

Part B: Project Summary

Goal: To create a training program on compression-only CPR and automated external defibrillator (AED) for secondary school students and teachers that can serve as a prototype for future incorporation of CPR/AED education into the secondary school curriculum.

Objectives: 1. To design a new curriculum combining compression-only CPR and AED. 2. To update the contents of the teaching kits, online learning platform and CPR application used in the compression-only CPR program. 3. To include experiential learning as a new pedagogy to enhance value education. 4. To train and support secondary school teachers to run the program in their school. 5. To promote bystander CPR and AED among local secondary schools and the community.

Targets (Expected Number of Beneficiaries): 18000 S2 - S4 students and 100 – 150 teachers

Duration: 30 months

Process/Schedule:

Jul 2018 – Dec 2018	Recruitment of staff and partner schools, development of new curriculum and updating the teaching materials
Jan 2019 – Feb 2019	Provision of training to teachers of partner schools
Mar 2019 – May 2020	Provision of training to S2 – S4 students of partner schools
Jun 2020 – Jul 2020	Activities for conclusion of the program of partner schools
Aug 2020 – Oct 2020	Program evaluation and data analysis
Oct 2020 – Dec 2020	Compilation of report and publicity activities

Collaboration with other parties/partners: Technology-Enriched Learning Initiative, HKU and 50 partner schools

Expected project outcomes:

1. Deliverables: curriculum for compression-only CPR/AED education, updated and optimized teaching manuals, online learning platform and CPR application
2. Dissemination of deliverables: press conference, publications

Budget:

ITEM	AMOUNT
Staff Cost	HK\$1,783,635
Equipment	HK\$507,750
Services	HK\$865,720
General Expenses	HK\$777,954
Contingency	HK\$49,041
Total	HK\$3,984,100

Evaluation:

1. Performance indicator: number of students and teachers completed the program.
2. Three components: Post-program questionnaire survey (teachers), online survey of online learning platform and the teacher-led workshops (students).
3. Outcome measurements: Formative evaluation through surveys and multiple choice questions.

Part C: Project Details

Revive-a-life Program

Background and Conceptual Framework

The survival rate of out-of-hospital cardiac arrest (OHCA) has not increased significantly despite advances in science and technology. The global average remains below 10%. In Hong Kong, according to a recently published study by the applicants, fewer than 1 in 44 victims of OHCA (2.3%) can survive.¹ This figure is at the lower range of survival rates among the major Asian cities. A widely accepted framework for improving survival is the chain of survival concept. The chain is composed of early activation of emergency medical service (EMS), early cardiopulmonary resuscitation (CPR), early defibrillation, effective advanced life support and integrated post-arrest care. Community has the biggest role in the first 3 links. Bystander-initiated CPR and defibrillation before the arrival of the EMS can increase the chance of survival up to 3 times among victims of OHCA in comparison to those without such assistance. Based on the same study by the applicants, EMS activation in Hong Kong is almost instant. This is probably due to the prevalence of mobile phones. For bystander CPR rate, it is about 28%. This is still much lower than cities with high survival rate of OHCA. For example, in Seattle, CPR would be initiated by a bystander in 1 out of 2 cases of OHCA and their chance of survival is around 20%. Further, the quality of bystander CPR in Hong Kong is unknown. As a result, the applicants have embarked on a 'compression-only CPR training program for secondary school students' since 2016 with the goal of increasing the rate of quality bystander CPR through increasing the number of citizens i.e. secondary school students who can perform CPR and are willing to initiate it when needed.

While the initiative to increase bystander CPR rate by the above program is promising, the third link, early defibrillation, remains to be improved. One of the immediate causes of OHCA is ventricular fibrillation (VF), a condition where there is totally uncoordinated electrical impulses in the heart making it unable to pump blood out of it effectively. It has been estimated that up to 53% of victims are in VF within 4 minutes of collapse. The most effective way to terminate this abnormality is defibrillation i.e. to deliver an electric shock to the heart in a controlled manner. However, the effectiveness of the shock is time dependent. If the electric shock is delivered later than 6 to 7 minutes, the chance of successful defibrillation is close to zero. One possible way to shorten the time to defibrillation is bystander initiated defibrillation with a publicly placed automated external defibrillator (AED) before EMS arrival. In Hong Kong, the bystander defibrillation rate is very low at 1.4% as revealed by the applicants' study.² There are multiple reasons for this low rate. Lack of knowledge in and reluctance to use AED is likely a significant factor. A survey done in 2015 by the applicants revealed that over 85% of the public did not know the location of AED in the vicinity of their home or workplace. What's worse, less than 20% of them were willing to use an AED when needed. Efforts in strengthening this third link are urgently required. On the basis of the compression-only CPR training program for secondary school students, this project aims at incorporating the training of defibrillation with an AED into a new program.

