

Final Report
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CHEC

Communication for Health in Emergency Contexts

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Acknowledgements

The primary purpose of the ALTC Communication for Health in Emergency Contexts project (CHEC) is to improve teaching and learning of communication in Australian health education by developing resources that are specifically focussed on one critical area of healthcare delivery — that of communication in emergency departments (EDs).

There is now an increasing realisation of the central role of communication in effective healthcare delivery, particularly in high stress contexts such as EDs. The CHEC project seeks to demonstrate the communicative complexity and intensity of work in the emergency department and, against this backdrop, identify the features of successful and unsuccessful interactions. Although the resources are set in EDs we believe that they are applicable across a range of different healthcare contexts. Whatever the healthcare context, communicating care is just as important as delivering care.

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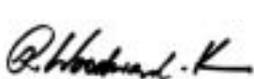
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ALTC	The Australian Learning and Teaching Council Ltd
AMC	Australian Medical Council
ANMC	Australian Nursing and Midwifery Council
ARC	Australian Research Council
CHEC	Communication for Health in Emergency Contexts
ED	Emergency Department
OSCEs	Observed Structured Clinical Examinations
UoM	University of Melbourne
UTS	University of Technology, Sydney

Section I

Executive Summary

Effective communication in healthcare is an area of growing importance for health professionals and accreditation bodies as quality care is increasingly challenged by the pressures of communication in high-stress work environments.

This is particularly the case in emergency departments (EDs), where the acute nature of patient presentations means that effective communication between patients and clinicians is vital. Emergency settings pose specific communication challenges such as dealing with acute and undifferentiated presentations as well as anxious and aggressive patients. Neglecting communication skills training in these clinical settings could have implications for future patient safety and health outcomes.

Communication skills teaching is now widely accepted as a core component of medical and nursing undergraduate curricula, yet such teaching often takes place in non-clinical settings, divorced from real clinical situations. The ALTC project, Communication for Health in Emergency Contexts (CHEC) has created an evidence-based multimedia resource for learning and teaching effective communication in emergency healthcare. This resource reflects the complexity and specific communication demands within EDs through authentic patient and clinician stories and experiences. The foundation for this project was the authentic data, knowledge and experience gained from a three-year (2007–09) ARC Linkage project *'Emergency Communication: Addressing the challenges in healthcare discourses and practices'* (Slade et al., 2011), which involved over 1,000 hours of observations in five emergency departments, and the audio-recording of 82 patients from triage to disposition. The ARC research provided the evidence base for the CHEC project, which has developed materials built on the analysis of these authentic clinician–patient interactions, highlighting the features of more and less successful interactions.

The CHEC project combined the expertise and experience of academics from the University of Technology Sydney (UTS) and The University of Melbourne (UoM), in a multi-disciplinary project team that included doctors, nurses, health educators and researchers, curriculum researchers, and applied linguists with expertise in curriculum design, communication, discourse and language analysis and teaching, organisational ethnographic research and clinical practice. The CHEC reference group provided additional expertise and support throughout the project. The team's approach was to develop a socially-oriented functional analysis of communication in authentic settings from which we could build resources to support situated and interprofessional learning of effective communication in high-risk, high-stress settings.

The CHEC project was informed by a foundational scoping phase, including literature reviews and interviews with medical and nursing students as well as clinical tutor and educator perspectives on communication skills in the emergency department (ED). The results of the scoping phase informed

The project research demonstrated the importance of communication in emergency health contexts and the current lack of opportunities for medical and nursing students to be given dedicated teaching and feedback as they practise communication in an ED setting.

the development of principles for learning and teaching communication for emergency healthcare settings; and these principles underpin the development and implementation of the multimedia resource for medical and nursing students. The project research demonstrated the importance of communication in emergency health contexts and the current lack of opportunities for medical and nursing students to be given dedicated teaching and feedback as they practise communication in an ED setting.

