

Simulation Strategy 2018–2023



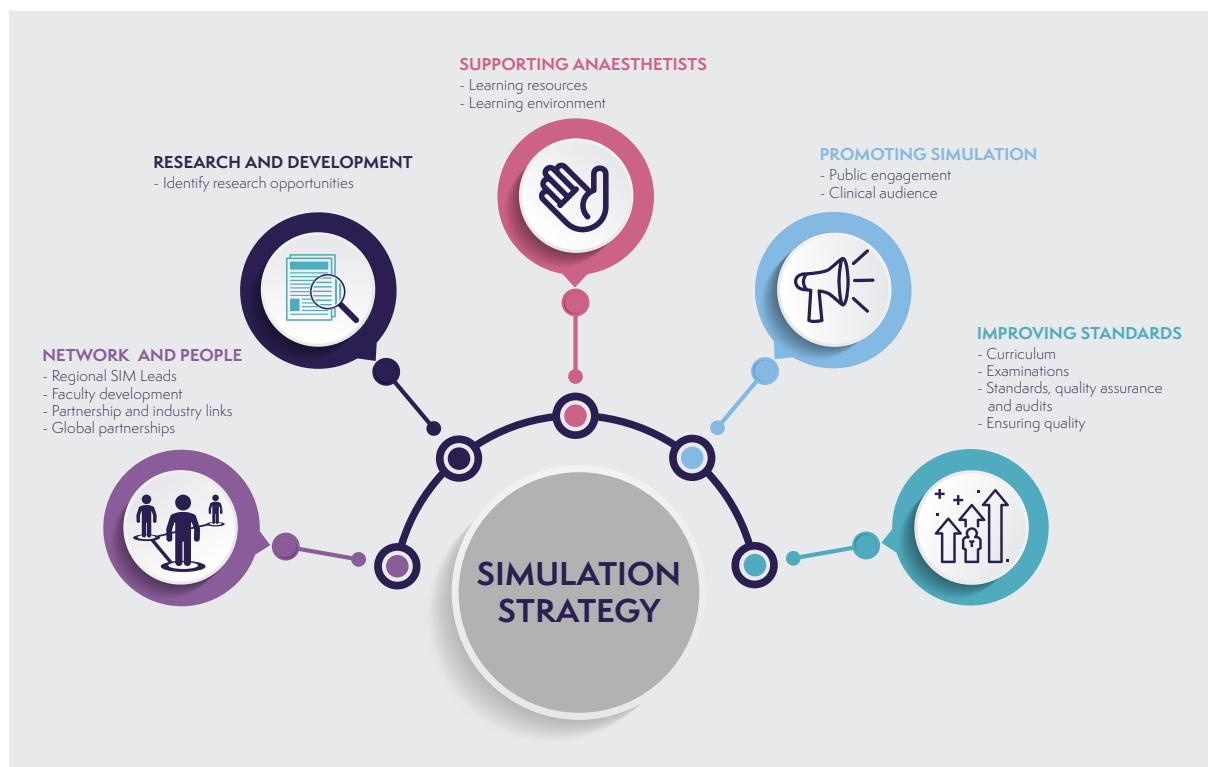
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Introduction

Simulation is a proven and powerful tool for learning in healthcare at the level of individual and team-based practice. As a training intervention, it can support and enhance the development of basic or more advanced technical skills and capabilities at all levels of experience. Similarly, it can offer a unique method to identify and rehearse the development of critical non-technical skills for anaesthetists as well as key team working skills and behaviours that underpin effective and safe clinical practice. This extends to offering unique opportunities to rehearse individual and team performance as preparation for dealing with rare or potentially life threatening events. Simulation also has an important role in the understanding and subsequent application of Human Factors (ie systems science) in the workplace to optimise professional practice, system performance and staff well-being within an increasingly complex and resource constrained clinical environment. This can help improve the quality and safety of patient care through studying interactions between technical and non-technical skills and wider work system factors, such as the design of medical devices, information technology, working environments, and the policies and procedures that underpin everyday practice.

We have revised the identity and purpose of the Simulation Working Group in recognition of the importance of simulation and simulated practice in today's healthcare environment and within a range of strategic and operational responsibilities. Our Simulation Working Group as one of its primary objectives has written this simulation strategy. The document outlines how the College aims to continue to lead in the field of simulation applied to healthcare. This will support the delivery of the RCoA Education Strategy and enhance the College's activities in training, research, patient safety and quality improvement work. This new strategic approach will improve the College's ability to provide support to all grades of anaesthetist and at every stage of their career, as well as informing and improving standards of practice and quality of care within the wider healthcare system.



