university campus).

The formation of the Grampian Interprofessional Simulation Group is aimed at forwarding the use of simulation education in the northeast. That aim is directed to providing better outcomes for both learners and institutions. Any improved co-ordination of resources (be that physical or teaching) should improve efficiency and efficacy for the institutes. Even at the last meeting, partners were finding new ways they may link together (in this case becoming aware of possible linkages for technical support between the partners). The first issue that the group has been addressing is faculty development. By understanding access to training (for delivery of simulation education) and the pool of trained educators, the group has the potential to improve the quality of education delivery and to expand and enhance opportunities for learners.

What is your ambition for your students/learners? What is your future aspiration for the outcomes from your project?

We achieved all of the objectives that we had set at the start of the project with the exception of one. Namely, our second objectives was to..."Ensure that existing and incoming staff have access to regional simulation infrastructure throughout their learning and career pathways". This is a large ambition and one that will take some time to achieve. However, we hope that what we have put in place provides a firm basis for working toward this goal.

The Foundation Apprenticeship Simulation Days and the Grampian Interprofessional Network are set to continue beyond the life of this Pathfinder project. Discussions and planning of the next Simulation Day is underway, with an aim to include more partner organisations in a future round (for example the University of Aberdeen and NES College) and possibly to explore other venues. The next day is scheduled for September 2024. Introducing students to a range of potential careers in health and social care and the educational possibilities in the north east hopefully helps to attract students into courses and professions that they find inspiring and that the north east will want to retain and nurture. The Aberdeenshire Foundation Apprenticeship team already collect data on students going through their program and there may be potential to look at the impact of the Simulation Days in future.

The Grampian Interprofessional Network will have its next meeting in late June 2024. On each occasion that people from various organisations have come together around simulation education during this project new ideas and connections have surfaced. Our workshop in September 2023 identified lack of communication and dialogue as an impediment to simulation education provision in the northeast. This group has the

membership and enthusiasm to continue to be fruitful. They are already finding new connections to bring to meetings. Measuring their success is more problematic but something they will need to keep in mind going forward.

What are your final conclusions/thoughts about your Pathfinder work?

This pathfinder presented an opportunity to explore an aspect of healthcare training that spans numerous education institutions and employers. Its successes have been driven through providing opportunities for people to come together to discuss their needs and consequently finding opportunities through those discussions. Forming networks such as we have done is not necessarily core work for those involved and it has taken time for people to be able to come together amongst their busy schedules. This means that more fruits of the project may take time to surface. However, it is anticipated that this network will be able to facilitate the development of education pathways that include simulation more effectively than prior to the project.

The Foundation Apprenticeship Simulation Day was a great success and will be built on in future. It provided a showcase for different professions and a rich opportunity for school students to "experience" different health and social care professions. Our day was obviously focused on health and social care, but simulation education is used through many different fields and therefore opportunities exist for further expansion into other areas.

Some good models and experiences in collaborative working have been developed in other programs in Scotland, such as the Regional Improvement Collaboratives, but we were late in finding them. These examples could have helped us draw on other's experience of forming partnerships for coherent planning and provision. We also noted that they had an electronic platform for collaboration. We made use of MS Teams for our work but due to different organisations' security policies this was not always ideal. Finding easier ways to share information for diverse groups such as we were bringing together would be helpful for future collaborations.

The passion that the educators and employers bring to their roles should help the Grampian Interprofessional Simulation Group to continue to develop and impact on simulation education in the region. Hopefully the "road map" and data collected for the project provides a foundation for their future work and helps to deliver coherent planning and provision of simulation needs in the region.

Appendix 1: The "road map" or strategic plan formulated as part of the project

Vision

Planning & provision of simulation education for Health & Social Care needs is coherent across North East Scotland to ensure that existing and incoming staff have appropriate and optimal access to simulation-based education throughout their learning and career pathways to meet the current and future educational needs of learners and the region.

Strategic Objectives/Priorities

- *To improve access to and quality of spaces and resources for the current and future workforce*
- *To improve communication and collaboration to support faculty development and simulation education provision*
- *Maximise the utilisation of the simulation resource to enhance and develop learner pathways*
- *To raise awareness of the simulation training and expertise in the north east*
- *Promote the benefits of simulation in the NE region*

Strategy

Enhance cross-system, coproduction and cross-discipline collaboration to advance the access and use of simulation-based education across the region and use simulation to exemplify Health & Social Care learning & careers.

Initiatives/Projects

1: Establish North East Simulation Education Advisory Group

2. Support a Foundation Apprenticeship Simulation Day

3. Develop cross-system and cross-discipline collaboratives to advance Simulation-based Education

    3.1) Consider Faculty development across the NE