The development of the CHEC web-based multimedia resource was informed by adult teaching and learning principles. The central teaching methodologies are a combination of experiential learning and methodologies from language education. It is an interprofessional resource for both nursing and medical students, providing opportunities for the application of good communication practices that reflect the complexity of the ED environment. Students have the opportunity to follow real-life scenarios through all stages of the ED journey and to practise communication skills in both online and classroom settings. Information about the communication challenges in each stage of the ED and opportunities to hear from ED staff and communication experts contextualise the resource for both nursing and medical students.

While the focus of this project is communicating in emergency and high-stress, high-risk settings, many institutions will welcome resources tailored to the Australian healthcare context that also addresses more generic principles of effective clinical communication. This focus on communication in high-risk, high-stress settings will also enhance the capacity of the Australian higher education sector to meet the needs of the 21st century healthcare workforce.

The CHEC web-based resource is freely available for use by all universities, medical and nursing students and educators and other allied health students and practitioners at:

www.chec.meu.medicine.unimelb.edu.au

It is an interprofessional resource for both nursing and medical students, providing opportunities for the application of good communication practices that reflect the complexity of the ED environment.

Section 2

Introduction

The Communication for Health in Emergency Contexts project (CHEC) has created an evidence-based interactive learning resource for learning and teaching effective communication in healthcare settings, focussing in particular on complex, high-risk contexts such as emergency departments (EDs).

Key features of this project are the authenticity of the materials, their relevance to the cultural and linguistic diversity of current health settings and the accompanying innovative teaching and learning methodologies for implementing the resources. The resources are applicable to healthcare contexts beyond EDs, such as other high-risk settings, and are available nationally for use by medical and nursing educators and clinicians and through independent learning by students.

The focus on communication in high-risk, high-stress settings will enhance the capacity of the Australian higher education sector to meet the needs of the 21st century healthcare workforce. Effective communication in health care is an area of increasing importance for health professional registration and accreditation bodies as well as for quality and safety health commissions. Mounting evidence demonstrates that ineffective communication is a major cause of critical incidents in healthcare practice (Australian Institute of Health and Welfare, 2007; NSW Department of Health, 2005), and indicates that providing quality care is challenged by the pressures of communication in high-stress work areas. This is particularly the

Mounting evidence demonstrates that ineffective communication is a major cause of critical incidents in healthcare practice...

case in EDs, where the acute nature of patient presentations, combined with factors such as differences in cultural, linguistic and socio-economic backgrounds, can contribute to serious communication problems between clinicians and between patients and clinicians. In this situation, constant information flow between doctors and nurses is crucial to patient safety. Further, interprofessional practice (Council on Graduate Medical Education and National Advisory Council on Nurse Education and Practice, 2000:1) and the emphasis on patient-centred care pose communication challenges. These factors have important consequences for the education of future health professionals, particularly doctors and nurses.

Effective clinical communication is recognised by medical and nursing accreditation bodies as a core skill and essential for ensuring quality and safety in health care. While teaching and learning clinical communication features in most health education courses, the quality and extent of the content, resources and teaching methodologies can vary greatly. While communication skills training is part of undergraduate medical curricula, in the clinical setting it is largely neglected (Silverman, 2009). Some emphasis is placed on effective doctor/nurse-patient interactions. However, little attention has so far been paid to communication processes involved in patient discharge, clinical handover or interprofessional teamwork. Students are rarely exposed to authentic materials or teaching and learning approaches that address communication in high-risk contexts such as EDs. To date, there has been little in-depth research into communication in specific contexts such as EDs from a teaching and learning perspective.

A foundation for this project was the data, knowledge and experience gained from a three-year (2007–09) ARC Linkage project '*Emergency Communication: addressing the challenges in healthcare discourses and practices*' (Slade et al., 2011), which informed the research component of this project. The Emergency Communication project also provided authentic transcripts of ED interactions that the CHEC project then adapted for learning and teaching purposes.

