

PROJECT TITLE: Non-technical Skills Training in Synthetic Learning Environments
PROVIDER: Queensland Health on behalf of The Australian Society for Simulation in Healthcare (ASSH)

PROJECT PLAN

Date: August 17 2007

PROJECT DESCRIPTION

Project aims

To promote specialist training in synthetic learning environments, particularly development of non-technical skills (NTS) relevant to accredited specialist training.

Specific objectives

Curricula mapping

- 1) Review published and grey literature to identify opportunities to develop specialist trainees'. "non-technical skills" (NTS) in synthetic training environments.
- 2) Engage up to six specialist colleges to further explore these opportunities specifically for their specialty.
- 3) Work with these colleges to develop curricula maps which include training for NTS.
- 4) Undertake limited pilot training in synthetic environments with the aim of evaluating work to date.

Curricula distribution

- 5) Identify opportunities, and key principles underlying successful models, for distributing curricula. This is part of a broader aim to achieve uniform training standards, acceptable access to training and efficient and economical business models for training in synthetic environments

Supporting ASSH

- 6) Support the work of a project officer whose roles are broadly described as:
 - a) Supporting the operational needs of ASSH during its early establishment phase
 - b) Providing project support to the management team overseeing the projects outlined in (1) - (5).

Background

Training delivered in synthetic environments (hereafter referred to as "simulation"¹) has an established role in the education and training of health professionals. The medical specialist profession has been a key beneficiary to date, however the level of engagement and scope of utilisation varies considerably amongst the different specialist colleges. The causes of variation are multi-factorial. Principal among these is lack of awareness of potential utilization across different specialties. This in turn has contributed to lack of engagement by them, with consequent failure to develop expertise and resources. Overall, simulation is under-utilised by all specialties. Even the specialties that have adopted simulation – such as anaesthesia and surgery - can do more to integrate these techniques into training curricula. Other specialties could benefit from the achievements of these early adopters to enhance learning in their specialty. The Australian healthcare system lacks an overarching map for the integration of simulation into specialist training curricula.

Most specialist training colleges now emphasise non-technical skills (NTS) in their respective training guidelines. NTS broadly refer to cognitive functioning and observable behaviours that enhance clinical practice. They are characteristically difficult to deconstruct however NTS are

¹ Simulation utilises a broad range of learning technologies (manikin, virtual reality, haptics, actors, computer-screen based) and a broad range of learning methods (repetitive learning, reflective learning, role play)

increasingly recognized as providing essential underpinnings to effective teamwork, patient-doctor communication, adverse event minimization/ mitigation, and professionalism.

Simulation has an established role in providing learning for NTS in specialist medical training. The Australian and New Zealand College of Anaesthetists (ANZCA) and the Australian College of Emergency Medicine (ACEM) have NTS incorporated in the curricula of college owned simulation courses for trainees and specialists. Pockets of training are also conducted by other specialties. Advances have also been made in training for medical students, early post-graduate doctors and nursing. Collectively, there is considerable experience that could be applied to specialist training.

Change management theory predicts that new practices will be more successfully adopted and sustained if a strategic approach is employed. Applying this to medical training, simulation may be better utilised by increasing awareness amongst stakeholders, engaging early adopters to champion the cause and drive change within their specialty, and establishing a sustainable model for delivery (Issenberg²). The latter includes mapping curricula and developing strategies to ensure high standards of practice, adequate access, and efficient and economical use of resources.

The Australian Society for Simulation in Healthcare (ASSH) is a national representative body whose mission is to advance simulation within the healthcare domain. It is principally populated with simulation experts and healthcare professionals. It convenes an annual conference dedicated to simulation and has formal partnerships with the Society for Healthcare in Simulation (SSH) an international peer organization, and the Simulation Industry Association of Australia (SIAA) a representative body for all forms of simulation in Australia. ASSH is recently established and is in the process of consolidating its operations. In 2006-7 ASSH received DOHA funds to part fund a project officer responsible for supporting this early work. This continuation of this support will greatly benefit the consolidation of ASSH over the next two years.

