Faculty Development Framework

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Faculty Development Framework

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## Introduction

**Aims**

This faculty development (FD) framework has been created with three aims:

1. To guide the professional development of simulation practitioners and faculty, ensuring they have or are working towards acquiring the knowledge, skills and behaviours required to deliver high quality simulation-based activities.
2. To inform the learning aims of faculty development programmes, allowing for a common language and the comparison of courses delivered within and across institutions.
3. As a foundation for a faculty development passport within London for faculty to document their knowledge, skills and behaviours related to simulation based education as they transition roles and organisations.

**Background**

The creation of this FD framework forms the second phase of a programme of work funded by HEE London to review and revise the FD opportunities available within the UCLPartners Simulation Network. Phase one included a literature review and three data collection exercises:

* a network-wide online survey of FD needs and preferences
* the views of simulation centre leads on FD
* a peer observation of each commissioned FD programme



The report produced can be reviewed here:

This has been considered a necessary resource for the development of simulation practices within the UCLPartners NCEL simulation network for the following reasons:

* Simulation practitioners are often transient, training at different centres and developing their skills through diverse means. This framework can be used to articulate simulation expertise to centre leads and identify areas for development
* Many simulation centres have their own faculty development programmes (“train the trainers”).

This FD framework recognises that within the simulation community, different educational theories and traditions prevail. We have sought to advocate for best practice in line with academic literature, an evidence base (where it exists) and best practice guidelines. It is left to faculty to decide how they engage with the different pillars of the framework.

“Levels” rather than terms have been used to identify experience and development. Most pillars of the framework have 3 levels but for some that was not considered necessary and only 2 have been used. Dependent on faculty members role in simulation based education and the nature of SBE being delivered, different pillars of the framework will be more or less relevant.

The framework is mapped to ASPiH standards and adoption of the framework in part or full may support progress towards ASPiH accreditation.

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## Domains

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| ***DOMAIN*** | **FOUNDATIONAL THEORY** | | **DESIGN** | | | **DELIVERY** | | | |
| ***Sub-domain*** | **Pedagogy** | **Human Factors (in development)** | **Course Creation & Development** | **Simulated Patients** | **Evaluation/ Research** | **Centre-Based Delivery** | **In Situ** | **Technical** | **Debriefing** |
| **Level 1** | [Competently apply basic educational theories to the design and practice of SBE activities.](#theory1) | [Has an awareness of basic human factors techniques](#humanfactors1) | [Design an effective simulated scenario](#scenariocourse1) | [Able to facilitate high quality involvement of SP’s into a simulated training activity](#simpatients1) | [Design an evaluation exercise for a simulation session](#evaluation1) | [Deliver a uni-professional centre-based scenario](#centrebased1) | [Able to conduct a high quality in situ simulation](#insitu1)  [Definition](#insitu1)  [Equipment required](#insitu1)  [Advantages & challenges](#insitu1)  [Differences between centre based & in situ simulation](#insitu1)  [Safety](#insitu1) |  | [Competently apply basic debriefing practices to SBE activities.](#debriefing1) |
| **Level 2** | [Competently apply advanced educational theories to the design and practice of SBE activities.](#theory2)  [Competently conduct educational research.](#theory2) | [Able to apply knowledge of some human factors techniques to the design of simulation based activity for learning](#humanfactors2)  [.](#humanfactors2) | [Competently design all aspects of simulated training activity](#scenariocourse3) | [Take responsibility for the engagement & involvement of SP’s in every aspect of training](#simpatients3) | [Competently evaluate simulation activity](#evaluation2) | [Deliver a complex or multi-professional centre-based scenario](#centrebased2)  [Deliver a centre-based simulation course](#centrebased2) | [Design and facilitate complex in situ simulations](#insitu3)  [Engage & influence stakeholders to establish in situ programmes to test systems, processes & policies](#insitu3)  [Use in situ simulation to understand circumstances that enhance or hinder safety](#insitu3)  [Develop processes targeting improved safety](#insitu3) | [Advanced programming](#technical3)  [Scenario creation](#technical3)  [Trouble-shooting](#technical3)  [Repair](#technical3) | [Competently apply advanced debriefing practices to SBE activities.](#debriefing2)  [Develops self and others in debriefing](#debriefing2). |
| **Level 3** |  | [Able to apply knowledge of human factors techniques to test and design of systems using simulation based education](#humanfactors3) | [Provide leadership & expertise of course design at departmental, regional & national level](#scenariocourse4)  [Construct & deliver complex/large scale simulation activity](#scenariocourse4) | [Manage the employment & engagement of SP’s at centre or departmental level](#simpatients4) | [Complex evaluations](#evaluation3)  [Engages in the formation and utilisation of new knowledge in simulation based education through research activity](#evaluation3) | [Advise, coach & mentor others to deliver centre based simulation scenarios & courses](#centrebased3) | [System testing](#insitu4) | [Manikin design](#technical4) | [Competently apply advanced debriefing practices in complex settings including in clinical practice.](#debriefing3)  [Lead the evaluation, quality assurance and development of debriefing practices in all settings.](#debriefing3) |