Up to July 2017, more than 7000 students from 25 schools have been taught compression-only CPR under the 'compression-only CPR training program for secondary school students'. The feedback from teachers and students on the acceptability and effectiveness of the program is very positive. Almost all teachers participated in the program have expressed the wish to continue the program in their schools and are supportive of expanding the program in

content and to other schools. (Appendix I) It is with this background that a new program combining compression-only CPR with AED and adopting a new pedagogical methodology for teaching is designed. Aside from strengthening all the community links in the chain of survival and thus benefit more victims of OHCA in Hong Kong, this program also supplements and enriches the present secondary school curriculum. CPR / AED education is not mandatory in Hong Kong. Yet, the global trend is moving towards making CPR / AED education statutory in schools. This is evidenced by the inclusion of CPR training in secondary school curricula in the United States, Japan and the Scandinavian countries. Hong Kong in fact lags behind, for instance, Norway, by over 50 years in this aspect. Further, this program not only aims at knowledge and skill transfer but also emphasizing on the moral component of life and death. Above all, it is hoped that a student after going through this program would be both able and willing to help a person in need.

¹ Fan KL, Leung LP, Siu YC. Out-of-hospital cardiac arrest in Hong Kong: a territory-wide study. *Hong Kong Med J*. 2017;23(1):48-53.

² Fan KL, Leung LP, Poon HT, Chiu HY, Liu HL, Tang WY. Public knowledge on using automatic external defibrillator in out-of-hospital cardiac arrest in Hong Kong. *Hong Kong Med J* 2016;22(6):582-8.

About the project team

Goals and objectives

Goals:

1. Short term: creation of a training program on compression-only CPR and AED for secondary school students and teachers
2. Long term: the program serving as a prototype of CPR/AED education for future incorporation into the secondary school curriculum.

Objectives:

Based on the feedback and experience of the project 'Compression-only CPR training program for secondary school students',

1. To design a new curriculum combining compression-only CPR and AED, which is more practical in and closer to real-life situations, for secondary school students and teachers.
2. To update the contents of the teaching kits, online learning platform and CPR application used in the compression-only CPR program so as to optimize the educational effectiveness on knowledge, attitude and practice (KAP) on CPR/AED.
3. To include experiential learning as a new pedagogy to ensure the program effectiveness goes beyond knowledge / skills transfer to attitudinal / behavioral changes in learners.
4. To train and support secondary school teachers to run the program in their school even after the project ends.
5. To promote bystander CPR and AED among local secondary schools and the community as a whole.

Targets and Expected Number of Beneficiaries

It is planned to recruit a total of 50 local secondary schools to join the project as partner schools. A training program will be conducted to train 2 – 3 teachers from each participating school as an instructor of the project. Therefore, number of teachers benefited: 100 - 150.

The project is a 2 year program catering for S2 to S4 students. Assuming there are 4 classes in each grade and 30 students per class, the number of students benefited is 18000.

Innovation

The online learning platform and the CPR application used in the Compression-only CPR Training Program have proven to be an effective tool for teaching and learning. In this new project, they will be optimized in content and functionality so as to further enhance their effectiveness in teaching and learning CPR and AED.

In this project, school teachers play an important role in training their students. Resources are organized in such a way that besides teaching the teachers the core concept and practice of compression-only CPR and AED, they are also trained to become a 'qualified' instructor of the program. In addition to mastering the essential skills and knowledge, a qualified instructor should be able to conduct the training and carry out debriefing to their students. The latter is especially important to impart a change in students' attitudes towards CPR and their willingness to help a stranger suffering from sudden cardiac arrest. Support will be provided to the teachers and their school to run CPR

/ AED workshops on their own. Most importantly, on the basis of the project and by taking a more active role, teachers of each participating school can continue the CPR / AED education to their students even after the project has ended.

It is impractical to teach and learn CPR / AED from a real person. In this project, therefore, experiential learning with the aid of simulation is adopted as one of the pedagogies of teaching and learning. Learning and teaching in a simulated environment of sudden cardiac arrest allows better acquisition and retention of the skills and knowledge as well as instillation of the desirable attitudes and behaviors to the learners regarding a victim of sudden cardiac arrest through debriefing.