Emergency Communication project

The Communication for Health in Emergency Contexts (CHEC) teaching materials are based on research investigating communication between patients and clinicians in five representative emergency departments in Australia. The ARC-funded Emergency Communication project was undertaken over three years and involved audio-recording all the patient's interactions with different clinicians from triage to disposition (Slade et al., 2011). The Director of this project was Diana Slade, Professor of Applied Linguistics at UTS. Team members were Marie Manidis, Jeannette McGregor, Hermine Scheeres, Jane Stein-Parbury, Roger Dunston, Christian Matthiessen, and Maria Herke (Slade et al., 2011).

The spoken communication between the clinicians and patients were transcribed and analysed to identify the features of both the successful and unsuccessful encounters. Analysis of the actual language used in the clinician/patient interactions identified ways in which healthcare practitioners could improve the quality of the patient journey through the emergency department (ED). The Emergency Communication project research represents the findings from the analysis of the largest body of audio-recorded data on health communication in Australia (and the largest body of data collected in EDs internationally). The data includes:

- a total of 82 patient journeys recorded from triage to disposition across the five emergency departments
- a total of 161 interviews with staff, including ED and hospital management, ED doctors and nurses, allied health workers and ambulance officers.

The researchers also shadowed key clinicians at work, conducted over 200 hours of direct observations and follow-up interviews with patients, nurses and doctors and sighted the documents of the medical records of the 82 patients. This represented a total 1052 hours in the five EDs.

The video interactions in the CHEC materials are based on the authentic transcripts of what was actually said rather than on

what we thought or guessed may have been said. In this way they provide a unique perspective on patient–clinician interactions in the ED environment. The relationship between research and practice is essential in attempting to capture the complexity of what happens in EDs and how this impacts on communication.

Some of the key findings from this research that are reflected in the CHEC materials include:

- The complexity of the ED environment: most patients are attended by between 5 and 15 clinicians and may not understand the particular role of each of the clinicians who attends them.
- The importance of providing information to patients, who are effectively outsiders to the hospital system, especially about the processes that are happening to them.
- The importance of clinicians developing rapport with patients and achieving a balance between interpersonal and clinical communication. To help clinicians do this we have included two *Communication strategies* tables in the resource to assist doctors and nurses establish effective communication strategies with patients (see Tables 1 and 2 following). These strategies are divided into two broad categories. The first category deals with the way biomedical knowledge is communicated between clinician and patient and the second deals with the way clinician–patient relationships are developed. Both these aspects are necessary to achieve effective communication.

Table 1: Strategies for developing shared medical knowledge and decision making

(from Slade, D., Manidis, M., McGregor, J., Scheeres, H., Stein-Parbury, J., Dunston, R., Matthiessen, C.M.I.M., Herke, M., Stanton, N., Chandler, E. (2011) Emergency Communication: Final Report)