## Values, Standards & Ethics

Key Values

* Respect & support learners & their individual learning needs
* Focus on patient experience & safety
* Demonstrate professional behaviour towards learners & each other
* Aim to be an inspirational role model
* Promote reflection & life-long learning
* Promote transformative learning
* *We promote the Association for Simulated Practice in Healthcare (ASPiH) ‘Standards for Simulation-Based Education’.* (See [Appendix I](#_Appendix_I:_ASPiH))
* *We subscribe to the Society for Simulation in Healthcare ‘Healthcare Simulationist Code of Ethics’.* (See [Appendix II](#_Appendix_II:_Society))

A: PEDAGOGY

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | **Competently apply basic educational theories to the design and practice of SBE activities** | *All the knowledge previously accumulated, plus:*  Demonstrates knowledge of:   * 1. a range of educational theories and principles to a basic level   2. the range of ways in which SBE may be utilised effectively   3. the impact SBE can have on learners, teams and systems   4. the literature relevant to current developments in SBE   5. the key terminology used in simulation   6. the range of appropriate learning activities that can use simulation   7. the range of educational theories and practices that underpin the spectrum of simulation modalities (e.g. adult learning theory, learning styles, deliberate practice, experiential learning and reflective practice).   8. how different learner types engage in the simulation process   9. the benefits and limitations of simulation as a learning modality   Demonstrates the ability to:   * 1. consider where SBE can enhance curriculum delivery   2. gather and interpret information to define the needs of learners   3. write measurable learning outcomes for simulation-based learning activities within appropriate theoretical frameworks (e.g. use of blooms taxonomy, SMART) that can be measured   4. apply principles of basic educational theories to the design of simulation-based learning activities   5. choose the appropriate simulation modality and fidelity for the nature of the learning outcomes and setting   6. design simulation-based learning activities aligned to learning outcomes and learner’s stage of development (e.g. instructional design, constructive alignment, models of expertise and skill development)   Demonstrate:   * 1. engagement with relevant simulation and educational literature |
| **2** | **Competently apply advanced educational theories to the design and practice of SBE activities.**  **Competently conduct educational research** | *All the knowledge and skills previously accumulated, plus:*  Demonstrates knowledge of:   * 1. a wide range of educational theories and principles to an advanced level   2. a range of educational research methodologies and methods to a basic level   3. the issues and challenges of educational research in simulation   Demonstrates the ability to:   * 1. apply principles of advanced educational theories to simulation-based learning activities   2. apply principles of educational theories and appropriate research methodologies to SBE research   3. design and conduct ethical SBE research using appropriate research methods   4. interpret and apply the outcomes of SBE research to own practice   5. critically evaluate simulation literature and apply this learning to SBE practice   Demonstrate:   * 1. participation in the design, conduct and evaluation of SBE research |
| **3** | *No level 3* |  |
| *ASPIH Standards mapping*   * *An introductory course (or courses) should expose and orientate novice simulation faculty to the principles of adult learning theory and explore underpinning educational theories/pedagogy relevant to the spectrum of simulation.* * *The introductory course (or courses) should provide a definition of simulation, clarify terminology used and describe the simulation process and how scenarios are developed.* * *Simulation-based education programmes are developed in alignment with formal curriculum mapping or learning/training needs analysis undertaken in clinical or educational practice.* * *Domains (cognitive/affective/psychomotor) of learning involved in the activity should be described using educational theory (Bloom’s taxonomy or higher). This encourages faculty to aim to provide holistic teaching of the skill or task set for learners.* | | |

B: HUMAN FACTORS

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | Has an awareness, knowledge and some understanding of basic human factors techniques related to human performance and system design | * 1. Has an awareness of methods of analysis, evaluation and validation with respect to human interfaces for tasks, activities and environments.   2. Understands the theoretical and practice bases for (re)design of human interfaces (physical and mental).   3. Understands the theoretical and practice bases for data collection and analysis relating to E/HF.   4. Understands the theoretical and practice bases for E/HF relating to psychological and social capabilities and limitations      1. Recognises psychological characteristics and responses and how these affect health, human performance, attitudes, perception, stress, human reliability and error.      2. Can apply knowledge of human information processing (including situation awareness, memory, decision making).      3. Can apply knowledge of human information processing (including situation awareness, memory, decision making).      4. Understands the principles of group functioning, motivation, engagement and participation.      5. Understands the principles of organisational management including individual, group (team) and organisational change techniques, including training and work structuring. |
| **2** | Able to apply knowledge of some human factors techniques to the design of simulation based activity for learning | *All the knowledge and skills previously accumulated, plus:*   * 1. Able to apply methods of analysis, evaluation and validation with respect to human interfaces for tasks, activities and environments.   2. Understands the theoretical and practice bases for data collection and analysis relating to E/HF.   3. Demonstrates use of E/HF theories, methods and tools for analysis of systems (including process), tasks, workload (physical and mental) including mental models, communication and anthropometry. |
| **3** | Able to apply knowledge of human factors techniques to test and design of systems using simulation based education | *All the knowledge and skills previously accumulated, plus:*   * 1. Understands the theoretical and practice bases for E/HF relating to design and development of systems   2. Utilises a systems approach to the human-aspects of the specification, design, assessment and acceptance of products, services and human factors interventions.   3. Understands role of E/HF in change strategies.   4. Develops appropriate recommendations for education and training in relation to E/HF principles. |
| *ASPIH Standards mapping*   * *Faculty delivering human factors training should have undergone bespoke training in systems engineering, human factors or other systematic approaches to tackling workplace error and patient safety concerns* * *Debriefing should include relevant technical and non-technical aspects of performance as well as the human factors approach to patient safety* * *Consideration should be given to the incorporation of the human factors approach in SBE programmes to develop better healthcare practitioners with an improved understanding of the role of human factors. This will help build resilience in individual practice, increase team performance and produce systems improvement.* * *Sufficient time needs to be allocated to debriefing immediately following the simulation in the clinical setting to gain the maximum benefit. A multidisciplinary approach to evaluating team interactions should be undertaken, with a focus on human factors approach to evaluate the impact of latent errors and to identify remedial steps to overcome such errors.*   *Chartered Institute of Ergonomics and Human Factors Competency Checklist*   * *Human factors competencies have been adapted from the CIEHF Competency Checklist.* | | |