Our vision and mission for simulation at the RCoA

The vision taken from the RCoA Education Strategy is:

To educate, inform and inspire anaesthetists in the UK and around the world.

The mission statement for the RCoA Simulation Strategy is:

To be a world-leading provider of trusted anaesthetic educational opportunities and resources, presenting inspirational, relevant, high quality content and experiences tailored and accessible to College and Faculty members as well as others practising anaesthesia and perioperative medicine in the UK and overseas.

The aims of the strategy are described under the following headings:

Supporting
Anaesthetists

Improving
Standards

Research and
Development

Network and
People

Promoting
Simulation

Supporting anaesthetists

This strategy will promote the current and future use of simulation to support anaesthetists of all grades and at each stage of their career. This will be achieved by identifying and / or developing high quality learning resources that can be made readily accessible to relevant practitioners and communities. The application of these resources and evaluation of the benefit of well-designed and delivered simulation-based activity will inform future College strategy and help ensure the effective use of simulation at a local, regional and national level. Specific goals will include:

Learning resources

- Develop an online area where existing and new learning resources can be shared and developed as part of the RCoA education portfolio.
- Encourage access to this online environment and a forum developed that promotes a blended approach to the use of e-learning materials, other technology enhanced and simulation-related learning resources where appropriate.
- Signpost, develop or commission materials where significant gaps in learning resources exist.
- Identify and encourage innovations in practice and facilitate the sharing of good practice across the UK and global Anaesthesia community.

Learning environment

The College recognises the importance of promoting a local environment and culture for education and training to support learners' and educators' needs and which underpins high quality care and a positive experience for patients. In this respect, the simulation strategy will:

- provide support and guidance to enhance collaborative working across geographical, professional and multidisciplinary networks
- disseminate evidence of good practice and inform the development of standards of simulation-based practice for common programmes or interventions identified via the training curriculum, continuing professional development needs, or in response to national patient safety alerts
- promote opportunities for in-programme or out-of-programme placements (previously 'fellowships'¹) for specialty anaesthetists in training that are linked to approved programmes or centres and can offer professional leadership development in education, systems safety and / or quality improvement with a defined simulation component
- ensure anaesthetic departments are aware of the full range of simulation techniques and methodologies to support and develop anaesthetists of all grades and the multiprofessional teams in which they work
- support the development and recognition of simulation faculty through existing and emerging faculty programmes that can be accessed at all levels across the UK
- develop and evaluate simulation-based interventions within programmes that support healthcare professionals when specific support is required by individuals during their 'return to work' period
- Provide advice on developing and accessing simulation-based resources or facilities as part of planned individual remediation programmes
- Encourage and enhance the use of simulation in medical undergraduate and foundation programme curricula as an outcomes-based educational methodology.

¹ Mercer SJ, Jones N, Guha A. A Clinical Fellowship in Simulation in Healthcare. *BMJ Careers*. 13 February 2010; 52-54.



Improving standards

The use of high quality simulation offers significant opportunities to support the RCoA in its mission to promote and uphold the best standards in practice. This will involve alignment of the simulation strategy with the terms of reference, work streams and publications of specific key College committees and the respective boards to which they report.

Curriculum

The strategy seeks to support the RCoA Curriculum Review Group and the Training Committee adopting a stronger position on the use of simulation to support curriculum delivery by:

- being more explicit about components of the curriculum that can or should utilise simulation to enhance training and development of professional capabilities
- develop and pilot with a view to the introduction of minimum standards for certain procedures or clinical activities that must be demonstrated using simulation-based resources or facilities prior to first performance in clinical practice or as part of on-going rehearsal of specific critical skills and drills (eg failed intubation drill, emergency front-of-neck access, siting an epidural catheter)²
- advising where and how simulation should support or enhance curriculum delivery for technical, non-technical, and multi-professional team working and leadership skills. This will include consideration of implementing and evaluating mastery learning interventions³
- enhance the development of effective, compassionate communication skills with patients and families / carers pertinent to anaesthetic practice
- facilitate the development of anaesthetists in training as educators with simulation as a key methodology, which will help develop transferable skills of supervision, feedback and debriefing for individual or team performance
- supporting local training programmes to develop specific placements linked to appropriate stages and sections

² This was supported strongly by the RCoA Lay Committee when consulted about the use of simulation to enhance patient safety in anaesthetic practice.