Aim: To enable and encourage patients to be informed and to be part of the decision-making process about their own health.		
Communication strategies	Description	Examples
1. Make space for the patient to tell their story	Initially open up the space for patients to talk by asking open, neutral questions.	<i>'Now what seems to be the problem?' 'And how can I help you today?'</i>
2. Seek and recognise the patient's knowledge and opinions about their condition.	Facilitate the knowledge building process by eliciting and valuing patients' knowledge about their case and prior treatments.	<i>'So it was yesterday afternoon you were passing these big clots. Were they red, or did they look black like that?'</i>
	Normalise patients' medical symptoms and concerns about what is happening to them.	<i>'There's a few things that can cause bleeding out the bum. I think in you the most likely thing is that it's coming from some diverticular disease. And sometimes little pockets on the wall of the bowel can bleed from time to time and they can get infected.'</i>
3. Explain medical concepts clearly by moving between technical (medical) and commonsense (everyday) language.	Limit technical language or jargon and explain terms that patients might not understand.	<i>'What we have there is what we call epididymo-orchitis. That's just our fancy way of saying infection.'</i>
4. Spell out explicitly the rationale for management/ treatment options and decisions.	Provide patients with clear reasons for ongoing treatment or management plans.	<i>'Now, we need to rule out a problem with the aorta, which is the big blood vessel coming in the top of your heart. And the only way to do that is to do a CT scan.'</i>
	Wherever appropriate, make the reasoning process available to patients.	<i>'Hopefully we won't have to do the x-ray again. But we may have to because the situation changes on different days.'</i>
	Explain the sequence and priority of treatments.	<i>'Alright, but for now the priority is treating the infection. Make sure there is nothing nasty with the biopsy and then we can talk about how to get the waterworks better in the long term.'</i>
5. Provide clear instructions for medication and other follow-up treatment, appointments, etc.	State instructions clearly and repeat or ask patients to repeat to confirm comprehension.	<i>'I wouldn't use anti-inflammatory tablets at the moment because they could make you bleed from the prostate, so take Panadol- two tablets every four hours. So that's a maximum of eight tablets per day. OK?'</i>
6. Signpost the hospital processes the patient will need to go through.	Set out the steps the patient is likely to go through and the different demands that will be made of him/her.	<i>'I'll send you up to the next window just to give your Medicare details and things. And then one of our doctors is going to call you through the house doctor section today, so they'll bring you through and have a chat to you ...'</i>
7. Negotiate shared decision making about treatment.	Encourage patients to debate, clarify and discuss their treatment options.	<i>'If the bandage falls off you might want to try something simpler? So we could try the one you used last time, if you like.'</i>
	Encourage patients to comply with recommended treatment plans by negotiating preferred treatment plans with them.	<i>'If the bleeding continues then we'll consider doing something else. OK? So what are our options? Well, the definitive option is radiotherapy.'</i>
8. Repeat key information, check comprehension and offer clarification throughout.	Continually check that patients have understood and offer the opportunity for them to ask for clarification.	<i>'When you fell down onto that bone, the coccyx bone it's a very thin area and it's going to be sore. The bruising is going to be... the pain itself will probably last for at least a week. It's going to be very, very sore.'</i>

Table 2: Strategies for developing rapport and empathy with patients

(from Slade, D., Manidis, M., McGregor, J., Scheeres, H., Stein-Parbury, J., Dunston, R., Matthiessen, C.M.I.M., Herke, M., Stanton, N., Chandler, E. (2011) Emergency Communication: Final Report)

Aim: To establish a 'human' connection with the patient in order to facilitate the patient's collaboration in the management of their condition and to improve the quality of the patient's experience in the ED.		
Communication strategies	Description	Examples
1. Introduce yourself and describe your role.	Alleviate patient anxiety by introducing yourself and explaining your role in order to clearly establish your medical expertise.	'Good morning. My name's () and I'm one of the surgical registrars here. I work with Dr (). He told me you were coming in.'
2. Use inclusive language	Put patients at ease and create an atmosphere where the patient feels more included in the decision-making process by using the patient's name and the pronoun 'we'.	'We'll get you through as soon as we can, George. We're just going to have another look down your throat with a camera, and because you can't drink, we probably need to do that today.'
3. Use colloquial language and softening expressions to put patients at ease.	Minimise the strangeness of the ED context by using colloquial language.	'Have you noticed any blood from your bottom at all?' 'Just pop up on there for me.'
	Soften commands and requirements of the patient with just and expressions of probability, e.g. I think, probably.	'And because you can't drink, we probably need to do that today.' 'With that low a blood count and with your history of heart attacks, I think it's very likely that we need to transfuse you.'
"4. Give positive, supportive feedback.	Establish empathy and alleviate patient anxiety by expressing interest, approval and engagement with the patient.	P: I'd say it's probably about a month, probably about — I had a haemorrhoid. D: Yeah. P: And I had that lanced a couple of weeks ago. D: Yeah. P: And, um... D: I'm feeling for you
	Mirror patients' comments regarding symptoms, attitudes or concerns.	P: 'They were really big clots like that.' D: 'Yeah, so really big clots.'
	Express personal attitudes and values to show support.	'Because you are absolutely right. I don't blame you. I don't blame you. But you've done all the right things.'
5. Recognise the patient's perspective.	Express a positive attitude to patients' thoughts and feelings about their medical conditions or their responses to treatment.	'No. You're not going crazy. I can appreciate how uncomfortable it must feel. It's not a very nice test.'
6. Intersperse medical talk with interpersonal chat.	Put patients at ease and reduce the professional distance between you by chatting to them about aspects of life that are unrelated to their medical conditions.	'You play Rugby Union do you? So who do you think is going to win the World Cup this year?
7. Share laughter and jokes.	Alleviate anxiety and lighten the atmosphere by sharing jokes and laughter that express solidarity and inclusiveness.	'You've got to have another needle, have you? Ooh! You're the lucky one!'
8. Demonstrate intercultural sensitivity	Elicit and listen to details of patients' cultural background and don't make cultural generalisations or assumptions based on cultural stereotypes.	N1 How long have you been in [City]? P About seven, eight years? ----- N1 So country of birth, where were you born? F [European country].