C: COURSE CREATION & DEVELOPMENT

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | Design an effective simulated activity | Demonstrates knowledge of:   * 1. The need for alignment between the learning objectives and simulated activity   2. Different levels of fidelity in simulation and when to use them   3. What to include in an effective simulated training activity   4. A selection of scenario templates   5. Awareness of ASPiH Standards regarding scenario writing & course material   6. The level of abilities & skills of target audience for which the activity is being designed   Demonstrates:   * 1. ability to select learning objectives for the activity which are appropriate to the level, ability & skill of the learner   2. ability to complete each section of the training activity effectively   3. willingness to involve more experienced faculty to ensure availability of faculty, equipment, props & room availability   4. willingness to evaluate own work by a process of planning, trial & adjustment |
| **2** | Competently design all aspects of simulated training activity | *All the knowledge and skills previously accumulated, plus:*  Demonstrates knowledge of:   * 1. context of simulated activity within taught curricula, formal training or local programmes   2. definition and principles of good interprofessional education   3. The different levels of fidelity required for different learning outcomes (environmental, equipment and psychological)   Demonstrates ability to:   * 1. design multiple scenarios for inclusion in a training activity   2. design each aspect of effective simulation training activity, including introductory & supportive material & method of evaluation   3. map teaching activities to formal curriculum, training package or identified local learning needs   4. map teaching content to human factors or non-technical skills frameworks to facilitate their effectiveness as a teaching tool   5. design material with an interprofessional faculty which is appropriate for interprofessional education with learners of multiple ability, seniority, or skill   6. create aligned learning objectives for each speciality when designing activities for multidisciplinary groups   7. teach basic level module to others   8. reflect on the design of scenarios with other faculty members |
| **3** | Provide leadership & expertise of course design at departmental, regional & national level  Construct & deliver complex/large scale simulation activity | *All the knowledge and skills previously accumulated, plus:*  Demonstrates:   * 1. ability to construct & deliver faculty development programmes which include basic & advanced modules   2. need to work across centres, departments & regions when required to align training with regional or national requirements   3. ability to evaluate, review & peer review own & others work to ensure educational content of the highest standard |
| *ASPIH Standards mapping*   * *The design & planning of SBE programmes is vital to ensure learners obtain the optimal benefit. Specific attention should be paid to describing how the use of simulation enhances existing educational/training interventions or provides learning opportunities to address current or anticipated gaps in curriculum & /or training.* * *Simulation-based education programmes are developed in alignment with formal curriculum mapping or learning/training needs analysis undertaken in clinical or educational practice.* * *A faculty member with expertise in simulation-based education oversees the simulation programme design & ensures that it is regularly peer reviewed, kept up to date & relevant to the organisation goals, clinical needs & curriculum to which it is mapped.* * *Consultation with learners, managers & patient groups, as appropriate, should assist in identifying training needs. A learning needs assessment of all stakeholders should be used to develop the learning objectives.* * *Learning objectives should be appropriate to the level of the learner &, at the same time, designed to be challenging but achievable. Objectives will need to be linked where applicable to individual technical or procedural skills, team working, non-technical skills & to organisational goals & requirements.* * *Incorporate up-to-date, evidence-based practice in course content.* * *A manual should be maintained to ensure consistency between design & delivery of the programme & reproducibility between faculty.* * *A faculty member with expertise in SBE should oversee the simulation programme design & ensure that it is regularly peer reviewed & kept up to date & relevant to the organisational goals, clinical needs & curriculum to which it is mapped.* * *The simulation lead oversees appropriate & responsive programme design, develops & retains faculty & sustains SBE programmes.* | | |

