A Clinical Simulation and Training Framework (CSTF) for the WA health system

May 2019 (updated v2)

Contents

Introduction

A Clinical Simulation and Training Framework (CSTF) for the WA Health System (the Framework) is the end product from feedback provided to the Department of Health on a framework consultation draft, circulated to the WA simulation community during June 2018. Submissions were received from stakeholders representing private health services, public hospitals, state-wide training services, the WA Simulation in Health Alliance (WASHA – 200 members) and a WA university.

This document contains the essential components of the Framework, whereas the consultation draft contained background and contextual information. Stakeholder feedback has been incorporated into this final version. The consultation draft is available on request.

Purpose of this framework

To establish and sustain a network-led approach for the development and advancement of simulation in clinical teaching and training; clinical scenario testing; and simulation research for the Western Australian health system.

Principles

The principles contained within the mandatory Clinical Teaching and Training Policy Framework have been adopted to apply to this framework and are as follows:

- **Adaptability**
  Clinical teaching and training activity will reflect changing environmental factors such as demographics, emerging health needs, models of care and new technologies to ensure an adaptable and responsive health workforce
- **Quality**
  Clinical teaching and training will meet the standards of appropriate governing bodies
- **Sustainability**
  Clinical teaching and training activities will be efficiently and sustainably managed to ensure future workforce capacity, development of a skilled and competent workforce, provision of the best possible teaching infrastructure and to foster future investment in clinical teaching and training across the WA health system
- **Transparency and accountability**
  Maintain systems and processes that demonstrate sound governance, management and reporting of clinical teaching and training activities and outcomes.
- **Workforce planning**
  Ensure that clinical teaching and training activity is relevant and supports short and long term workforce capability, supply and distribution.

Framework scope

Definition

There are several widely quoted references that define simulation, and more specifically simulation in healthcare. These references have also been used by the WA Simulation in Healthcare Alliance (WASHA) paper *'Developing a Strategic Framework for WA Health's Simulation-Based Learning'*.

It is important to be clear on what the scope of the CSTF will cover as this will also affect future funding decisions. The definitions are quite broad:

Simulation in healthcare refers to *"any educational method or experience that evokes or replicates aspects of the real world in an interactive manner"* [1].

WASHA also refer to the Society for Simulation in Healthcare (SSH), an international peak body that provide a comprehensive definition: http://www.ssih.org/About-SSH/About-Simulation

Given the CSTF aims to include education, clinical scenario testing and research, it is thought the SSH definition (although lengthy) is most appropriate, as follows:

Simulation is the imitation or representation of one act or system by another. Healthcare simulations can be said to have four main purposes – *education, assessment, research, and health system integration* in facilitating patient safety.

Each of these purposes may be met by some combination of role play, low and high tech tools, and a variety of settings from tabletop sessions to a realistic full mission environment. Simulations may also add to our understanding of human behaviour in the true–to–life settings in which professionals operate. The link that ties together all these activities is the act of imitating or representing some situation or process from the simple to the very complex. Healthcare simulation is a range of activities that share a broad, similar purpose – to improve the safety, effectiveness, and efficiency of healthcare services.

Simulation education is a bridge between classroom learning and real-life clinical experience. Novices and patients may learn how to do injections by practicing on an orange with a real needle and syringe. Much more complex simulation exercises – similar to aviation curricula that provided the basis for health care – may rely on computerised mannequins that perform dozens of human functions realistically in a healthcare setting such as an operating room or critical care unit that is indistinguishable from the real thing. Whether training in a "full mission environment" working with a desk top virtual reality machine that copies the features of a risky procedure, training simulations do not put actual patients at risk. Healthcare workers are subject to unique risks in real settings too, from such things as infected needles, knife blades and other sharps as well as electrical equipment, and they are also protected during simulations that allow them to perfect their craft.

Simulation-based assessment refers to both "low stakes" learning for improvement, and "high stakes" testing to determine competency. Multiple choice tests and oral exams have been traditional methods to assess knowledge and ability for generations. Common sense dictates, however, that once technology advances to the point that real tasks can be accurately simulated, truly demonstrating competence becomes an indispensable part of effective evaluation. Directions in credentialing indicate that it will eventually be more meaningful to actually demonstrate competency than to provide a surrogate for competency – namely, a certain number.