Section 3

Project Outcomes and Impacts

The CHEC project aims to increase knowledge about communication practices in high-stress, high-risk healthcare settings and to improve medical and nursing student learning of effective communication in emergency and high-stress, high-risk healthcare settings.

In order to achieve these aims the project produced the key deliverables outlined below.

3.1

An interactive web-based resource for teaching and learning effective communication in emergency settings

The major outcome of this project is the CHEC interactive learning resource about communication in emergency settings. This resource for medical and nursing students is available in online mode and can be accessed through the CHEC website. The resource has been informed by the ARC Emergency Communication project, the existing practice models for learning and teaching and the CHEC project's communication teaching and learning needs analysis for nursing and medicine. Transcripts of authentic audio recordings of communication in emergency settings from the ARC Emergency Communication project were de-identified and redeveloped as communication scenarios to be used as teaching and learning triggers in an online environment. These scenarios were sound and video-recorded using actors as simulated patients and medical staff as well as some volunteer health professionals. The scenarios depict communication between professionals and between clinicians and patients and are supported by online and classroom activities.

The resource exploits the capacity of multimedia to provide layers of tasks associated with the video and sound triggers to flexibly accommodate a range of user needs for both formal and independent learning. The video and sound triggers are accompanied by interactive tasks, including language extension exercises that focus on speech functions such as questioning, clarifying, explaining, reassuring, and instructing and on using colloquial language and medical terms; as well as on discourse features of communication processes such as delivery of diagnosis, handover, patient management and discharge.

The resource addresses issues in clinicians' communication with patients, their families or accompanying person and with colleagues. The interactive resource includes tailored approaches to communication for medical and nursing students for emergency and high-risk, high-stress settings including medical rotations. The development of the resource has taken into account the teaching and academic development needs of language and learning support staff who assist the increasing number of international students undertaking nursing and medical degrees. These staff may have only limited access to the clinical sites or clinical input, yet they are required to support students in highly specific and specialised communication settings. Authentic, structured resources supported by explanatory guidelines greatly enhance the capacity of support staff to provide discipline specific and accurate advice to students on their communication skills.

To ensure effective implementation, the team has taken a variety of teaching contexts into account, including their constraints, and adapted the resources accordingly. The resources have been informed by current adult teaching methodologies developed in conjunction with the findings on existing practice and approaches from language education developed in applied linguistics. These different approaches reflect the preferences and experiences of the users and educators who will be implementing the resources. Teaching

The interactive web-based multimedia resource can be accessed through the CHEC website at www.chec.meu.medicine.unimelb.edu.au

methodologies are designed to accompany and support the resources, so that users have access to a teaching and learning package that can be adapted to learner needs. These resources and a *Guide for Educators* are available from the CHEC website.

The interactive web-based multimedia resource can be accessed through the CHEC website at www.chec.meu.medicine.unimelb.edu.au

Reflecting the complexity and specific communication demands within the emergency department and other high stress, high-risk settings the resource uses authentic patient and clinician stories collected during the Emergency Communication project. In this way, the scripts provide students with an opportunity to follow real-life scenarios through all stages of the ED journey, learning about communication by watching other people communicate and by having opportunities to communicate themselves.