D: SIMULATED PATIENTS

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | Able to facilitate high quality involvement of SP’s into a simulated training activity | Demonstrates knowledge of:   * 1. the role, value & limitations of simulated patients in simulated practice   2. which types of training are suitable/not suitable for the involvement of simulated patients   3. the ASPiH Standards with regard to SP’s   Demonstrates:   * 1. ability to respect the unique contribution, perspective & value of SP’s   2. ability to maintain comfort, confidentiality, dignity, privacy & wellbeing of SP’s   3. effective briefing of SP’s regarding their role & contribution to each scenario & debrief   4. appropriate professional behaviour towards SP’s   5. support & consideration towards SP’s   6. best practice when engaging with SPs, such that the four principles of biomedical ethics are adhered to: autonomy, beneficence, non-maleficence & justice   7. engagement with SPs to access, enable & incorporate their feedback |
| **2** | Take responsibility for the engagement & involvement of SP’s in every aspect of training activity | *All the knowledge and skills previously accumulated, plus:*  Demonstrates the ability to:   * 1. verify the competence of SP’s to undertake the role they have been assigned   2. actively involve SP’s in post training debrief & incorporate their suggestions in future training activities   3. encourage SP’s to reflect & develop self-awareness   4. teach basic level module to others |
| **3** | Manage the employment & engagement of SP’s at centre or departmental level | *All the knowledge and skills previously accumulated, plus:*  Demonstrates the ability to:   * 1. teach basic & advanced modules others   2. recruit & select suitable SP’s for the requirements of each relevant training activity   3. work within contractual, financial & procurement frameworks to ensure robust audit trails & value for money with regard   4. intervene in situations which could potentially affect quality of training or well-being of SP’s |
| *ASPiH Standards Mapping*   * *Simulated Patient (SP) involvement, as a specialist group of faculty, should be supported with the same considerations as other faculty members.* * *Content should adhere to best practice when engaging with SPs, such that the four principles of biomedical ethics are adhered to: autonomy, beneficence, non-maleficence & justice.* * *Where appropriate SPs should acquire specific training provided by a formal course, a Continuing Professional Development (CPD) opportunity, or targeted work with an experienced faculty member.* * *Facilitators should engage with SPs to access, enable & incorporate their feedback.* * *SPs should be competent in the process of debriefing & feedback from their perspective – as agreed on with the facilitator – in role, in neutral or out of role.* * *Facilitators, SPs & technical personnel benefit from an additional debrief after the simulation session as & when required, without learner presence, to reflect & develop self-awareness.* | | |

E: EVALUATION / RESEARCH

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | Design an evaluation exercise for a simulation session | Demonstrates knowledge of:   * 1. established evaluation tools, such as Kirkpatrick and their limitations   Demonstrates:   * 1. ability to select clear, concise & relevant questions for inclusion in evaluation of simulated activity   2. ability to use information gathered to continuously develop, improve & optimise simulated activity |
| **2** | Competently evaluate simulation activity | *All the knowledge & skills previously accumulated, plus:*  Demonstrates knowledge of:   * 1. advantages, disadvantages & limitations of each level I-IV of Kirkpatrick’s model   2. ASPiH Standards regarding evaluation of simulated activity   3. different methods of evaluating simulated activity – evaluation forms, focus group, metrics, observation, patient safety data, patient satisfaction survey, peer review, semi-structured interview   Demonstrates:   * 1. participation reflective practice, including peer observation of simulation activity   2. ability to specifically evaluate in situ simulation activity by using appropriate measurement tools, which demonstrate not only improvement of knowledge but also transfer of learning to a clinical environment   3. ability to thematically analyse free text & describe findings   4. present information drawn from evaluation tools in a clear, logical, meaningful manner   5. ability to integrate information from evaluation, review & peer-review to inform change in practice   6. apply descriptive & analytical statistics to data presentation where relevant |
| **3** | Evaluate programmes of simulated activity at departmental, regional, or complex level  Engages in the formation and utilisation of new knowledge in simulation based education through research activity | *All the knowledge & skills previously accumulated, plus:*  Demonstrates knowledge of:   * 1. a wide range of educational research methodologies to an advanced level   Demonstrates ability:   * 1. utilise learning from SBE research to support the professional development of other simulation-based educators   2. present evaluation findings to stakeholders to demonstrate impact and value   3. identify and lead research opportunities for SBE   4. develop educational insights, theories and practice through academic scholarship   5. application of evaluation findings to departmental, regional or national programmes to advance the quality of simulation activity   6. ability to use evaluation data as a quality & risk management resource to assist organisations achieve improvedpatient safety & quality |
| *ASPIH Standards mapping*   * *Consideration should be given to the incorporation of the human factors approach in SBE programmes to develop better healthcare practitioners with an improved understanding of the role of human factors. This will help build resilience in individual practice, increase team performance & produce systems improvement.* * *A faculty member with expertise in SBE should oversee the simulation programme design & ensure that it is regularly peer reviewed & kept up to date & relevant to the organisational goals, clinical needs & curriculum to which it is mapped.* * *Regular evaluation of programmes should be undertaken to ensure that content & relevance is maintained. This should be achieved at a minimum through feedback from learners & other simulation faculty.* * *A formal evaluation by learners at the end of each session should be undertaken & the results of this evaluation should be acted upon to continuously improve & optimise the course.* * *Faculty should evaluate ISS activity by using appropriate measurement tools, which demonstrate not only improvement of knowledge but also transfer of learning to a clinical environment. Observational tools should be designed to capture system improvements through the identification of latent errors during ISS activity.* * *Programmes should aspire to act as a Quality & Risk Management resource for organisations to help achieve the goals of improved patient safety & quality* | | |