The goals of **simulation-based research** differ from training and evaluation. Researchers may be trying to understand why a particular event happened, and so simulate the event with the same and/or other clinicians. Just as with an airplane engine or wing in a wind tunnel, medical devices may be tested under a range of simulated conditions before the final device is marketed and used on actual patients. New procedures for giving dangerous drugs or using advanced resuscitation methods may be studied under simulated conditions. Entire populations, tests, and costs may be represented by patterns of data in a computer and multiple simulations run to find optimal solutions for attaining the best health of a community. Different types of simulations – live, virtual reality, and computer-based – may be combined to attack a question from different angles. The ultimate goal of increasing knowledge and understanding to improve training, evaluation, and design of systems is the same. Necessary research may also address two fundamental areas of need. One may ask, "Is the tool of simulation valid?". A second question to be answered by necessary research is, "Is the tool of simulation useful?". Answers to these fundamental questions will continue to be increasingly addressed within the research arena.

Systems integration refers to the integration of simulation into institutional healthcare training and delivery systems. Simulation-based processes may include quality assessment mechanisms, thereby facilitating patient safety. Simulation may also raise the bar for objectivity and hence fairness in evaluation, substituting visible, accepted metrics for performance for anecdotes and opinions. Simulation-based approaches can be effectively used to help evaluate organisational processes as well as individuals and team performance. Examples include disaster response or testing a new procedure before it is put into practice.

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[1] GABA (2004)

It is recognised that the scope as described above may be an expansion of what is currently considered to be normally included in the WA health system simulation arrangements, which primarily cover training courses (accredited and non-accredited) that are usually linked with simulation infrastructure (e.g. high or low tech simulators).

The relevance of healthcare education and training to the CSTF will be determined by the use or planned use, of simulation

Fidelity

The SSH Healthcare Simulation Dictionary [2] also provides for a definition of fidelity as follows:

- The degree to which the simulation replicates the real event and/or workplace; this includes physical, psychological, and environmental elements.
- The ability of the simulation to reproduce the reactions, interactions, and responses of the real world counterpart. It is not constrained to a certain type of simulation modality, and higher levels of fidelity are not required for a simulation to be successful.
- The level of realism associated with a particular simulation activity – fidelity can involve a variety of dimensions including (a) physical factors such as environment, equipment and related tools; (b) psychological factors such as emotions, beliefs, and self-awareness of participants; (c) social factors such as participant and instructor motivation and goals; (d) culture of the group (e) degree of openness and trust as well as participants' participants' modes of thinking (INACSL, 2013)

The degree of fidelity should not be associated with the level of priority or importance.

Relevant organisations

The CSTF is relevant to the following organisations to ensure the best outcomes for simulation in Western Australia:

- Health Service Providers
- WA Universities accredited to provide health-profession undergraduate and post graduate courses
- WA TAFE Colleges and Registered Training Organisations funded by the WA government with VET healthcare qualifications listed on the National Register [3].
- the Department of Health
- non-government providers with a WA presence delivering WA government funded health services (e.g. Ramsay Health, St John of God Health Care)
- WA Simulation in Healthcare Alliance
- a peak healthcare consumer group.

The level of participation will range from involvement in the Advisory Network governance arrangements, to short-term or specific interest projects for example a non-government health provider developing a simulation training course.

Organisations will be represented by authorised officers. It is unlikely an individual who is not in one of the organisations listed above will be involved in the CSTF unless it is a special project where the individual is a recognised expert and is contributing knowledge and expertise, and/or carrying out a specific set of tasks.

The CSTF governance group will invite contributions from organisations with specific expertise where needed including technology companies, international and interstate speakers and health and education leaders.

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[2] https://www.ssih.org/Portals/48/Docs/Dictionary/simdictionary.pdf
[3] https://training.gov.au/Home/Tga

Other agencies in WA, such as the Mental Health Commission, Royal Flying Doctor Service and St John Ambulance, may have an interest in certain initiatives or decisions related to the CSTF and would be eligible to submit proposals for seed funding through the governance group.

Governance

A Clinical Simulation and Training Advisory Network (Advisory Network) will be established to oversee the development and advancement of health simulation in Western Australia. The Advisory Network will be self-organising, once established. It will be a key group that provides advice to the Department of Health on system-wide simulation initiatives, determines which proposals for seed funding are put forward for consideration and has recognised links to public Health Service Providers (HSPs).

