

II Project Information

Project title (in English)	Project title (in Chinese)
Developing effective and interactive clinical simulation learning and teaching kits	有效及互動模擬學與教配套發展計劃

Project summary

(Please provide an executive summary of the project proposal in **no more than 500 words**.)

Justification

Safe practice is undoubtedly important in the training of health care professionals. Clinical reasoning and competency are the essential elements in safe practice.

Practice makes perfection, however, we cannot learn by trial and error in clinical settings. It is now possible and ethical to practice, with unlimited trials till perfect, with the use of patient simulator. The use of patient simulator in health care professionals, e.g. nurses, is supported by the World Health Organization (2009).

Challenges

Currently, most of the trainings available for patient simulator users are technical training on maintenance of a simulator and a nursing curriculum developed by the manufacture which focuses on the operation of a patient simulator. There is a need for an effective interactive learning and teaching kit for students and teachers in order to make the most benefit of a patient simulator in the training of safe and competent health care practitioners.

Aims of the proposed project

1. To increase teachers' competency in the use of patient simulator by developing interactive learning and teaching kit of 10 common clinical scenarios.
2. To organize workshops for academic and clinical staff for the effective use of the interactive learning and teaching kits.
3. To embed the outcome-based assessment in the learning activities in each clinical scenario.
4. To encourage the use of interactive learning and teaching kits using patient simulator by running a symposium with participants from sister institutes.

Description of the proposed project

There will be 10 common clinical scenarios, namely, asthmatic attack, respiratory distress, hypertensive crisis, acute renal failure, gastrointestinal bleeding, road traffic accident, cardiogenic shock, stroke, arrhythmia and hypoglycemic shock. These common clinical scenarios are life threatening clinical situations that demand absolute safe and competent practice of our health care professionals.

In each scenario, the interactive learning and training kit will consist of:

1. Learning objectives, learning outcomes, assessment rubric.
2. Scenario description, role play guide, simulation guide with algorithm.
3. Preparation of students- guiding questions for students, challenges for students.
4. Preparation of teachers- briefing focus, debriefing focus.

To facilitate the learning process, the team will develop the respective Learning Objects. Interactive forum, games and quizzes will be designed to engage students in the learning. All the materials will be made available on tablets (e-platform).

Deliverables

1. Ten learning and teaching kits on the selected conditions.
2. An e-platform for Learning Objects providing the essential knowledge and clinical guides on the selected conditions.
3. One symposium with 300 participants from local, regional and overseas.
4. Three intensive workshops for TWC colleagues (about 60 in total as at 19 Feb 2013)
5. Five intensive workshops with 20 participants from academic and clinical.

Beneficiary

It is anticipated that about 1800 students and 60 academics/teaching staff of the medical and health disciplines of TWC alone will be benefit from the use of the interactive learning and teaching kit.

Sustainability

Income can be generated by running workshops, learning and teaching kits and the subscription of e-platform materials. The income can help update the kits, maintenance of the system and training of related personnel.

Reference

World Health Organization (2009). Nursing and Midwifery Human Resources for Health: Global Standards for the Initial Education of Professional Nurses and Midwives. Geneva: Author.