³ McGaghie et al. Critical review of simulation-based mastery learning with translational outcomes. *Medical Education*. 2014

of the curriculum and which are designed to achieve outcomes related to systems design, improvement science, and the specific curriculum domains of Clinical Practice, Team Working, Leadership, Innovation, Management and Education

- providing guidance at College, School / training programme and Department level regarding quality standards that will inform the implementation and effective monitoring of simulation-based educational activity.

Examinations

The College makes use of simulation within its professional examinations for anaesthetists in recognition of its utility of simulating real clinical practice. The simulation strategy will seek to strengthen this practice by offering advice and access to existing or new knowledge in the following areas:

- simulation design and fidelity
- scenario delivery
- question validity
- examiner training

Standards, quality assurance and audits

Auditing practice individually or across a service or organisation is a well-established method to provide evidence that defined standards are being met and maintained. The evidence underpinning these standards of practice is described in the College's guidance for the provision of anaesthesia services (GPAS). The GPAS recommendations are used to develop the RCoA's anaesthetic department accreditation through the peer review Anaesthesia Clinical Services Accreditation (ACSA) scheme.

Simulation is described currently within GPAS and ACSA documentation specifically in relation to anaesthetists and the multi-professional teams in which they work undertaking regular drills that rehearse the clinical management of critical life-threatening situations (e.g. anaphylaxis, massive haemorrhage). However, the literature and examples from practice show that simulation plays a much broader role in enhancing the development and application of a wider range of clinical management skills in many specialty areas of practice. This strategy will inform how this can be incorporated within GPAS and ACSA to help strengthen this important work of the College.

Implementation of this aspect of the strategy will:



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- support the College to describe clearly how simulation can be used to help develop or demonstrate achievement of defined standards of practice at individual, team and department level for specified aspects of service performance
- identify how specific simulation-based interventions can enhance opportunities to test specific recommendations, support implementation or evaluate changes in practice or broader quality and safety improvement programmes.

Ensuring quality

The Simulation Working Group will work collaboratively to support high quality simulation practice as a means of complementing a range of quality assurance processes relevant to the College. This will include:

- providing examples and support in the development of generic professional capabilities (non-technical skills) amongst anaesthetists
- sharing examples and good practice around the role simulation can play in the assessment of both non-technical and technical skills, including during the selection process for entry into speciality training
- sharing good practice in simulation approaches for department level policies and procedures (e.g. medical device training, use of checklists, handovers)
- developing and disseminating simulation-based exercises or interventions in response to specific patient safety alerts where deemed appropriate
- advising GPAS chapter authors and the ACSA review process about simulation standards and appropriate evidence.

Research and development



This strategy offers a unique opportunity to support the development of high-quality collaborative research that examines or applies simulation as an interventional tool or technique for enhancing individual or team-based professional capabilities⁴⁵ and assuring the delivery and integration of human factors (systems science) at scale. This aim will be achieved through several work streams:

- developing links and working collaboratively with the National Institute of Academic Anaesthesia (NIAA) and the Health Services Research Centre (HSRC) in order to identify key academic and clinical partners for defined service improvement research opportunities
- undertaking regular scoping exercises of simulation-based activities and new innovations that can be fed into the support resources and courses available from the RCoA
- disseminating outcomes from research undertaken at a national scale that will contribute to and enhance the growing evidence base for the effectiveness of simulation applied to professional development, team-based practice, patient safety, quality improvement, and systems design.

4 Miller D, Crandall C, Washington C, 3rd, McLaughlin S. Improving teamwork and communication in trauma care through in situ simulations. *Acad Emerg Med.* 2012;19:608–12.

5 Morey JC1, Simon R, Jay GD, Wears RL, Salisbury M, Dukes KA, Berns SD. Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation results of the MedTeams project. *Health Serv Res.* 2002 Dec;37(6):1553–81.