Ensuring an adequate representation of key stakeholder groups on the Advisory Network will be challenging, but should be achievable given the focus is on simulation and not education or workforce development more broadly. It will need to be structured to allow for sub-committees such as special interest, profession or site/network level groups that need to have an avenue for communication and to raise issues and opportunities.

Membership must be balanced across sectors (health and education). The representation of professions and their interests are also important.

Sector	Representative	Profession(s)
Health (public)	- NMHS x 1 - SMHS x 1 - EMHS x 1 - WACHS x 1 - CAHS x 1	HSP nominated representatives using best endeavours to ensure each major occupational group is also represented: medical, nursing & midwifery, allied health and health sciences
Education	- University x 5 - TAFE/VET x 1	Representatives who can report back to multiple health faculties
WA Simulation in Healthcare Alliance	WASHA x 1	Must be a member of the WASHA Executive
Health (private)	Major provider x 1	Must be an clinical educator or simulation expert in a private health provider
Consumer	Representative x 1	Representative from a recognised consumer health organisation, with an interest in health education
Health - System Manager	Office of the Chief Medical Officer	A representative of the system manager
Secretariat	Department of Health (first 12 months)	A representative from the Clinical Excellence Division

Advisory network terms of reference

A draft Terms of Reference is provided at Appendix 1 for consideration and amendment by the Advisory Network, once established.

Advisory network support

For the first twelve months of operations, the Advisory Network will be supported by the Clinical Excellence Division of the Department of Health.

This includes a support officer (part time) who will provide secretariat services to the Advisory Network and coordinate the process for seed funding proposals.

Following the 12 month establishment period, the achievements of the Advisory Network, the Network's support arrangements and the administrative arrangements related to the simulation fund management, will be reviewed by the Department. Consideration will be given to how the Advisory Network can be further supported into the future and the Department will seek input from the membership regarding support arrangements and the capacity of the Network to self-organise.

It is expected that members and the Department will assist with providing appropriate meeting spaces to support the Advisory Network.

Key elements of the framework

The key elements below provide a basis for the Advisory Network and simulation community to focus their efforts and ensure that proposals for seed funding are aligned to this Framework.

Evidence and planning

Evidence and planning are important to:

- improve the ability to forecast demand and need for skills training, clinical teaching and training direction
- capture activity, effectiveness, performance and the natural evolution of programs
- inform the business case
- ensure quality planning and resourcing for simulation.

Effective collaboration

Introducing an advisory network governance model will:

- facilitate connections
- reduce duplication
- advance the recognition of clinical simulation and training through collaboration with accreditation authorities and education providers
- promote inter-professional practice and education.

Quality, safety and innovation

Quality, safety and innovation underpin the work of the Advisory Network. This ensures the Network:

- determines agreed standards of simulation
- ensures the standards, and 'levels' of fidelity are supported appropriately and that there is sound rationale for proposals and the development of programs
- facilitates access to training not normally available within health services
- addresses uncertainty in health care
- supports innovation to benefit the WA health system
- creates opportunities for WA and supports simulation research for better health care outcomes.

Sustainability

Sustainability ensures a better health system for WA and is achieved through:

- seed funding to ensure integration with normal operations
- focus on local needs with an outwards impact, scaleable pilots, and applying the outcomes of local trials across the system (portability).

Seed funding

The Department receives a recurrent fund to support simulation training. It is used to procure simulation training programs that are not normally available in health services and has been used to support various simulation-based initiatives that provide a system-wide benefit.

This fund is part of the approach to developing and advancing simulation in WA, and the Department will look to the Advisory Network for proposals that may include a requirement for seed funding. The fund is not large in comparison to the total system-wide provision for teaching, training and research. It represents less than one percent of the budget provided to HSPs for those functions, so its allocation must be judicious.

Seed funding will apply to assist organisations to carry out specific programs, projects or research that are time-limited.

The Department will also be encouraging the Advisory Network to develop initiatives that may not need funding but need other methods of support such as sharing of information or improvements based on better collaboration.

There will be regular (at least annual) requests for expressions of interest and a formally constituted sub-committee of the Advisory Network will be established to advertise for, receive and evaluate, and prioritise applications for funding. The sub-committee's recommendations will be reviewed, amended if appropriate and approved by the Chief Medical Officer.

Projects will be funded through:

- internal budget transfer or dependent on the length of the project via service agreements if the recipient is a Health Service Provider or government entity
- the mandatory Grants Policy [4] if the recipient is a non-state government organisation.