Benefits

- Medical specialist colleges and the specialist workforce will benefit from curricula which include simulation training, and sustainable models for its delivery.
- Medical specialist trainees will directly benefit from the pilot training activities.
- ASSH will support simulation-based training initiatives in Australia
- The community will benefit by virtue of the establishment of systematic training for healthcare professionals in settings that are free of risk to patients

Deliverables

An overview is presented in Table 1 (next page)

PHASE 1

The organisational structure and key groups relevant to the project will be established.
See "administration"

PHASE 2

Successful applicant teams will carry out the two projects.

1. Curricula mapping project
2. Curricula distribution/sharing project

The deliverables are shown in Table 1 (column 2). The specific component activities will be refined during phase 1. An indicative plan for component activities is shown in columns 3 and 4.

² Issenberg, SB.(2006) The Scope of Simulation-based Healthcare Education. *Simul Healthcare* 1: 203–208

Table 1

1 Category	2 Deliverables	3 Components	4 Activities
PHASE 1-2			
Support of ASSH by project officer	Report on activities		<ul style="list-style-type: none"> Support management committee activities (0.5FTE) Support ASSH executive and operations (0.5FTE)
PHASE 1			
	Establish project framework and relevant groups, project groups for phase 2.	Establish management committees and operational roles	<ul style="list-style-type: none"> Enlist project officer Enlist administration support officer Establish assessment committee
		Manage tender process and appoint successful applicants	<ul style="list-style-type: none"> Write tender document Circulate expressions of interest Manage appointment process
		Convene assessment committee	<ul style="list-style-type: none"> Engage stakeholders, convene committee, advise regarding roles and manage communication
PHASE 2			
Curricula mapping	Provide a report to DOHA on the potential applications of training in synthetic environments to address non-technical skills (NTS) relevant to specialist trainees.	Review of published and grey literature on existing applications	<ul style="list-style-type: none"> Undertake literature review
		Provide recommendations for individual colleges	<ul style="list-style-type: none"> Hold preliminary meetings with key stakeholders from participating colleges to define scope of project, focus of NTS and nominate champions. Convene forum (x1) to raise awareness of training technologies and methods Convene focus groups and relevant activities with individual colleges Undertake a non-systematic specialty literature review focusing on targeted NTS and simulation training specific to the participating specialties
		Provide recommendations for specialist trainees as a whole	<ul style="list-style-type: none"> Analyse above results and generate report with recommendations
	Pilots	Consolidate support from champions Report on pilot work	<ul style="list-style-type: none"> Undertake limited pilot training within synthetic training environments
Curricula sharing	Identify opportunities for, constraints associated with, and key principles underlying successful models for distributing simulation curricula.	Provide recommendations	<ul style="list-style-type: none"> Review published and grey literature for examples of accreditation programs, standards documents and guidelines which support sharing and distribution of curricula Host a forum for simulation providers

PHASE 1

Curricula mapping project

1. Literature review

The project team will perform a selective review published and grey literature to identify the following:

- 1.1. The impact of NTS on specific specialties, including adverse event data, identified priority areas for training and examples of clinical cases that exemplify the key issues.
- 1.2. Incorporation of NTS into curricula internationally
- 1.3. Current methods of training NTS internationally
- 1.4. Methods specifically utilizing simulation

2. Preliminary engagement phase

Engagement by individual colleges is a key step in promoting simulation. As explained in the background, the level of engagement by colleges has varied to date.

- 2.1. This component of the project aims to advance the level of engagement of colleges from their baseline that have previously had minimal exposure to simulation, and to further engage those that have previously utilised simulation to a greater degree.
- 2.2. All colleges represented by the Committee of Presidents of medical Colleges will be invited to participate in this component of the program
- 2.3. The project team will meet with representatives from each college to explain the project aims and identify the status of NTS and simulation for each college.
- 2.4. The colleges will be invited to attend a one day forum. This event will be convened by ASSH. It will have two aims. Firstly to engage specialist colleges by raising awareness of NTS and existing simulation methods. Secondly it will enable the project team to assess which colleges would be most suitable to undertake further development in this area. We envisage four to six could feasibly fall in this category. Experienced providers and other experts would present on the applications of simulation. This will guide specialists in the suitability of different training methods to their needs. The participants would also address the applications of simulation across specialist training programs. This will identify opportunities and issues relevant to generic training and generalisable issues.
- 2.5. Rationale: The experiences of colleges that have developed substantial programs suggest that this process requires sustained commitment over several years. We envisage that newcomers will require intensive programs whereas established colleges may benefit from low or high intensive programs. However, until a needs analysis is undertaken we cannot speculate further about which colleges are best suited to develop simulation focused curricula in the short to medium term.