Implementation Plan with Timeline

Time	Details of activities	Expected outcomes
Jul 2018 – Dec 2018	<ol style="list-style-type: none"> 1. Recruitment of project staff including Project Manager, IT Technician and Project Assistant <ul style="list-style-type: none"> - administrative approval by the University - open recruitment and selection - appointment by the University - training of recruited project staff 2. Recruitment of partner schools <ul style="list-style-type: none"> - invitation sent to schools - arrangement of briefing sessions for interested schools - confirmation of partnership by schools - assignment of teachers for oversight 3. Development of new curriculum and updating the teaching materials <ul style="list-style-type: none"> - review of current literature and scientific evidence on CPR and AED - addition of AED to the teaching kits including the manuals, online learning platform and CPR application. - optimization of the contents and functionality of the online learning platform and CPR application - purchase and delivery of teaching manikins to newly joined schools and schools requiring replacement 	<ol style="list-style-type: none"> 1. The project team is formed. 2. 50 secondary schools have joined the project. 3. A new curriculum and optimized and updated teaching materials are in place.
Jan 2019 – Feb 2019	<ol style="list-style-type: none"> 4. Provision of training to teachers of partner schools <ul style="list-style-type: none"> - time tabling with respective schools - arrangement of venue, facilities and teaching materials - printing of instructor manual - printing of instructor certificates - conduct of instructor workshops 	<ol style="list-style-type: none"> 4. Three workshops are organized for 100 - 150 teachers from partner schools.
Mar 2019 – Oct 2019	<ol style="list-style-type: none"> 5. Provision of training to students of partner schools <ul style="list-style-type: none"> - final checking of all teaching materials and arrangement of manikins and AED for on-site training - recruitment of instructors - time tabling with individual schools - setting-up of accounts for teachers and students for the online learning platform and CPR application - arrangement of venue, facilities and teaching programs for on-site training - monitoring of learning log together with teachers of individual schools - conduct of on-site training for students - fine tuning of the online learning platform and CPR application after implementation 	<ol style="list-style-type: none"> 5. S2 – S4 students have joined the project.
Nov 2019 – May 2020	<ol style="list-style-type: none"> 6. Conduct of teacher-led workshops <ul style="list-style-type: none"> - recruitment of actors for drama section 	<ol style="list-style-type: none"> 6. 1 – 2 teacher-led workshops conducted in

	- arrangement of materials for drama and simulation session - rehearsal	each participating school.
Jun 2020 – Jul 2020	7. Conclusion of the program of partner schools - forum for principals and teachers of partner schools on CPR /AED education in local secondary schools - prize presentation to the school with the best performance in the AED-Hunt activity	7. A forum is organized for the advocacy of including CPR / AED education in local secondary school curriculum.
Aug 2020 – Oct 2020	8. Program evaluation and data analysis - distribution and collection of post-program survey questionnaire to teachers - collection of survey data embedded into the online learning platform and teacher-led workshops for students - statistical analysis of the collected data	8. Production of a report about the usefulness and effectiveness of the project by teachers and students.
Nov 2020 – Dec 2020	9. Compilation of report for QEF - review of all activities of the project - summarizing the essential points about the planning, implementation, results and impact of the project - outlining the implications to practice in future 10. Publicity activities - organizing a press conference to sum up the project and disseminate the importance of teaching secondary students CPR /AED in schools - writing up research papers on the basis of the findings from the project and submitting to peer review scholarly journals and making presentations in academic conferences.	9. A comprehensive report covering all aspects of the project is produced and shared with other secondary schools. The report will also be submitted to the Education Bureau for consideration of making CPR /AED education statutory. 10. A press conference for mass media is organized and at least 2 research papers are published in peer- review scholarly journals.

Teachers' involvement in the project

Teachers play an active role in this project. Selected teachers from partner schools will be offered training about the basic knowledge and skills of compression-only CPR and AED, the pedagogical methodologies of teaching compression-only CPR and AED and how to use the teaching kits and materials of the project for teaching their own students. The ultimate purpose of the training is to qualify them as an instructor of this project so that they can run the program for their students on their own. The project team will provide back-up support from time to time. Moreover, their views and reflections of the teaching and learning activities enable the project team to fine tune contents of the project and improve its effectiveness.

Training for teachers

Training tools

I. A teaching kit that contains:

- a Manikin for practice: 2 Little Anne for newly joined schools and 2 AED trainers for each participating school. (The teaching equipment will only be kept at the participating schools upon request.)
- an instructor manual. Contents include: program overview, core concepts of compression-only CPR and AED, ethical issues of CPR and AED, evaluation and assessment methods, instruction on the use of the online learning platform, learning management system and the CPR application, teaching tips, how to conduct a training workshop for students, scenario scripts for experiential learning, debriefing techniques.