The Seed Funding Program shall be administered in accordance with the Department of Health Grants program.

Organisations eligible for funding must have a clear relationship with the CSTF. This includes the various divisions and directorates within the Department which will be required to develop proposals and prioritise these with the Advisory Network before submission.

Maintaining an open and transparent process, and ensuring conflicts of interest are managed will be important to ensure the seed funding concept will maximise benefits at the system level.

A draft guide for simulation grants funding, along with an application template will be developed to support the process.

Seed funding will not apply where it is likely the program will require ongoing funding, and in these cases a formal procurement and contractual arrangement would be utilised.

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[4] http://www.health.wa.gov.au/circularsnew/pdfs/13312.pdf

Simulation action plan

A draft action plan at Appendix 2 provides a basis for the Advisory Network to determine its priorities and identify potential projects for seed funding, and areas of further work. The Advisory Network shall be responsible for developing annual work plans.

Monitoring, reporting and evaluation

All recipients of funding will be required to report on the progress of their project, training program or research. Reports will be provided to the Department of Health as the funding provider. The Advisory Network will monitor the progress of funded projects and it is noted that there may be rare instances where not all reported information can be shared with the Advisory Network. The Seed Funding Program provides further information on program management and reporting.

Appendix 1 – CSTF Advisory Network terms of reference (Draft)

Clinical Simulation and Training Advisory Network
Terms of Reference
Final – May 2019

Purpose

The Clinical Simulation and Training Advisory Network (CSTAN) is part of a new approach to leading clinical simulation and training in the WA health system. It has been created with the vision to improve the quality of healthcare in WA through the use of simulation.

CSTAN will determine priorities for simulation development to maximise benefit to the WA health system.

Key roles and responsibilities

CSTAN's responsibilities include:

- aligning simulation with key WA government and health system direction and policies including the Sustainable Health Review [5], the WA Government's Service Priority Review [6]; the mandatory Clinical Teaching and Training Policy Framework [7]; Funding and Purchasing Guidelines [8]; and the Review of Safety and Quality in the WA health system [9].
- undertaking environmental scanning, research and sharing information to inform priorities and areas of emerging interest;
- providing strategic advice to the Department of Health in relation to system-wide simulation development;
- prioritising and ratifying proposals prior to submission for seed funding;
- promoting simulation research, including identifying areas of need; and
- working with organisations to facilitate access to simulation systems and institutions, reduce duplicative activity where possible, and develop the simulation technical and support workforces.

The Department of Health responsibilities include:

- supporting the establishment of the CSTAN for the first 12 months of operation
- reviewing the Clinical Simulation and Training Framework (CSTF) and CSTAN arrangements after 12 months of operation
- where appropriate, developing proposals for simulation projects for consideration by the CSTAN
- retaining final decision-making authority over the allocation of simulation funds
- publishing the CSTF and keeping it current on the advice of the CSTAN
- administering the Clinical Simulation and Training Seed Funding Program.

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[5] http://ww2.health.wa.gov.au/sustainablehealthreview
[6] https://www.dpc.wa.gov.au/ProjectsandSpecialEvents/ServicePriorityReview/Pages/default.aspx
[7] http://www.health.wa.gov.au/circularsnew/Clinical_Teaching_and_Training.cfm
[8] http://ww2.health.wa.gov.au/About-us/Service-agreements
[9] http://ww2.health.wa.gov.au/Improving-WA-Health/Safety-and-quality-review

Membership

Membership must be balanced across sectors (health and education). The representation of professions and their interests are also important.

Sector	Representative	Profession
Health (public)	• NMHS x 1 • SMHS x 1 • EMHS x 1 • WACHS x 1 • CAHS x 1	HSP nominated representatives using best endeavours to ensure each major occupational group is also represented: medical, nursing & midwifery, allied health and health sciences
Education	• University x 5 • TAFE/VET x 1	Representatives who can report back to multiple health faculties
WA Simulation in Healthcare Alliance	• WASHA x 1	Must be a member of the WASHA Executive
Health (private)	• Major Provider x 1	Must be an clinical educator or simulation expert in a private health provider
Consumer	• Representative x 1	Representative from a recognised consumer health organisation, with an interest in health education
Health - System Manager	• Office of the Chief Medical Officer	A representative of the system manager
Secretariat	• Department of Health (first 12 months)	Representative from the Clinical Excellence Division

A Chair and Deputy Chair will be elected at the first meeting for a period of 12 months.