Networks and people

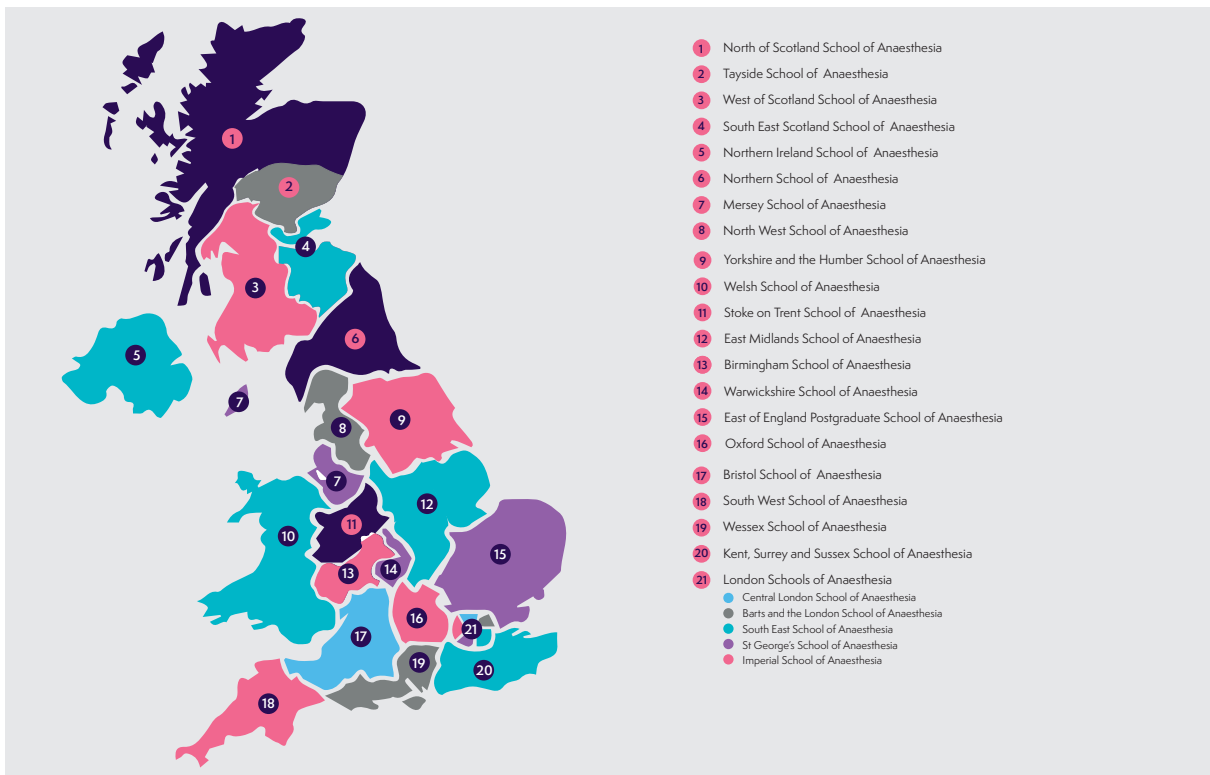
In order for the College to place itself at the centre of best practice for simulation applied to anaesthesia in the UK, we intend to build a sustainable community of practice that will help achieve this vision. This strategy will help describe and put in place the infrastructure and support required for this community to develop into a collaborative network that helps generate and share knowledge and skills, build experience and evidence from practice, and provides support at a local and national level.

Regional simulation leads

A network of regional simulation leads has been established with representation across every region of the UK. These positions have an agreed job description and a 3 year tenure (renewable) and exist to help establish and sustain two-way dialogue between the Simulation Working Group and local Departments. Several actions will be undertaken during the implementation of the simulation strategy to increase the effectiveness of this group:

- Provide recognition and continued support from the College to encourage increased engagement with the simulation leads that ensures effective links are established between the College and local anaesthetic departments.
- Understand the local context of simulation activity through regular communication and reporting including:
 - how simulation is currently being used to support curriculum delivery
 - accessibility to simulation equipment/training
 - numbers of consultants formally trained as faculty to deliver simulation training
 - how training time is incorporated into job plans for simulation faculty
 - problems and solutions for delivering simulation-based training
 - sharing best practice in simulation practice in healthcare.

Map showing location of simulation leads in the UK



- Provide access to a College website area to enable co-design, sharing, application and evaluation of specific simulation-based interventions. This might be to address local initiatives or in response to national calls in order to evidence standards of care or to test and demonstrate improvements in practice.
- Develop our regional simulation leads to be recognised locally and regionally as a source of expertise that can offer access to RCoA approved programmes and interventions.
- Support the leads to develop a national network of regional anaesthetists in training simulation representatives.