- useful resources for teaching and learning CPR and AED.

2. An online learning platform. It has 3 parts.

Part 1 focuses on the knowledge and skills of delivering compression-only CPR via videos and animations. It contains all the essential principles and practical information of compression-only CPR and AED.

Part 2 aims at value education. It contains videos and animated scenarios that depict what would happen during a sudden cardiac arrest and interviews of survivors and rescuers. The former gives students an idea of what they would face during a sudden cardiac arrest event. This is important as most of their exposure to cardiac arrest comes from the mass media. Yet the information they get may not be correct. Thus, these videos also serve the purpose of clearing any of their misconceptions about sudden cardiac arrest. The interviews are to arouse students to contemplate the issue of life and death as well as the moral and ethical aspects of providing bystander CPR and AED. It would instil insights in students' mind regarding the importance, reason and meaning of saving another person's life, and indirectly let them reflect on the meaning of life.

Part 3 is the test to assess the knowledge level of students on compression-only CPR and AED. It is in the form of scenario-based quiz and multiple-choice questions.

3. A Learning Management System is embedded in the online learning platform that allows teachers to monitor the learning activities of students.

4. A CPR application with training, monitoring and feedback function on bystander CPR skill. The application is freely downloadable by teachers and students in the program.

Training workshop for teachers

Description

Compression-only CPR and use of an AED is a life-saving skill that should be learned by every member of the community. Well-trained trainers are essential for dissemination of its knowledge and skill. This workshop is designed to equip the teachers of partner schools with the knowledge and skills necessary for teaching compression-only CPR and AED to their students according to the 'Revive-a-life project' organized by the Emergency Medicine Unit of the University of Hong Kong.

Objectives

This workshop aims to:

- overview the program
- introduce the principles of compression-only CPR and AED
- illustrate the technique of performing compression-only CPR and AED
- demonstrate the use of the teaching kit, online learning platform, the learning management system and the CPR application
- explain how to run a training workshop on their own
- illustrate the student assessment method
- demonstrate the debriefing techniques regarding its use in this project

Contents

Session 1: Program introduction

Session 2: Principles and practice of compression-only CPR and AED

Session 3: Hands-on practice and evaluation

Session 4: Use of the teaching tools

Session 5: Essentials of running a workshop for students

Session 6: Practice on debriefing

Learning outcomes (LO)

On completion of this workshop, a learner should be able to

1. understand the rationale of the program
2. apply the principles and skills of compression-only CPR and AED
3. demonstrate the skills and knowledge in teaching compression-only CPR and AED to secondary school students as well as their evaluation

Teaching and learning activities

This is a tutorial-based workshop with practical session to enhance the learning experience of the learners. The tutorial focuses on the theory of compression-only CPR and AED and the instructional methodology used in this project. The practical session is for demonstrating the skills of compression-only CPR and use of AED, student evaluation and debriefing techniques.

Individual session

Session 1 (10 min)	Project introduction
Mapping LO	1
Session learning outcomes	On completion of this session, the learner should be able to: 1. appreciate the aims and purpose of the project 2. understand the overall framework of the project 3. relate the program to the local situation of sudden cardiac arrest
Session 2 (15 min)	Principles and practice of compression-only CPR and AED
Mapping LO	2
Session learning outcomes	On completion of this session, the learner should be able to: 1. describe the basic principles of compression-only CPR and AED 2. differentiate compression-only CPR from traditional CPR 3. demonstrate how to perform compression-only CPR and use of AED
Session 3 (45 min)	Hands-on practice and evaluation
Mapping LO	2,3
Learning outcomes	On completion of this session, the learner should be able to: 1. demonstrate the correct delivery of compression-only CPR and AED 2. evaluate a student's performance in delivering compression-only CPR 3. apply the procedures in real life situation
Session 4 (20 min)	Use of teaching tools
Mapping LO	3
Session learning outcomes	On completion of this session, the learner should be able to: 1. describe how to integrate the teaching kit into a training program for their students 2. demonstrate how to make use of the teaching kit in teaching their students
Session 5 (30 min)	Essentials of running a workshop for students
Mapping LO	3