3. Intensive needs assessment and curricula mapping exercise

- 3.1. Four to six colleges identified in the preliminary phase will be invited by the project team to undertake further needs assessment and curricula mapping. Representatives and key champions nominated by the college will form working party for duration of project
- 3.2. The aims of this phase are to:
 - 3.2.1. Identify learning objectives relevant to NTS as stated in the college's respective training guidelines.
 - 3.2.2. Identify priorities according to working party advice
 - 3.2.3. Elaborate the context specific meaning of these for each specialty.
 - 3.2.4. Explore simulation training methods that may effectively address these

3.3. The activities will be threefold:

- 3.3.1. Literature review. The findings of the literature review will be distributed to the working party
- 3.3.2. Focus group work. The working party (and co-opted experts) will describe situations in which NTS are conspicuous in patient care and elaborating possible specialty specific behavioural markers. This work is the subject of large scale research projects internationally. In this project this work will be limited to focus groups with an aim to generate preliminary findings. Some specialties are further advanced than others. Subsequently they will develop, or go some part of the way to develop maps for learning in synthetic environments that integrate horizontally and vertically with the broader specialty college training curricula.

4. Pilot training

- 4.1 This will involve pilot work with individual colleges. The aim of this is apply the findings of the working party to date. This should encourage their ongoing engagement.
- 4.2 Providers of simulation training will be invited to tender for funding to support training pilots. These will reflect the recommendations generated in the curriculum mapping exercise.
- 4.3 Rationale: The literature suggests that a successful strategy for colleges wishing to adopt simulation is to adapt existing models to their specialty specific needs. We assume that this will also be an effective strategy in this project. Again we cannot further speculate until a needs analysis is undertaken.

5. Curricula distribution/sharing project

- 5.1 The deliverable is a report of activities and recommendations to DOHA.
- 5.2 The purpose of this project is to identify opportunities for, constraints associated with, and key principles underlying successful models for distributing simulation curricula. This is part of a broader aim to achieve uniform training standards, acceptable access to training and efficient and economical business models for simulation training.
- 5.3 Activities will be refined in phase 1 but nominally will comprise:
 - 5.3.1 A review of published and grey literature for examples of accreditation programs, standards documents and guidelines that support sharing and distribution of curricula.
 - 5.3.2 Hosting a forum for simulation providers and medical educators to address issues. The latter may include intellectual property, information technology, maintenance of standards by third party providers, and financial considerations.

6. Administration, roles and accountabilities

The key components are described below:

- Contracted body:
 - The contract will be held between the Commonwealth of Australia and Queensland Government
 - The contact person will be the residing project officer for ASSH
 - The Queensland Government is responsible for holding funds and distributing these according to advice from the management committee, and in accordance with Queensland Health's policies and procedures.
 - See responsibilities of management committee.
- Management committee:
 - Comprised of representatives from ASSH executive (including ASSH chair) and co-opted external stakeholders.

- Is responsible for drafting of tender document; provides line management for project officer and administration assistant through chair, oversees tendered projects including communication, marketing, financial accountability and reporting requirements.
- On behalf of the funding body, manages funds according to contract requirements, provides financial reports and reports to DOHA.
- Management team
 - Comprised of the elected management committee chair, ASSH project officer and administrative assistant.
 - Is responsible for implementing directives of management committee in accordance with contract.
- Assessment committee:
 - Comprised of specialists and stakeholders appointed by the management committee including representatives from relevant specialist colleges, DOHA, ASSH executive, simulation experts, and other relevant bodies.
 - Independently assesses tender submissions and makes recommendations to the management committee.
- Project teams for successful tenders
 - Will be convened following appointment by management committee. It is envisaged that separate tenders will be sought for the following components of the project: (1) literature review (2) curricula mapping focus groups (3) training pilots (4) Curricula sharing project.