Faculty development

The effectiveness of simulation, like all educational modalities, depends on how well it is used. We need to ensure there are enthusiastic and well-trained faculty to deliver simulation training and suitable methods to help prepare and develop the next generation of simulation educators.

- The College will support trainers delivering simulation-based education to have allocated time in their job plan and to gather evidence to document this as part of an annual appraisal and personal development plan as an educator.
- Each anaesthetic department will aspire to have a simulation lead with appropriate recognition in their job plan.
- The College will signpost or support specific provision of faculty development programmes (Train the Trainers) and provide access to relevant resources and communication hub for faculty via the College website.



Partnership and industry links

Collaboration with other partner organisations to establish, strengthen and co-ordinate multi-professional simulation networks and access to resources will form an important component of the simulation strategy.

Recommended links include

- Health Education England (Simulation Reference Group), NHS Education for Scotland (e.g. the Clinical Skills Managed Education Network, the Medicine Simulation Collaborative), Health Education and Improvement Wales and Department for Health in Northern Ireland.
- Association for Simulated Practice in Healthcare (ASPIH)
- Scottish Clinical Skills Network
- Northern Ireland Simulation and Human Factors Network
- Safe Anaesthesia Liaison Group (SALG)
- Other medical royal colleges
- Royal College of Nursing/Midwifery
- Other professional bodies representing the allied health professionals (AHP's) who work alongside anaesthetists as part of their practice
- Chartered Institute for Ergonomics and Human Factors (CIEHF) and the Clinical Human Factors Group (CHFG)
- Industry representatives involved in the design and provision of simulation and other learning technologies
- Other relevant stakeholders as identified during implementation of the simulation strategy.

Global Partnerships

Alongside the College's global partnership work, the Simulation Working Group will look to collaborate with the Global Partnerships Committee to engage with overseas groups and organisations by:

- finding cost-effective ways of delivering simulation training in resource-poor environments
- sharing best practice and knowledge that can enhance the development and spread of simulated practice globally
- consideration of how collective knowledge can be shared with overseas partners under the RCoA umbrella in order to generate income and enhance reputation. This could be done through conferences, by linking centres or Departments with partners abroad, offering visiting fellowships or scholarships, etc.

Promoting simulation

Public engagement

The awareness of simulation is widespread within a clinical audience, but is less well publicised to the public. The Simulation Working Group will work with the Lay Committee and other patient representative groups to increase awareness of simulation as a learning tool including its use in non-technical skills training and human factors science by:

- creating web resources to explain how simulation is used in practice
- creating videos explaining different types of simulation and how they are applied in healthcare
- offering the opportunity for members of the Lay Committee to attend simulation facilities and observe examples of practice
- highlighting the quality assurance in place to reassure patients that doctors are learning key practical skills (where appropriate) and rehearsing critical drills using relevant simulation-based methods rather than using patients.

Clinical audience

The College simulation strategy aims to inform the anaesthetic community on how simulation can be used; where it can be used; best practice in delivering simulation-based education and the evidence-base supporting its use. We will do this by:

- commissioning articles for relevant publications including the BJA, the RCoA Bulletin, Anaesthesia News, BMJ Simulation and Technology Enhanced Learning, highlighting developments and uses of anaesthetic simulation
- increasing the presence and access to simulation on the RCoA website
- using the simulation network to promote simulation in healthcare at events and fairs using workshops delivered for novice and advanced trainers
- working with the Association for Simulated Practice in Healthcare (ASPiH) of which it has membership to promote anaesthetic simulation and learn from a wider multi-professional community.

Appendix 1

Membership of the Simulation Working Group

We would like to thank the following people for their contributions to the simulation strategy; Bryn Baxendale, Chris Sadler, Lisa Wee, Toni Brunning, Andrew Jacques, Simon Edgar, Carol Pellowe, Jeremy Langton and Simon Mercer.