Learning outcomes	On completion of this session, the learner should be able to: 1. set up a Revive-a-life training program for their students by using the teaching kits provided 2. sustain the Revive-a-life training program in their school with adaptation to the special circumstances in their schools
Session 6 (60 min)	Practice on debriefing
Mapping LO	3
Session learning outcomes	On completion of this session, the learner should be able to: 1. describe the rationale of using debriefing in this project 2. incorporate debriefing in their own Revive-a-life program in their school 3. demonstrate how debrief

Training for students

Compression-only CPR / AED Student Training Course

Description

Compression-only CPR and use of AED is a life-saving skill that should be learned by every member of the community. Scientific studies have shown that CPR and AED applied by a bystander can increase the chance of survival of a victim of sudden cardiac arrest. This Course is designed to equip a potential lay responder i.e. a secondary school student with the knowledge and skills necessary for delivering the skills according to the 'Revive-a-Life' project organized by the Emergency Medicine Unit of the University of Hong Kong.

Course objectives

This Course aims to:

- introduce the principles of compression-only CPR and AED
- illustrate the technique of performing compression-only CPR and application of the AED

Course contents

Each student is expected to have studied the materials on the online learning platform before taking part in this course.

Session 1: Compression-only CPR and AED: a re-cap

Session 2: Hands-on practice

Session 3: Assessment

Learning outcomes (LO)

On completion of this Course, students should be able to

1. understand the principles of compression-only CPR and AED
2. demonstrate compression-only CPR and application of an AED

Teaching and learning activities

This is primarily a practical session to reinforce the principles and practice of compression-only CPR and AED for an adult with sudden cardiac arrest. Students will be given a manikin to practice compression-only CPR and AED.

The whole practice process is integrated with face to face coaching by an instructor. The Course is concluded by an assessment of student's skills in performing compression-only CPR and AED on a manikin.

Assessment method

Students are required to demonstrate compression-only CPR (based on the 4 C procedure: check, call, compress and continue) and AED on a manikin. Their demonstration lasts 1 minute. The instructor checks the correctness of the student's performance according a set of pre-defined criteria. To pass this part, the student has to satisfy all criteria. The need for remediation will be determined by the instructor.

Individual session (duration of each session is flexible, total duration is about 60 minutes)

Session 1	Compression-only CPR and AED: a re-cap
Mapping LO	1
Session learning outcomes	On completion of this session, the learner should be able to: 1. appreciate the purpose of CPR and AED 2. explain the steps of compression-only CPR and operation of an AED
Session 2	Hands-on practice
Mapping LO	2
Session learning outcomes	On completion of this session, the learner should be able to: 1. identify the need to perform compression-only CPR and AED 2. demonstrate how to perform the skills
Session 3	Assessment
Mapping LO	1, 2
Session learning outcomes	On completion of this session, the learner should be able to: 1. perform compression-only CPR and AED to an adult victim of sudden cardiac arrest in real life 2. appreciate the usefulness and limitation of CPR and AED

Teacher-led workshop for students

The project team will provide on-site support to teachers organizing the workshops in their school once or twice. On-site support includes immediate provision of professional guidance to the practice of CPR and AED if necessary. For the experiential learning session, the project team is responsible for the scenario script and design. Prior instructions to teachers and the performing artists will be arranged. During the session, the project team members will be present to ensure the scenario is run smoothly. At the debriefing session, the project team members would function as facilitator if necessary. The project team will also help follow-up the effectiveness of the workshops. Teachers can consult the project team whenever they deem necessary. As for the role of the teachers, they are assumed to be the leader of the workshop. They are to oversee the flow of the various sessions of the workshop. They are expected to be able to illustrate the technique of CPR and AED. At debriefing, they are to lead the discussion and give feedback to students.

Objectives

This workshop aims to:

- reinforce the principles and practice of compression-only CPR and AED
- impart changes to students' attitudes and behavior towards a stranger in need of assistance

Learning outcomes (LO)

On completion of the workshop, students should be able and willing to:

1. perform compression-only CPR and use an AED properly and safely
2. initiate compression-only CPR to a victim in cardiac arrest

Teaching and learning activities

This workshop adopts a blended pedagogical approaches i.e. face to face coaching, hands-on practice and experiential learning to achieve the objectives listed above. The workshop is concluded by a debriefing session led by a teacher trained by this project.