Importantly, the resource is informed by adult teaching and learning principles as well as language principles and can be used by both medical and nursing students. It provides opportunities for students to apply good communication practices and reflects the culture and diversity in the ED environment. The activities in this resource allow students to reflect on strategies for interprofessional and team work and are suitable for both classroom and online self-access use. Opportunities are provided for students to be assessed at specific points throughout the resource.

The web page image (image 1, right) introduces patient Ewan Levinson's experience of the Admission stage of the ED journey — students have the opportunity to fully explore the scenario from this page.



Image 1: A page from the interactive resource which introduces the Admission stage of Ewan Levinson's patient journey in the ED.

Structure of the resource

The web-based multimedia resource is designed to allow educators and students flexibility in their approach to using the resource and completing the activities. Discrete sections provide options for students to explore and interact in an emergency environment. The patient journey is broken down into four stages: Triage, Admission, Assessment and Management. Students are able to explore these stages and take several pathways through the resource.

Students can pursue a horizontal pathway which follows the journey of patient, Ewan Levinson, as he progresses through an ED from Triage and Admission through to Assessment and Management. As students follow Ewan's progress they will learn more about these stages and the communication challenges each stage presents. Ewan's ED journey is made up of both online and extension activities that can be completed in the classroom or in an individual learning environment.

Alternate vertical pathways focus student attention on two patients, Marlina and Ken, at different stages of their journey through the ED. We initially meet Marlina in Admission and see her again at the Management stage, while we first meet Ken in Triage and again in the Assessment stage. This structure allows students to follow the pathway a patient may take through the ED but also to look at particular stages of the ED journey in-depth, depending on their professional and educational area of interest.

The web page (image 2) below is the starting point for a series of interactive tasks related to the patient-clinician scenario presented in the Assessment stage of the ED journey.

The patient journey is broken down into four stages: Triage, Admission, Assessment and Management. Students are able to explore these stages and take several pathways through the resource.



Image 2: A snapshot of an interactive exercise in which students can explore the communication challenges presented in the Assessment stage of the ED journey.

Types of activities

The online tasks and extension activities are based on the communication strategies outlined in the *Communication strategies* tables (developed as part of the ARC Emergency Communication project). These strategies describe how medical knowledge is communicated and how clinician–patient relationships are established and built. Activities in the modules cover key issues in communication in the ED such as: ‘making space for the patient to tell their story’; ‘seeking and recognising the patient’s knowledge and opinions about his/her condition’; ‘negotiating shared decision making about treatment’; ‘repeating key information, checking comprehension and offering clarification throughout’ (see the *Communication strategies* tables on page 10-11).

Interactive tasks provide opportunities for students to listen, watch and interact in an online environment and receive immediate feedback. These tasks often occur after an audio or video clip and students are expected to complete the tasks individually although they could also work together in pairs or in a group. The tasks aim to raise awareness of the nature of the ED and address specific communication issues and challenges encountered at particular stages of the ED journey. Students may be asked to order a sequence, note a response or select an appropriate or correct answer. While the students’ responses to the online tasks are not saved for assessment, there are opportunities for assessment as part of the extension activities such as role-play, discussion and written responses.

The web page (image 3) right shows an example of an interactive task which can be completed by students as they listen to an interaction between patient Ewan Levinson and Nurse Qui in the Admission stage of the ED.

Extension activities occur at the end of segments or independently and feature classroom activities including reflection exercises, role-plays, group discussions and larger assignments and projects. Extension tasks aim to encourage students to reflect more deeply on the online scenarios and to make connections between the communication features presented, their own practices and those of others. Students are offered opportunities to write or speak about communication in emergency contexts and to apply the relevant communication strategies.

The tasks aim to raise awareness of the nature of the emergency department and address specific communication issues and challenges encountered at particular stages of the ED journey.



Image 3: A page from an interactive student activity in the Admission stage of the ED journey.



Image 4: A student activity linked to the Assessment stage of the ED journey.

All activities provide feedback and opportunities for reflection and problem solving. The online and extension activities also allow students to focus on either a particular patient journey or a particular stage of the ED or to complete all the sections as part of a project or program of study. For example, in the Triage section of the resource, the activities focus on the importance of finding out as efficiently and effectively as possible why the patient has come into the ED today.