Appendix 2

Overview of the implementation plan

Aim	Year 1: Initiate	Years 2–3: Embed	Years 4–5: Sustain
Building resources	<p>Scoping and collating exemplars of simulation-based interventions</p> <p>Designing a framework to enable mapping of current and future needs against existing provision / available resources and identify gaps</p>	<p>Continue to populate a repository of exemplars and supporting resources</p> <p>Develop a quality framework to enable analysis of existing resources</p> <p>Design a methodology to pilot, evaluate, disseminate and sustain resources at wider scale</p> <p>Scan for potential funding streams within or external to RCoA to support prioritised work streams and resource development or evaluation</p>	<p>Establish a review process by which resources are maintained, updated or archived according to an on-going analysis of needs</p> <p>Identify and progress separate funding streams according to programmes of work being undertaken</p>
Communicating	<p>Develop and populate RCoA Simulation web pages with resources and a ‘who’s who’ map of Regional Sim Leads and the Simulation Working group</p> <p>Publish the RCoA Simulation Strategy on the website and in a supporting article in the RCoA Bulletin</p> <p>Produce a communications plan that identifies meetings, conferences and publication opportunities for the strategy and elements of its implementation and / or evaluation</p>	<p>On-going population of the RCoA Sim web pages with exemplars of good practice</p> <p>Establish a communications forum for the Regional Simulation Leads and supporting network of Fellows and Department Leads</p> <p>Attend and present the strategy, specific themes of work or priority projects at key meetings, conferences and other forums.</p> <p>Publish key reports or evaluation data in peer reviewed journals or other media</p>	<p>Ensure the web pages and other communication channels are updated and ‘fit for purpose’ to help develop maturity in our networking capability</p> <p>Continue to provide presentations and submit publications on a national or international level</p>

Aim	Year 1: Initiate	Years 2–3: Embed	Years 4–5: Sustain
Networking	<p>Develop a stakeholder map (ecosystem) to enable key strategic and operational links to be established as the basis of a communications plan</p> <p>Confirm commitment of the Regional Simulation Leads to support the strategy implementation</p> <p>Initiate a map of regional and local (Departmental) simulation leads and any corresponding Departments that support anaesthetic Simulation Fellows</p> <p>Host a Regional Simulation Leads event to discuss and provide focus for engagement with the implementation plan</p>	<p>Continue to populate the networking map of regional and local simulation leads and Fellows</p> <p>Identify corresponding RcoA networks to discuss potential value and methods of establishing alignment on specific work streams (eg QI, Audit, Airway, Research, Regional Advisors, College Tutors, etc)</p>	<p>Promote transition of networking maturity from co-ordination to co-operation and collaboration</p> <p>Cross fertilise and integrate simulation-based interventions or activity within key work streams co-ordinated and led by non-simulation RCoA Leads</p>
Evaluating	<p>Develop an evaluation plan for the overall simulation strategy and as a framework for specific work streams arising as part of its implementation</p>	<p>Activate and update the evaluation plan with reporting to appropriate Committees, Boards or Council</p> <p>Develop potential research and innovation work streams aligned with the strategy and implementation plans that will generate income from grants and funding bodies</p>	<p>Update the evaluation plan with reporting to appropriate Committees, Boards or Council</p> <p>Contribute to the wider evidence base through publication in high impact peer review journals</p>

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Aim	Year 1: Initiate	Years 2–3: Embed	Years 4–5: Sustain
Supporting Anaesthetists	Design template for website to enable simulation resources to be collated and shared	Map resources against curriculum, CPD and ACSA frameworks	Continue to review, renew and update learning resources available via the website
	Scope existing simulation resources more comprehensively	Undertake a gap analysis of resources in need of development. Once gaps are established, create resources required.	Establish a website lead to act as content editor and help moderate an online / virtual forum
	Review and signpost faculty development opportunities	Engage and invest in regional / local Simulation Leads to coordinate the development of new resources according to need	Establish links with co-existing e-learning or digital resources available from e-LfH / other on-line repositories
	Review existing Simulation Fellowship posts currently supported in local Departments and map against advanced training curriculum	Describe and implement a process to identify, support and evaluate innovations in simulation practice	Offer an annual undergraduate and postgraduate prize for novel or potential high impact innovations in the simulation field related to anaesthesia and / or perioperative medicine
Improving Standards	Establish links between SWG and key College committees and groups and contribute to relevant work streams		Publish outcomes from established interventions
	Identify and pilot mandatory simulation-based procedural skills training mapped to curriculum, CPD and patient safety priorities	Implement mandatory simulation-based procedural skills training	Offer enhanced CPD recognition for participation in specific simulation-based professional development programmes
	Scope existing multidisciplinary theatre team training / CRM programmes	Implement and audit multidisciplinary CRM team training interventions in conjunction with CS&QR Board	Establish and publish data from 'in situ' simulation programmes that has informed systems performance and / or staff well-being
	Review and inform ACSA accreditation visits where evidence of simulation-based training is sought	Review GPAS chapters to highlight potential benefits for simulation according to the evidence based framework currently used	