F: CENTRE-BASED DELIVERY

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | Deliver a uni-professional centre-based scenario | Demonstrates knowledge of:   * 1. The need for role allocation of each faculty member   2. The written objectives and content of the scenario   3. The professional behaviour required of faculty   4. The principles of a safe learning environment and how to maintain these through a simulation activity   Demonstrates:   * 1. A faculty brief ahead of the simulated activity   2. Accurate & comprehensive scenario set up (according to a faculty guide where available)   3. Audio, visual & technical equipment checks prior to starting & that all faculty & observers can see & hear everything clearly   4. A clear & appropriate participant brief ahead of the scenario inline with the fidelity required   5. Ability to start, progress & end the scenario with appropriate fidelity   6. Inform course lead or lead facilitator of any potential issues with the written version or suggestions for improvement/modification   7. Behave professionally while in the control room & encourage others to do the same   8. Understand the right place to end the scenario eg when the LO’s have been achieved or when the lead facilitator indicates they have sufficient material with which to conduct the debrief |
| **2** | Deliver a complex or multi-professional centre-based scenario  Deliver a centre-based simulation course | *All the knowledge and skills previously accumulated, plus:*  Demonstrates the ability to:   * 1. Establish and maintain a safe learning environment through (eg introductory session, formation of learning contract, opportunity for questions, time-keeping, centre orientation)   2. Ascertain whether learners individual learning needs have been explored   3. Allocate faculty to roles throughout the day which will utilise their individual capabilities, expertise & experience   4. Support less experienced faculty with their role   5. Ensure faculty are made familiar with the course manual, equipment & learning outcomes for the course   6. Allocate participants to simulation sessions which will ensure the most positive & relevant learning experience possible   7. Deliver a scenario so that each multi-professional learner experiences a learning situation that is as appropriate to their clinical role as possible   8. Be aware of any potential problems with either participants or faculty during the day & manage this effectively   9. Close session effectively, gather feedback, conduct faculty debrief & thank faculty for their contribution |
| **3** | Advise, coach & mentor others to deliver centre based simulation scenarios & courses | *All the knowledge and skills previously accumulated, plus:*  Demonstrates the ability to:   * 1. Support inexperienced faculty to deliver simulation courses effectively   2. Ensure professional role modelling   3. Provide constructive advice, feedback & support to faculty on their ability to run simulation sessions   4. Take necessary action if faculty demonstrate poor behaviour, which is not conducive to learning, unprofessional, or not in keeping with centre or Trust standards in education   5. Ensure the number & expertise of faculty meet the requirements of each course   6. Ensure consistency & standardization in quality of course delivery, particularly high-volume courses which may be delivered to a number of learners over time with different faculty |
| *ASPiH Standards Mapping*   * *New faculty should observe or co-facilitate existing courses alongside a more experienced faculty member & receive feedback using validated tools.* * *Faculty should acquire specific training provided by a formal course, a Continuing Professional Development (CPD) opportunity, or targeted work with an experienced faculty member* * *Ensure that a pre-simulation brief takes place where learning objectives are set beforehand & discussed as part of the debriefing process which takes place after completing a simulated scenario, or in feedback on completing a practical skill.* * *The pre-simulation brief should include elements such as expectations regarding professionalism, etiquette, confidentiality & roles, together with an introduction to the simulated environment.* * *A manual should be maintained to ensure consistency between design & delivery of the programme & reproducibility between faculty.* * *The expertise of faculty should be appropriate to the needs of the learners & content of the programme.* * *the course delivery, if appropriate.* * *A designated individual oversees the strategic delivery of SBE programmes & ensures that appropriate maintenance of simulation equipment is undertaken.* * *Ensure mentoring of novice SBE faculty.* | | |