The resource also includes video interviews with experts in the field talking about specific aspects of communication in health and emergency environments and associated teaching and learning strategies for educators. Overall, the web-based multimedia resource provides a wide range of easily accessible material for educators and students in an online environment.

The web page (image 4) above presents a range of activities that students can participate in including: listening to the clinician explaining the ED Assessment procedure; reviewing both the transcript and the Assessment scenario in relation to information transfer and participating in a role-play using the ISBAR communication tool.

3.2 The CHEC website

As well as the online interactive learning resource, the CHEC project website incorporates:

- current and best practice models for learning and teaching in nursing and medicine for communication in emergency settings
- a statement of needs for teaching and learning effective communication in emergency settings for nurses and doctors
- results of the scoping studies and the literature reviews.

The CHEC website, together with this *CHEC Final Report*, provides extensive background material and resources that informed the development of the project. The CHEC project website aims to improve the communication skills of students in high-risk, high-stress settings; increase the capacity of the Australian higher education sector to provide effective communication education for high-stress healthcare settings such as EDs; and raise the profile of communication teaching in critical healthcare contexts. The website has been a key element of the project and contributes to a learning culture in which clinical educators and students value the teaching and learning of communication skills in clinical practice.

The front page of the CHEC project website (image 5) appears opposite and provides access to information about the project outcomes, publications, presentations, details of the reference group and team members and entry to the CHEC interactive learning resource.

The CHEC website can be accessed at www.chec.meu.medicine.unimelb.edu.au



Image 5: The front page of the CHEC project website with entry to the CHEC interactive learning resource.

3.3 Communication teaching and learning needs for nursing and medicine

The project developed a needs analysis called a *Statement of communication teaching and learning needs for nursing and medicine*. This needs analysis includes the needs of students from cultural and linguistic backgrounds other than English speaking. This Statement is published on the CHEC project website and it was informed by:

- a. scoping of the communication skills teaching in medical and nursing courses in Australian universities
- b. input from clinical medical educators and nursing educators from the participating emergency departments on students' communication needs in emergency settings, together with input from reference group members. Scenarios developed from the ARC Emergency Communication project were used as triggers for discussion
- c. interviews with and observation of student doctors (at Royal Melbourne and Shepparton Hospitals) and nurses (St George Hospital) in their learning environments.

3.4 Literature reviews of existing resources for learning and teaching communication in nursing and medicine

The project team conducted literature reviews and analysed the state of teaching and learning of communication in medical and nursing education, focusing on emergency and similar high-risk healthcare settings. These literature reviews map the existing communication teaching and learning approaches and then examine selected methodologies and teaching materials in current use. The literature reviews identify gaps in provision, such as the absence of materials for diverse learners and for changing work practices and current practices. The findings have informed the development of the resource and methodologies. A summary of the literature reviews is available on the CHEC project website.

3.5 A colloquium on learning and teaching effective communication in emergency healthcare settings

The colloquium will take place in the second year of the project on 9 August 2011 at UTS. The CHEC interactive learning resource and teaching methodologies will be introduced in workshop mode. Participants, including representatives from key medical and nursing education settings, will be provided with a printed report and access to the web-based interactive learning resource.