Research and Development	Scope existing evidence and potential research questions relevant to simulation-based methodologies or interventions	Design and implement a framework for identifying and testing innovations in simulation-based practices for education, training or quality and safety improvement	Implement a programme of simulation-based multicentre studies to explore key issues related to the safety and quality of anaesthetic and perioperative practice
	Identify potential funding sources for local and multicentre research studies involving simulation as a methodological tool or intervention	Invite proposals for multicentre research studies	Present and publish key studies in high impact journals
Promoting Simulation	Develop a series of podcasts and digital content to help promote the strategy in the public domain	Encourage and support presentation of simulation strategy work and projects at conferences and policy influencing events	Publish update articles and case studies in <i>RCoA Bulletin</i>
	Arrange visits to simulation centres / activities for the Lay Committee	Promote and collate key publications in peer reviewed journals and other formats	
	Publish an article about the simulation strategy and its intended vision within the <i>RCoA Bulletin</i>		

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Indicative Costs

Year 1: Initiate	Years 2–3: Embed	Years 4–5: Sustain
<p>In year one we will work within the scope, resource and budget already agreed. During this first year, the SWG will work to create costed projects plans and identify internal and external resources that can enable us to deliver the strategy.</p>	<p>Reimbursement of expenses for Simulation Working Group (SWG) meetings / activity</p> <ul style="list-style-type: none"> • 6-8 travelling members • 3 meetings annually <p>Additional attendance of individual SWG members at stakeholder committees and Boards.</p> <p>Additional funding may be required to enable Regional Simulation Leads to meet regionally as groups that deliver project packages.</p>	<p>Reimbursement of expenses for Simulation Working Group (SWG) meetings / activity</p> <ul style="list-style-type: none"> • 6-8 travelling members • 3 meetings annually <p>Additional attendance of individual SWG members at stakeholder committees and Boards.</p>
<p>Reimbursement of expenses for Simulation Working Group (SWG) meetings / activity</p> <ul style="list-style-type: none"> • 6-8 travelling members • 3 meetings annually <p>Additional attendance of individual SWG members at stakeholder committees and Boards. (already in budget for 18-19)</p>	<p>Travel expenses for SWG / Sim Leads / Lay Committee visits to specific centres / institutions for scoping and observing good practice for wider sharing.</p> <p>Potentially 6 visits attended by 30 individuals in total over the year (ie 4–6 individuals attending each visit)</p>	
<p>Travel / other expenses for annual meeting for Regional Simulation Leads (also attended by SWG members)</p> <ul style="list-style-type: none"> • 30 attendees <p>(already in budget for 18-19)</p>	<p>Target external agencies and bodies for additional funding for and partnerships in order to deliver project packages</p>	
<p>Website development and collection of resources via Simulation Leads network. (already in budget for 18-19)</p>	<p>Clinical backfill</p> <ul style="list-style-type: none"> • To support initial 12 month engagement with key stakeholder groups / College committees • Oversee input from Sim Fellows <p>Generate future funding streams from educational, patient safety, and research bodies.</p>	

Year 1: Initiate	Years 2–3: Embed	Years 4–5: Sustain
	<p>Produce Business case and funding for dedicated 2 x 0.5 WTE Sim Fellows, one to focus on educational applications, one to focus on Human Factors & systems safety and standards of practice applications.</p> <p>Initial Year 1 work to involve collective and collaborative input from existing Fellows based at key centres / institutions.</p> <p>Website management and resource creation</p> <ul style="list-style-type: none"> • Curation of on-going resource development or collation (library) • Creation of audiovisual materials (in house) • Collation of exemplars of good practice (RCoA Admin support) • Time for a website resource 'Editor' (?Sim Fellow) • Forum development and moderation 	<p>Website management</p> <ul style="list-style-type: none"> • Curation of on-going resource development or collation (library) • Forum development and moderation

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