G: IN-SITU

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | **Able to conduct a high quality in situ simulation**  What is in situ simulation?  The equipment used in situ simulation  What are the advantages of in situ simulation?  What are the challenges of in situ sim?  What are the differences between centre-based simulation & in situ simulation?  Importance of safety checklist in insitu simulation. | Demonstrates knowledge of:   * 1. the concept of in situ simulation   2. the differences between the centre-based simulation education & in situ simulation   3. the importance of learning objectives of each participant group, team, and the department   4. the advantages of in situ simulation (teamwork, clinical performance, identification &resolution of latent errors)   5. the challenges of running an in situ sim in terms of safety around medications& equipment used, environment, operational challenges and other patients   Demonstrates the ability to:   * 1. conduct an appropriate educational needs analysis to identify the needs of the learners, the team and organisation, where in situ sim is conducted   2. ensure psychological safety of participants, patients and relatives.   3. utilise appropriate strategies to establish and maintain a safe learning environment.   4. conduct a pre-brief to faculty team, participants, non-participant staff and patients in the department   5. ensure appropriate fidelity (environmental, equipment & psychological) to the simulation scenario   6. use the in situ sim training equipment (I sim, Mannequins etc.) to facilitate effective learning   7. debrief using a relevant model of debriefing that identify and relate NTS to clinical practice   8. facilitate effective inter-professional group debriefing   9. be flexible with the operational challenges   10. to engage with Simulated patients   11. identify system/latent errors and report it to the appropriate personnel to rectify the situation   Demonstrate:   * 1. appropriate verbal and non-verbal skills to maintain a safe learning environment.   2. take active steps to avoid the confusion between simulation equipment/resources and patient-use equipment through careful labelling and check lists.   3. engagement with the stakeholders and leadership to find out the clinical acuity, staffing and operational challenges |
| **2** | Design and facilitate complex in situ simulations.  Engage and influence the stakeholders to establish the in situ sim programmes to test the systems, processes and policies.    Use in situ simulation to understand the circumstances that enhance or hinder safety and develop processes targeting improved safety | *All the knowledge and skills previously accumulated, plus:*  Demonstrates knowledge of:   * 1. the operational challenges associated with delivering simulation in the clinical environment- which is unpredictable and requires adaptation from original plans   2. factors that threaten the educational experience and psychological safety.   3. the process of identifying and reporting of latent errors and the subsequent follow up   4. logistical challenges of conducting a large-scale multidisciplinary simulation programme   Demonstrates the ability to:   * 1. engage with the clinical and non-clinical leadership to create an educational culture to enable the smooth running of in situ simulation   2. engage and influence relevant stakeholders to establish the in situ sim programmes to test the systems, processes and policies   3. to understand the circumstances that enhance or hinder safety and develop processes targeting improved safety.   4. involve all representative stakeholders to ensure the expertise of the multi-professional teams are used at the design and delivery of the in situ simulation programme with appropriate complexity to achieve the learning objectives of individuals, teams and the organisation.   5. engage in audits and quality improvement projects to check the effectiveness of in situ simulations |
| **3** | In situ sim for system testing | *All the knowledge and skills previously accumulated, plus:*  Demonstrates the ability to:   * 1. prospectively use in situ sims to trouble shoot new or renovated system prior to implementation such as new clinical equipment, electronic patient system processes and policies and protocols   2. use in situ sim in an iterative fashion as an ongoing cyclical process to identify opportunities for improvement, design system changes, test the effects of changes and then identify further opportunities for refinement   3. conduct research and audit to find the effectiveness of the programmes. |
| *ASPIH standards mapping* | | |

H: TECHNICAL

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| **Level** | **Aims** | **Learning Outcomes** |
| **1** | Able to competently use technology to support centre based SBE & in situ simulations and clinical skills. | * 1. Able to safely and competently use the Simulation Based Education (SBE) related equipment, such as high fidelity, low fidelity mannequins, part task trainers, monitoring equipment and audio-visual aids.   2. Awareness of the limitations and functionality of the SBE equipment including the maintenance and trouble shooting.   3. Demonstrate an awareness of adult learning theories and be able to apply those principles in the use of SBE equipment   4. Awareness of importance of maintains the safe learning environment for learners and faculty. |
| **2** | Able to innovate and explore the possibilities of technology to enhance SBE | *All the knowledge and skills previously accumulated, plus:*   * 1. Participate in the design of new scenarios and the ongoing evaluation of existing simulation scenarios including trialling and testing   2. Design equipment for clinical skills and simulation training   3. Demonstrate an understanding of new developments such as Virtual Reality (VR) and online platforms to support the SBE |
| **3** | Develop a mastery of technology enhanced learning | *All the knowledge and skills previously accumulated, plus:*   * 1. *Undertake Technology Enhanced Learning modules at University/academies*   2. *Maximise the impact of SBE through innovation and creativity.* |
| *ASPIH standards mapping*   * *Simulation technicians and technologists, whose primary role is to support delivery of SBE, have gained or are working towards professional registration with the Science Council.* | | |