Project time line

PHASE		DELIVERABLES		DATES
	MANAGEMENT COMMITTEE	CURRICULA MAPPING	CURRICULA SHARING	2007
Phase 1	Detailed project plan			July 31
	Tender document prepared and advertised			October 3
	Deadline for submission of tenders			In accordance with Qld Health policies and procedures regarding requests for tenders. A nominal date is December 3
	First progress report to DOHA			December 18
	Successful tenders notified			February 3
		CURRICULA MAPPING PROJECT	CURRICULA DISTRIBUTION PROJECT	2008
Phase 2		Preliminary interviews with colleges		March-April
		Curricula mapping forum		April
			Literature review	April
		Focused curricula mapping		May
			Curricula sharing forum	May
		Final report	Final report	June 30
		Pilot training		Aug - Nov
	Final report DOHA			Dec 31

Budget

The budget for the project is **659,163.00** (exc GST) over two years. See Table 2

Table 2: Estimated Budget

	2007/08	2008/09
1. Management committee activities (Phase 1-2)	113,727.00	113,905.00
ASSH project officer (1 FTE HSM 2)	84,427.00	87,805.00
Administration officer (0.2FTE Level 5 Administration assistant)	12,000	12,000
Honoraria for management committee chair. Allow \$100 per hour for 2 hours per week for 78 weeks	10,400	5,200
Advertising & Marketing	1,500	1,500
Catering	500	500
Stationary & Printing	1,000	1,000
Travel	2,500	2,500
Auditor		2,000
Communication (Telephone & Postage)	1,400	1,400
3. Assessment committee activities (Phase 1-2)	9,000	2,000
Travel assessment committee to select project team for phase 2 and phase 3 (economy airfares @ average of \$500 for 6 people on two occasions)	6,000	
Conference facility hire single day for two separate days allow room for 10 persons(e.g Airport Hilton)	2,000	
Catering	500	
Honoraria for assessment committee chair to review reports. Allow \$100 per hour 20 hours		2,000
Communication (Telephone & Postage)	500	
4. Curricula mapping project (Phase 2)	210,852.6	
Independent Consultant for assessment committee	10,000	
Salary Project director - nominally allow \$1000 per day sessional rates for 1 day per week for 26 weeks	26,000	
Salary – Senior Lecturer (Level C) 0.1 FTE for 26 weeks @ \$409.46 (on-costs included) per day – for literature review, project coordination, convening forum, data analysis, report generation.	53,229.8	
Salary - Sessional Research Assistant @ \$34.55 per hour, 2 days per week for 26 weeks (on-costs included)	14,372.80	
Project officer ASSH 0.5 FTE 6 months (costed above)		
Travel related expenses. Inclusive of: (1) costs of airtravel to attend meetings and project specific activities by project team and key stakeholders (All domestic airfares costed at economy rates. Allow average of a \$500 per flight) (2) Costs of car related travel for same groups. (Allow taxi, parking charges and mileage for privately owned vehicle). Permit costs of alternative public transport. Not inclusive of insurance costs for privately owned vehicle	47,500	
Overnight accommodation and daily expenses for project team and key stakeholders to attend meetings and project specific activities. Allow \$250 per person per day	20,000	
Consultant honoraria – Allow normal state public service award for relevant salary or equivalent up to \$1000 per day	10,000	
Conference facility and catering	25,250	
Stationery, printing	1,000	
Communication	3,500	

5. Curricula sharing project(Phase 2)	49,678.40	0.00
Travel related expenses. Inclusive of: (1) costs of airtravel to attend meetings and project specific activities by project team and key stakeholders (All domestic airfares costed at economy rates. Allow average of a \$500 per flight) (2) Costs of car related travel for same groups. (Allow taxi, parking charges and mileage for privately owned vehicle). Permit costs of alternative public transport. Not inclusive of insurance costs for privately owned vehicle		
	15,000	
Conference facility and catering	6,800	
Salary – Senior Lecturer (Level C) 5 days per week for 8 weeks @ \$409.46 (on-costs included) per day – for literature review, project coordination, convening forum, data analysis, report generation.	16,378.4	
Consultant honoraria – Allow normal state public service award for relevant salary or equivalent up to \$1000 per day	10,000	
Stationery, printing	1,000	
Communication	500	
6. Site pilot training (Phase 2)	160,000.00	
SUBTOTAL	543,258.00	115,905.00
TOTAL	659,163.00	