Project objectives		
<i>(Please identify the project objectives and explain how they will be attained.)</i>		
Objectives	To be attained by	
1. To increase teachers' competency in the use of patient simulator.	Developing interactive learning and teaching kit of 10 common critical clinical scenarios.	
2. To promote effective use of the interactive learning and teaching kits.	Organizing workshops for academic and clinical staff.	
3. To embed the outcome-based assessment in the learning activities in each clinical scenario.	Developing clinical scenario for patient simulator with outcome-based assessment plan and rubric.	
4. To encourage the use of interactive learning and teaching kits using patient simulator.	Running a symposium with participants from sister institutes	
Implementation, deliverables, beneficiaries and cashflow		
<i>(Please describe the activities to be implemented and indicate the expected number of beneficiaries, the outcomes/deliverables and cashflow in each timeframe of the project.)</i>		
Estimated start date of project:		October 2013
Timeframe	Activities and beneficiaries	Deliverables and cashflow
October 2013 – 31 December 2013	<ul style="list-style-type: none"> Recruiting appropriate personnel Purchase of appropriate equipment Expected no. of beneficiaries: nil because at preparatory stage 	Quality project staff Cashflow: \$107,000
1 January 2014– 31 December 2014	<ul style="list-style-type: none"> Development of learning and teaching kit for 5 common clinical scenarios, namely, asthmatic attack, respiratory distress, hypertensive crisis, acute renal failure and gastrointestinal bleeding. These common clinical scenarios are life threatening clinical situations that demand absolute safe and competent practice of our health care professionals. Expected no. of beneficiaries: 600 students and 30 academic/teaching staff	In each scenario, the interactive learning and training kit will consist of: <ol style="list-style-type: none"> Learning objectives, learning outcomes, assessment rubric. Scenario description, role play guide, simulation guide with algorithm. Preparation of students- guiding questions for students, challenges for students. Preparation of teachers- briefing focus, debriefing focus. To facilitate the learning process, the team will develop the respective Learning Objects. Interactive forum, games and quizzes will be designed to engage students in the learning. All the materials will be made available on tablets (e-platform). Cashflow: \$927,000
1 January 2015 – 31 December 2015	<ul style="list-style-type: none"> Development of learning and teaching kit for 5 common clinical scenarios, namely, road traffic accident, cardiogenic shock, stroke, arrhythmia and hypoglycemic shock. These common clinical scenarios are life threatening clinical situations that demand absolute safe and competent practice of our health care professionals. Expected no. of beneficiaries: 600 students and 30 academic/teaching staff	In each scenario, the interactive learning and training kit will consist of: <ol style="list-style-type: none"> Learning objectives, learning outcomes, assessment rubric. Scenario description, role play guide, simulation guide with algorithm. Preparation of students- guiding questions for students, challenges for students. Preparation of teachers- briefing focus, debriefing focus. To facilitate the learning process, the team will develop the respective Learning Objects. Interactive forum, games and quizzes will be designed to engage students in the learning. All the materials will be made available on tablets (e-platform). Cashflow: \$880,000

<p>1 January 2016 – 30 September 2016</p>	<ul style="list-style-type: none"> ● One symposium with 300 participants from local, regional and overseas on sharing the use of learning and teaching kit ● Three intensive workshops for TWC colleagues (about 60 in total as at 19 Feb 2013) ● Five intensive workshops with 20 participants from academic and clinical <p>Expected no. of beneficiaries: 600 students, 100 participants from intensive workshop and 300 participants from symposium</p>	<p>Symposium to encourage the use of interactive learning and teaching kit using patient simulator</p> <p>Promote the use of learning and teaching in the training workshops offered by the Patient Simulator Training Centre</p> <p>Cashflow:\$37,000</p>
<p>Estimated completion date of project:</p>		<p style="text-align: right;">_____ 30 September 2016 _____</p>
<p>Expected total no. of beneficiaries by the end of project:</p>		<p style="text-align: right;">_____ 2,260 _____</p>

Timeframe	Evaluation measures	Personnel involved (roles/duties)	Details of the evaluation mechanism
October 2013 – 31 December 2014	<ul style="list-style-type: none"> i. Content validation on 5 learning and teaching kits ii. Student learning outcomes iii. Teacher feedback iv. Student Feedback 	<p>Scientific Officer as outcomes assessment co-ordinator and to produce interactive learning objects</p> <p>Nurse Educator to write the content for learning objects, scenarios and assessment plans</p> <p>External experts (academic and clinical) for content validation</p> <p>Teaching team will be responsible for student learning outcome assessment (normal part of the course teaching)</p>	<ul style="list-style-type: none"> i. Evidence Assessment in Outcomes Assessment ii. Course Evaluation iii. Content validation index
1 January 2015 – 31 December 2015	<ul style="list-style-type: none"> v. Content validation on 5 learning and teaching kits vi. Student learning outcomes vii. Teacher feedback viii. Student Feedback 	<p>Scientific Officer as outcomes assessment co-ordinator and to produce interactive learning objects</p> <p>Nurse Educator to write the content for learning objects, scenarios and assessment plans</p> <p>External experts (academic and clinical) for content validation</p> <p>Teaching team will be responsible for student learning outcome assessment (normal part of the course teaching)</p>	<ul style="list-style-type: none"> i. Evidence Assessment in Outcomes Assessment ii. Course Evaluation iii. Content validation index
1 January 2016 – 30 September 2016	Trainee Feedback	<p>Scientific Officer as evaluation co-ordinator</p> <p>Nurse educator will run the workshops</p> <p>Both will work together for the organization of symposium</p>	Course Evaluation

III Other Information (if applicable)

1 Sharing of project deliverables (Please describe how the deliverables/outcomes will be shared or used by other institutions in the sector and what information can be uploaded on relevant EDB websites during and/or after the project period.)