I: DEBRIEFING

|  |  |  |
| --- | --- | --- |
| **Level** | **Aims** | **Learning Outcomes** |
| **1** | **Competently apply basic debriefing practices to SBE activities.** | *All the knowledge previously accumulated, plus:*  Demonstrates knowledge of:   * 1. understanding and application of psychological safety   2. the components of an effective debrief   3. educational strategies / conversational methods   4. learner and faculty-centred approaches to debriefing   5. one model of debriefing that identifies and relates NTS to clinical practice (e.g., description-analysis-application, learning conversation, hybrid models)   6. the definition of instruction, facilitation, feedback and debriefing.   7. the benefits and limitations of instruction, facilitation, feedback and debriefing.   8. the evidence supporting the value of debriefing   9. the process of effective debriefing   Demonstrates the ability to:   * 1. utilise appropriate strategies to establish and maintain a safe learning environment.   2. apply a range of tools to facilitate effective learning (eg models, structures or conversational techniques).   3. conduct a debrief using a relevant debriefing model that identify and relate NTS to clinical practice to improve performance in real situations.   4. apply educational strategies / conversational methods, independent of context.   5. utilise learner- and faculty-centred approaches to debriefing.   6. facilitate effective inter-professional group debriefing.   Demonstrate:   * 1. appropriate verbal and non-verbal skills to maintain a safe learning environment.   2. self-reflection on learning.   3. active participation in learning from meta-debriefing (E.g. DASH, OSAD, peer review). |
| **2** | **Competently apply advanced debriefing practices to SBE activities.**  **Evaluates debriefing practice in self and supports the development of debriefing practices in others** | *All the knowledge and skills previously accumulated, plus:*   * 1. Demonstrates knowledge of:   2. two or more models of debriefing that identifies and relates core concepts of human factors science to clinical practice.   3. strategies to optimise co-debriefing.   4. tools for evaluating debriefing practice.   5. factors that threaten the educational experience and psychological safety.   Demonstrates the ability to:   * 1. conduct a debrief utilising multiple approaches to debriefing to achieve learning outcomes.   2. identify when a particular approach to debriefing is appropriate to the situation and to learners’ needs.   3. apply strategies to optimise co-debriefing.   4. apply a range of strategies to identify and manage difficult debriefing situations (depersonalising, generalising etc).   5. utilise video to supplement debriefing practices.   6. apply learning from educational literature to own practice.   Demonstrate:   * 1. encouraging and role-modelling self-reflection on learning.   2. leading and role modelling participation in learning from meta-debriefing (E.g. DASH, OSAD, peer review).   3. engagement in continuing professional development (CPD) with regular evaluation of performance by both learner and fellow faculty. |
| **3** | Competently apply advanced debriefing practices in complex settings including in clinical practice.  Leads the evaluation, quality assurance and development of debriefing practices in all settings. | *All the knowledge and skills previously accumulated, plus:*  Demonstrates knowledge of:   * 1. educational standards or governance frameworks to influence and guide the content and quality of simulation programmes.   Demonstrates the ability to:   * 1. adapt and apply all the previously mentioned knowledge and skills to specific contexts.   2. Utilise relevant debriefing approaches in clinical practice settings.   3. provide quality assurance for debriefing applying educational standards or governance frameworks.   4. effectively support colleagues to manage a difficult facilitation and debrief.   5. provide leadership and feedback to simulation-based educators using validated tools (e.g. DASH, OSAD, peer review).   6. utilise applied learning from educational literature to support the professional development of other simulation-based educators.   Demonstrate:   * 1. engagement in continuing professional development (CPD) with regular evaluation of performance by both learner and fellow faculty. |
| *ASPIH Standards mapping*   * *Faculty ensure that a safe learning environment is maintained for learners & encourages self-reflection on learning.* * *Faculty engage in continuing professional development with regular evaluation of performance by both learner & fellow faculty.* * *Faculty are competent in the process of debriefing.* * *Specific training in debriefing should be provided to faculty as effective debriefing is recognised to be the most important element of learning in the simulated environment.* * *New faculty should observe or co-facilitate existing courses alongside a more experienced faculty member & receive feedback using validated tools.* * *The faculty & where appropriate, the SPs should acquire specific training provided by a formal course, a Continuing Professional Development (CPD) opportunity, or targeted work with an experienced faculty member* * *The process of becoming faculty should be streamlined as much as possible, keeping faculty training to an effective minimum as a lengthy process requiring multiple days of study leave could deter potential new faculty.* * *Faculty development is a lifelong process & faculty should engage in CPD activities recognised by the individual’s professional body such as (but not restricted to) courses, conferences, e-learning, academic activities & regular appraisal of literature.* * *Regular evaluation of faculty (of all levels of experience) performance by both learners & fellow faculty should be integral to the SBE exercise & could be achieved using a peer observation process.* * *The facilitator should be a faculty member competent in the process of debriefing. Evidence from research suggests that the perceived skills of the debriefer have the highest independent correlation to the perceived overall quality of the simulation experience.* * *The facilitator must identify pertinent elements of the simulation to discuss & relate to the objectives.* * *This should include relevant technical & non-technical aspects of performance as well as the human factors approach to patient safety.* * *Debriefing should be conducted in an environment that is safe, positive & non-threatening. An environment of trust, respect & confidentiality is necessary for all participants to feel sufficiently comfortable to share experiences & feelings.* * *Duration & timing of debriefing is crucial but should be flexible enough to allow progression through phases of debriefing (e.g. reaction, analysis & summary).* * *Debriefing should occur immediately (less than 5 minutes) after simulation so that thoughts, feeling & actions are captured without degradation or distortion.* * *There are several popular models of debriefing, which the facilitator may wish to use as a structure for the process such as the advocacy enquiry model, the 3D Model of debriefing, the Mayo clinic model or the Lederman model. However, it is recognised that there is currently no standardised process or model of debriefing.* | | |

## Appendix I: ASPiH ‘Standards for Simulation-Based Practice’[[1]](#footnote-2)

ASPiH Standards for Simulation-Based Practice

The ASPiH standards outline the key attributes of Faculty, Technical Personnel, Activity and Resources considered necessary for the practice of effective simulation-based education.

**Faculty**

*> Faculty Development*

1. Faculty ensure that a safe learning environment is maintained for learners and encourage self-reflection on learning.
2. Faculty engage in continuing professional development with regular evaluation of performance by both learner and fellow faculty.
3. Faculty are competent in the process of debriefing

**Technical Personnel**

1. Simulation technicians and technologists, whose primary responsibility is to support delivery of SBE, have gained or are working towards professional registration with the Science Council.