Secretariat

The Department of Health, Office of the Chief Medical Officer will provide secretariat support for the CSTAN for the first 12 months. Following this, the arrangement will be reviewed to determine how best to support CSTAN into the future.

Meetings

- The CSTAN will meet bi-monthly with any additional meetings to be at the discretion of the members.
- Members shall endeavour to attend all meetings, and may be represented by a suitable proxy where they are unable to attend.
- Subject matter experts, project managers and other individuals may attend meetings with prior approval by the Chair to speak to certain items or present information.
- Members and key stakeholders who are not members can submit agenda papers to the secretariat.
- The agenda shall be circulated at least five working days before a meeting.
- Late items may be tabled subject to the approval of the Chair.
- Minutes and actions shall be recorded and distributed to members.

Quorum

Quorum will comprise the Chair or delegate plus 50 per cent of members (which may include proxies).

Conflicts of interest

A conflict of interest is a situation where the impartiality of a member of CSTAN is undermined by his or her self-interest, professional interest or the interests of the organisations they are representing.

This could arise when determining priorities for seed funding or in other CSTAN activities that may result in a more favourable position for the interested party.

Members must declare all conflicts of interest at the beginning of each meeting

Sub-committees

A specific sub-committee will be formed to oversee the administration of the simulation grants program, and will be supported by the CSTAN's secretariat.

The CSTAN may form other sub-committees or specific interest groups. Each sub-committee will have a standing item on the CSTAN meeting agenda for as long as the sub-committee is in operation. Apart from the grants sub-committee, the Department of Health will not be supporting sub-committees with a secretariat.

Appendix 2 - Priority Actions for the Clinical Simulation and Training Framework

Framework Component	Action		Timeframe	Lead
1. Evidence and planning Evidence and planning are important to: • improving the ability to forecast demand and need for skills training, clinical teaching and training direction. • capturing performance. • information to business case. • quality planning and resourcing for simulation.	1.1	Develop and administer a survey across the health system to identify simulation sites, current clinical simulation and training activity (summarised), planned simulation and training, gaps in simulation and training, and what systems are being used to capture activity.	12 months	Network
	1.2	Implement a publicly available knowledge-base of evaluations of simulation and training pilots, projects and programs.	24 months	ClinSimWA host (see 2.1)
	1.3	Develop local area plans for simulation and training (potential for seed funding to do this work if plans do not exist)	24 months	HSPs
2. Effective Collaboration Introducing an advisory network governance model will: • introducing self-governance or a networked governance model. • facilitating connections. • reducing duplication.	2.1	Invite expressions of interest for seed funding to transfer the ownership and management of the ClinSimWA website from the Department of Health to a provider with a more publicly accessible hosting arrangement that promotes ease of access and greater utilisation.	12 months	Department of Health
	2.2	Confirm a model for networked governance, and the formal arrangements for WASHA's role and responsibilities with all public health entities and education providers, for advancing clinical simulation and training in WA.	6 months	Department of Health
	2.3	Implement a process via the ClinSimWA website for the Network to identify efficiencies and reduce duplication for simulation and training activity.	24 months	ClinSimWA host
3. Quality, Safety and Innovation Quality, safety and innovation underpin the work of the Advisory Network. This ensures the Network: • ensure the various 'levels' of fidelity are supported appropriately and that there is sound rationale to support proposals and the development of programs. • facilitating access to training not normally available within health services. • innovation to benefit the WA health system is supported. • simulation research creates opportunities for WA.	3.1	Develop agreed exemplar business cases to support simulation proposals, including hospital simulation centres, specialist training courses, emerging areas of need and research.	12 months	Network
	3.2	Identify evidence-based directions for simulation in the WA health system, and implement a process to maintain this information	24 months	Network
	3.3	Provide ongoing contract management of the simulation training contract with the Clinical Training and Education Centre, UWA.	ongoing	Department of Health

4. Sustainability	4.1	Implement the recommendations from 'Managing the Clinical Simulation Training Fund in the WA Public Health System 2018'.	6 months	Department of Health
Sustainability ensures a better health system for WA and is achieved through: • seed funding to achieve integration with normal operations. • focus on local needs with an outwards impact, scaleable pilots, and applying the outcomes of local trials across the system (portability). • contributing to a better health system for WA.	4.2	Provide interim support to establish the networked governance model for clinical simulation and training in WA	12 months	Department of Health