Individual session (duration of each session is flexible, total duration is about 60 minutes)

Session 1	Compression-only CPR and AED: refreshing the memories
Mapping LO	1
Session learning outcomes	On completion of this session, the learner should be able to: 1. identify the need of CPR and AED quickly 2. perform compression-only CPR and use an AED properly and safely
Session 2	Experiential learning in the form of a drama led by professional performing artists with the participation of students
Mapping LO	2
Session learning outcomes	On completion of this session, the learner should be able to: 1. appreciate the meaning of helping a stranger in need of assistance 2. review their own limitations or deficiencies in managing a victim in cardiac arrest
Session 3	Debriefing led by teachers
Mapping LO	1, 2
Session learning outcomes	On completion of this session, the learner should be able to: 1. enhance the retention of the skills and knowledge of compression-only CPR and AED 2. reflect on their own views about life and death

AED-Hunt

This activity is conducted in the second academic year. Participation by students of the whole school is encouraged. It involves locating AED in the proximity of the participating school and a student's home. Besides the location, data about the accessibility and other useful information related to the use of an AED are also required. The project team is responsible for cross-checking the accuracy of the information. All data collected will then be uploaded to a mobile application of an AED map which is freely downloadable by the public. A prize will be awarded to the school with the best performance in the activity. Apart from producing a tool that is useful to the public, this activity functions as a kind of participatory learning so that students can learn more about the importance of AED in the community.

Budget

Category	Item Description and Calculation	Sub-total	Amount (\$)
(A) Staff Cost	Project Manager (\$37,790 x 5% MPF x 30 months)	\$1,190,385	\$1,783,635
	Project Assistant II (\$14,500 x 5% MPF x 30 months)	\$456,750	
	IT Technician (\$13,000 x 5% MPF x 10 months)	\$136,500	

(B) Equipment	Manikin for practical sessions (2pcs/school) \$1,687.5 x 2 x 50 schools	\$168,750	\$507,750
	AED trainer for practical sessions (2pcs/school) \$2,880 x 2 x 50 schools	\$288,000	
	Website development	\$50,000	
	Costume	\$1,000	
(C) Services	Instructor Fee for Training Workshop for teachers program \$2,000 x 8 people x 3 days	\$48,000	\$ 865,720
	Instructor Fee for Compression-only CPR / AED Student Training Course \$500 x 50 schools x 6 people x 3 times	\$450,000	
	Instructor Fee for Teacher-led Workshops for students \$800 x 50 schools x 3 people x 2 times	\$240,000	
	Actor paid for all courses (for Training Workshop for teachers program & Teacher-led workshops for students) \$620 x 2 people x 3 days + \$620 x 2 people x 50 schools x 2 days	\$127,720	
(D) General Expenses	Design Fee & Printed materials for instructor	\$16,000	\$ 777,954
	Audit Fee	\$15,000	
	Design Fee & Printed materials for participants	\$10,000	
	Translation	\$10,000	
	Promotion materials	\$38,000	
	Transportation & logistics \$2,000 x 50 schools + \$41,300	\$141,300	
	Stationery	\$10,000	
	Publicity materials	\$10,000	
	Prized and trophies for winning teams	\$8,000	
University Overhead for administrative support	\$519,654		
(E) Contingency			\$49,041
Grand Total			\$3,984,100

Justification (Staff)

Position: Project Manager

Duties:

- To oversee the whole project including management and monitoring of the implementation of the project
- To prepare progress reports to the Quality Education Fund throughout the project period

Requirements:

- Holder of Master degree in Education / training or related disciplines
- At least 3 years management exposure in training
- Knowledge in simulation technologies or medical simulation is desirable
- Strong organizational, communications and interpersonal skills

Position: Project Assistant

Duties:

- To communicate with colleagues, instructors and teachers involved to make sure projects are running smoothly
- To prepare schedule and push forward projects with regular progress report
- To assist the design, development and production of the practical manual

Requirements:

- Degree holder in relevant disciplines
- Proficiency in graphic design, writing skills and photography is highly preferable

Position: IT Technician

Duties:

- To develop, design and deliver website structure for internet sites and digital teaching and learning materials
- To maintain and implement web pages and multimedia design using appropriate web publishing, editing and graphics applications.

Requirements:

- Associate degree in a computer-related discipline. Relevant experience may substitute for the post-secondary education.

Justification (Instructor)

Position: Instructor for Training Workshop for Teachers Program

Duties:

- Three identical teacher training workshops will be organized for all partner schools teachers. Eight instructors are needed in each workshop in order to train teachers on principles and practice of compression-only CPR and AED and the instructional methodologies.

Requirement:

- Specialist in Emergency Medicine or fellow of the Hong Kong College of Emergency Medicine

Position: Instructor for Compression-only CPR / AED Student Training Course

Duties:

- Three identical training workshops will be organized and 6 healthcare professionals are needed for each workshop. The instructors will teach the principles of compression-only CPR and AED and assess the student's CPR & AED performance.