Deliverables of the project can be uploaded to EDB website for distribution and sharing among institutions with details as follows:

1. One set of learning and teaching kits for ten scenarios on the selected conditions.
2. Learning Objects providing the essential knowledge and clinical guides on the selected conditions through subscription on e-platform.

In the third year of the project, the following activities will be held to promote the use of the learning and teaching kits:

1. One Symposium with 300 target audience from local, regional and overseas on sharing the use of learning and teaching kit. The objective of the symposium is to encourage the use of interactive learning and teaching kit using patient simulator.
2. Three intensive workshops for TWC colleagues (about 60 in total as at 19 Feb 2013)
3. Five intensive workshops with 20 participants from academic and clinical

2 Project sustainability (Please indicate how staff will commit to ensure project sustainability and describe how the recurrent expenditure involved will be met after completion of the project.)

Income can be generated by running workshops, learning and teaching kits and the subscription of e-platform materials. The income can help update the kits, maintenance of the system and training of related personnel. The estimated income will be \$240,000.

3 Past experience in organising projects of similar or relevant nature and achievements

Recent related experience:

QEGS Simulation Nursing Laboratory (08/QEGS/2011) – In this project, we have:

1. Setup simulation nursing laboratories (2 adult simulator and 1 baby simulator) and ready to different scenarios
2. Our teaching & technical staffs trained to design scenarios and operate the simulators
3. Run the simulations on different courses for over 500 HD Nursing & BHS Nursing students

Past related experience of team members:

E-Learning material production:

Wong, M.C., & **Chung, J.W.Y.** (2010). On-line Pain Education course for teachers, social workers and nurses, The Hong Kong Institute of Education.

Chung, J.W.Y. (2004). On-line Pain Management (SN345). Funding from OPD Web-enabling and e-Learning Support Programme Project.

Academic Publication on Patient Simulation:

Choi, K.S., Wong, P.K., **Chung, W.Y.** (2012). Using computer-assisted method to teach children with intellectual disabilities handwashing skills. *Disability and Rehabilitation: Assistive Technology*, 1-10, ISSN 1748-3107 print/ISSN 1748-3115 online DOI: 10.3109/17483107.2011.652998

Lau W.C., Choi, T.K.C., & **Chung, J.W.Y.** (2010). A Virtual Psychiatric Ward for Orientating Patients Admitted for the First Time. [Electronic Version on 3 May 2010]. *Cyberpsychology, Behavior, and Social Networking*, 13 (6), 637-648.

Chung, L.M.Y., **Chung, J.W.Y.**, & Wong, T.K.S. (2009). Usability test of an interactive dietary recoding. *International Electronic Journal of Health Education*, 12, 123-134.

Sit, W.H.J., **Chung, J.W.Y.**, Chow, M.C.M., & Wong, K.S.T. (2005). Experiences of online learning: Students' perspectives. *Nurse Education Today*, 25, 140-147. (Impact factor 0.542, 24/32 of Nursing)

Chung, J.W.Y., Chow, M.C.M., Ho, J.S.C., Ko, S.K.K., & Wong, T.K.S. (2004). An evaluation of the effectiveness of three different teaching strategies in the Teaching of clinical physiology: Use of PatientSim, web-based teaching and conventional methods. In S.W.C. Chan, V. Lopez, A.M. Wong & F.K.Y. Wong (Eds). *Evidence-based Nursing Education and Related Issues* (pp. 116-130). Hong Kong: Hong Kong Society for Nursing Education.

Chang, K.K.P., **Chung, J.W.Y.**, & Wong, T.K.S. (2002). A comparison on the effectiveness of two systems in learning intravenous cannulation. *Journal of Clinical Nursing*, 11, 73-78.

Wong, T.K.S., & **Chung, J.W.Y.** (2002). A comparison of the diagnostic reasoning process using Patient Simulator among nursing students with different learning environments. *Journal of Clinical Nursing*, 11, 65-72.

Related grants

Patient Simulator (2006)(PI – Chung, J.W.Y.) (Large Equipment Grant, UGC, HK\$1,980,000)

4 Publicity plan *(Please describe all the publicity activities to be involved and how they will be carried out and list all the publicity materials to be produced to acknowledge the support of Quality Enhancement Support Scheme.)*

Posters will be sent to hospitals and sister institutions for recruitment in simulator workshops and symposium. Apart from this, information will also be disseminated via email, blog, facebook and TWC home page.

5 Others