**Activity**

*> Programme*

1. Simulation-based education programmes are developed in alignment with formal curriculum mapping or learning/training needs analysis undertaken in clinical or educational practice.
2. The patient perspective is considered and demonstrated within educational planning.
3. A faculty member with expertise in simulation-based education oversees the simulation programme design and ensures that it is regularly peer reviewed, kept up to date and relevant to the organisation goals, clinical needs and curriculum that it is mapped to.
4. Regular evaluation of programmes and faculty is undertaken to ensure that content and relevance is maintained.

*> Assessment*

1. The assessment is based on the intended learning outcomes of the exercise, with clarity regarding the knowledge, skills and attitudes and appropriately tailored to professional curricula to be evaluated.
2. Psychological safety of the learner is considered and is appropriately supported.
3. Faculty have a responsibility for patient safety and to raise concerns regarding learner performance within educational settings, including SBE interventions.

*> In Situ Simulation*

1. Every ISS exercise has clearly defined learning objectives that achieve individual, team, unit level and/or organisational competencies.
2. Local processes and procedures are carefully reviewed to deliver ISS activity authentically.
3. Faculty delivering the ISS activity are proficient in SBE and have the required expertise on a given topic (Refer to standards on faculty development above).

## **Appendix II: Society for Simulation in Healthcare ‘Healthcare Simulationist Code of Ethics’**[[2]](#footnote-3)

Healthcare Simulationist Code of Ethics

The Society of Simulation in Healthcare code of ethics define the highest aspirational values for healthcare simulation professionals:

1. **Integrity**

Healthcare Simulationists shall maintain the highest standards of integrity including honesty, truthfulness, fairness, and judgment in all matters affecting their duties. They shall:

* Respect and cultivate an ethical organizational environment.
* Provide, as appropriate, disclosure of simulation activity design assumptions, limitations, alterations, and problems.
* Be explicit and unequivocal about the applicability of specific simulation activities and methods according to the available evidence.
* Work to eliminate unnecessary harm to humans, animals, and the environment.
* Honour privacy rights of individuals and organizations, and uphold the confidentiality of data and outcomes as appropriate.
* Respect and acknowledge all intellectual and property rights and give due credit where appropriate.

**II. Transparency**

Healthcare Simulationists shall perform all healthcare simulation activities in a manner that promotes transparency and clarity in the design, communication, and decision-making processes. They shall:

* Adhere to accepted standards in the documentation, analysis, design, development, implementation, and evaluation of simulation activities.
* Disclose any activities that may involve real or perceived conflicts of interest.
* Be explicit about the nature and purpose of the simulation activity, including research activities.
* Restrict simulation activities involving deception, ensuring that deception is minimized to the extent possible and does not involve the concealment of risk or intent to harm or punish.

**III. Mutual Respect**

Healthcare Simulationists shall respect the rights, dignity, and worth of all. They shall practice empathy and compassion to support beneficence and non-maleficence towards all involved in simulation activities. They shall:

* honour the knowledge, skills, values, and vulnerability of learners and colleagues.
* Listen to others’ points of view, seeking to understand them.
* Exhibit humane behaviour, honour diversity, and foster inclusion, avoiding prejudicial treatment.
* Maximize safety and minimize physical and psychological risk.

**IV. Professionalism**

Healthcare Simulationists shall conduct themselves in a manner that upholds the professional standards inherent in healthcare simulation. They shall:

* Demonstrate professional competence and attitudes.
* Exhibit continuous personal and professional development.
* Encourage and develop colleagues and new entrants to the healthcare simulation profession.
* Cultivate opportunities for the advancement of the healthcare simulation profession.

**V. Accountability**

Healthcare Simulationists shall be accountable for their decisions and actions in fulfilling their duties and responsibilities. They shall:

* Continuously seek, reflect on, and incorporate feedback.
* Submit themselves to professional review as required.
* Be role models of ethical behaviour.
* Exhibit professional conduct that is a credit to the healthcare simulation community, employer, and self.
* Identify and notify relevant parties of unsafe, unethical, or unprofessional behaviours.
* Design and use simulations in a way that wisely uses available resources.
* Maintain vigilance regarding not only desired outcomes, but also potential unintended consequences of the simulation activity.

**VI. Results Orientation**

Healthcare Simulationists shall serve to support activities that enhance the quality of the profession and healthcare systems. Outcomes are inclusive of all parts of the process of healthcare simulation and are not exclusive to a final product. They shall:

* Assure the reliable and credible use of healthcare simulation, in line with acknowledged standards of practice.
* Engage in continuous quality improvement.
* Create and measure impact across the range of achievable outcomes, including the practice of simulation, human performance, systems improvement, and direct patient results.
* Incorporate and embed the Code of Ethics throughout healthcare simulation and organizational culture.
* Use the Code of Ethics to inform ethical practices in relevant fields.
* Advance public knowledge about healthcare simulation by promoting access and sharing knowledge and experience.

1. https://aspih.org.uk/standards-framework-for-sbe/ [↑](#footnote-ref-2)
2. https://www.ssih.org/SSH-Resources/Code-of-Ethics [↑](#footnote-ref-3)