Requirement:

- Practicing ambulance officers

Position: Instructor for Teacher-led workshop for students

Duties:

- Two identical student workshops will be organized and 3 healthcare professionals with teaching experience are needed for each workshop. The instructors will reinforce student's learning from the program and provide guidance to teachers on conducting the workshop.

Requirement:

- Registered nurses or practicing ambulance officers who have been trained by the project team specifically for running the workshops

Assets Usage Plan

Category	Item	Total cost	Proposed plan for Deployment
Equipment	Manikin	\$168,750	The Manikin and AED will be kept at the partner schools for their future training
Equipment	AED	\$288,000	
Equipment	Costume	\$1,000	

Expected Project Outcomes

Expected tangible deliverables

- A curriculum of compression-only CPR and AED tailor-made for local secondary schools
- An instructor manual for teaching compression-only CPR and AED for local secondary school teachers
- An online learning platform and CPR application with optimized content and functionality for teaching and learning of compression-only CPR and AED
- An AED locator application based on the data gathered by students in the AED-Hunt activity
- A report about the usefulness and effectiveness of the project by teachers and students for reference by other schools not in the project
- A comprehensive report covering all aspects of the project for experience sharing, knowledge dissemination and promulgation of CPR/ AED education in secondary schools
- Two research papers on the basis of the findings from the project for knowledge dissemination

Expected intangible outcomes

- Enhancement of psycho-motor skill development of students
- Encouragement of altruism among students
- Build-up of positive attitude to life
- Promotion of moral and civic education in schools

Project Evaluation

The evaluation plan for the project includes 3 components: a post-program questionnaire survey of the teachers of partner schools, the online survey embedded in the online learning platform and the teacher-led workshops. The last two components are for students. For the post-program questionnaire survey, the target is not limited to teachers enrolled in the training program but all teachers and principals of the partner schools. The survey is to focus on the teachers' perception of the usefulness and effectiveness of the program in imparting the knowledge of CPR/AED and attitude change among their students. Success criteria include 75% or above of teachers surveyed who agree that the project is useful and effective in achieving the aforementioned foci i.e. imparting the knowledge and inducing attitudinal change. For the student components, their knowledge, attitude and behavior are to be assessed. Their knowledge in CPR/AED is evaluated by a series of multiple choice questions embedded in the online platform. Achieving 80% or higher of correct answers is considered successful. Their attitude is evaluated by the scenario questions also set in the online platform. Sample answers that can be converted to a score for a positive attitude e.g.

confidence in delivery the necessary care to a person in need, will be provided to their teachers for reference. Behavioral change is evaluated at their performance in the simulated scenario during the teacher-led workshops. There is no objective success criteria for behavioral change. It is in general a formative assessment as directed by their teachers. But reference standards will be designed by the project team for the teachers.

Sustainability of Project Outcomes

On student level, the teaching activities e.g. experiential learning and teaching materials e.g. the CPR application of the project have been designed with the aim of enhancing retention of skills and knowledge in addition to acquisition of them. For instance, after project completion, a student can use the CPR application for self-practice and assessment of his or her CPR skills. On teacher level, they are trained as instructors of the program. After project completion, they can still use what they learn from the project to run their own programs. On school level, the curriculum, the teaching kits and all the teaching materials are freely available to schools. Back-up support can be provided upon request from time to time.

Dissemination / Promotion of Project Outcomes

The project outcomes will be disseminated or promoted by

1. Announcement of the project outcomes and implications in a press conference
2. Distribution of the report on the usefulness and effectiveness of the project by teachers and students to schools not joining the project
3. Submission of the comprehensive report covering all aspects of the project to Education Bureau and distribution to other secondary schools in order to gain support for making CPR /AED education statutory in Hong Kong
4. Submission of research papers based on the findings from the project to peer reviewed journals for publication
5. Presentation of the project outcomes in academic conferences

Report Submission Schedule

The project team commits to submit reports in accordance with the following schedule:

Project Management		Financial Management	
Type of Report and covering period	Report due date	Type of report and covering period	Report due date
Progress Report 1/7/2018 – 31/12/2018	31/1/2019	Progress Report 1/7/2018 – 31/12/2018	31/1/2019
Progress Report 1/1/2019 – 30/6/2019	31/7/2019	Interim Financial Report 1/1/2019 – 30/6/2019	31/7/2019
Progress Report 1/7/2019 - 31/12/2019	31/1/2020	Interim Financial Report 1/7/2020 - 31/12/2020	31/1/2020
Progress Report 1/1/2020 – 30/6/2020	31/7/2020	Interim Financial Report 1/1/2020 – 30/6/2020	31/7/2020
Final Progress Report 1/7/2018 – 31/12/2020	31/3/2021	Final Financial Report 1/7/2020 – 31/12/2020	31/3/2021

Appendix 1

No.	Question
1	The objectives were clearly stated.
2	The objective/expectations were met.
Rating Key: 1: Unsatisfactory 2: Fair 3: Satisfactory 4: Very Good 5: Excellent	
3	The materials was comprehensive and covered what needed to be taught.
4	The Electronic materials were helpful (Apps and E-learning).
5	There was sufficient time for questions and discussion.
6	The trainer was professional.
7	The trainer managed the group well and stayed on task.
8	The trainer understood and had a good grasp of the material.
9	As a result of this course, I would say my level of confidence is:
10	If there is an advanced course, I would encourage my students to attend.
11	If there is a similar course in future, I would recommend my friends or colleagues in the education field to join it.

No.	Schools	Questions										
		1	2	3	4	5	6	7	8	9	10	11
1	Stewards Ma Kam Ming Charitable Foundation Ma Ko Pon Memorial College	Y	Y	4	2	4	5	5	5	4	Y	Y
2	Ying Wa College	Y	Y	4	3	4	5	5	5	4	Y	Y
3	CCC Kei San Secondary School	Y	Y	4	5	4	5	4	5	5	Y	Y
4	Yuen Long Merchants Association Secondary School	Y	Y	5	4	4	5	5	5	5	Y	Y
5	HKTA Tang Hin Memorial Secondary School	Y	Y	4	3	4	5	5	5	3	Y	Y
6	HKTA The Yuen Yuen Institute No.3 Secondary School	Y	Y	5	4	5	5	5	5	4	Y	Y
7	CMA Choi Cheung Kok Secondary School	Y	Y	4	4	4	4	4	4	4	Y	Y
8	Cognito College (HK)	Y	Y	4	4	4	5	5	5	5	Y	Y
9	TWGHs Chen Zao Men College	Y	Y	5	4	4	5	5	5	5	Y	Y
10	HKWMA Chu Shek Lun Secondary School	Y	Y	4	3	4	5	4	4	4	Y	Y
11	Aberdeen Technical School	Y	Y	3	3	4	4	4	4	4	Y	Y
12	Lee Kau Yan Memorial School	Y	Y	4	2	4	4	4	4	4	Y	N/A
13	Belilios Public School	Y	Y	4	4	5	5	4	4	5	Y	Y
14	Pope Paul VI College	Y	Y	4	3	4	5	5	5	4	Y	Y
15	Yan Chai Hospital No.2 Secondary School	Y	Y	4	3	4	4	4	4	4	Y	Y
16	St Paul's Secondary School	Y	Y	4	3	4	5	5	5	5	Y	Y
17	True Light Girls' College	Y	Y	4	4	4	4	4	5	4	Y	Y
18	Christian & Missionary Alliance Sun Kei Secondary School	Y	Y	5	4	5	5	4	5	5	Y	Y
19	CCC Kei Chi Secondary School	Y	Y	4	4	3	5	4	5	3	Y	Y
20	Christ College	Y	Y	4	4	4	5	5	5	4	Y	Y

Appendix 2**Compression-only CPR: skills evaluation**

Student Name: _____ Date: _____

Result: Pass Need remediation

Skill	Critical performance criteria	Tick if done correctly	For remediation use
	Environment safety and self, victim and bystander safety		
1. Check	Assess victim status		
2. Call	Yell for help Dial 999 (or ask someone to do so)		
3. Compress	Hand placement (centre of chest and lower half of breast bone) Arms straight Compression rate 100 – 120 per minute Compression depth 5 – 6 cm Complete chest recoil between compressions		
4. Continue	Minimal interruption		
5. AED	Follow voice prompts of AED for operation		
6. AED	Successful and safe delivery of an electric shock		
7. AED	Resume chest compression according to voice prompt of the AED machine		

Observe for 1 minute.

If the student completes all steps successfully (a ✓ in each box to the right of Critical Performance Criteria), the student passed the test.

• If the student does not complete all steps successfully (as indicated by a blank box to the right of any of the Critical Performance Criteria), give the form to the student for review as part of the student's remediation.

• The instructor can determine alone or after consulting the lead instructor whether the student is required to repeat the test.

Instructor: _____

Remediation result: Pass Fail (Date: _____)