Section 4 Approach and Methodology

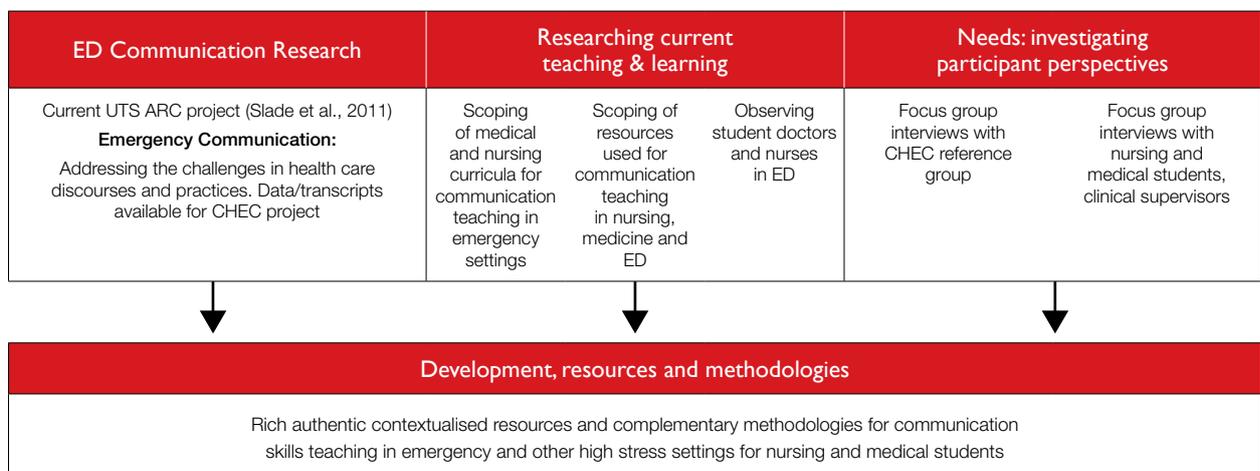
The CHEC project combined the expertise and experience of academics from UTS and the UoM in a multi-disciplinary project team.

Members included doctors, nurses, health educators and researchers, curriculum researchers, and applied linguists with expertise in curriculum design, communication, discourse and language analysis and teaching, organisational ethnographic research and clinical practice. The team also had expertise in teaching and learning related to cultural and linguistic diversity in health contexts. The team's approach was to develop a socially-oriented functional analysis of communication in authentic settings from which we could build resources to support the situated and interprofessional learning of effective communication in high-risk, high-stress settings. The resources and methodologies were developed to ensure they are applicable to a range of healthcare contexts beyond high-risk settings. The central teaching methodologies combine

experiential learning and methodologies from language education. The project developed resources and materials that draw on authentic examples of clinician–patient consultations, and are built from the analyses of those consultations, highlighting the features of both more and less successful interactions.

While UoM has been responsible for research and development from the perspective of medical practitioners, UTS team members have concentrated on nursing. This division reflects the clinical practice and the health education expertise of the team members. The reference group, made up of ED directors and clinical educators, provided key information and feedback throughout the project. The diagram below outlines the research and development processes and activities undertaken by UTS and UoM in order to develop relevant teaching and learning methodologies and produce the CHEC interactive learning resource about communication in the ED for medical and nursing students.

CHEC Research and Development Process



4.1 Project stages

There were five key stages over two years. At all stages of the project the team disseminated project findings and evaluated progress.

Stage 1: project initiation, scoping of current communication training, existing practice and needs and initial website design and set up.

Stage 2: initial development of the communication scenarios (drawing primarily on findings from the ARC Emergency Communication project).

Stage 3: the development of the pilot resources from the analyses and initial mapping along with dissemination of pilot materials.

Stage 4: intensive building of resources and development of teaching methodology (drawing on feedback from the pilot phase) and updating of the project website.

Stage 5: dissemination of final materials and evaluation. The colloquium will begin the dissemination process by providing an opportunity for key stakeholders to view the resources. All reports, materials and guidelines will be made available in downloadable formats on the CHEC website. The project has been evaluated by an independent evaluator with the final evaluation report included as Appendix 1 of this report.

Stage 1: Project initiation and scoping of current communication training and needs

Project initiation

The reference group played a key role in this stage. It advised the project team and facilitated access to hospitals for observations and interviews with student doctors and nurses. The reference group also advised the research team on identifying current practice in the scoping exercise; evaluated resources and methodologies developed and commented on implementation and dissemination strategies. The project was initiated with a meeting between the joint project leaders to confirm and document a common understanding of project goals, scope, team responsibilities and constraints. An experienced project manager was appointed. Research ethics approval from participating hospitals and universities was obtained for the needs analysis. This phase included establishing a project website, hosted by UoM and built by the Faculty of Medicine, Dentistry and Health Sciences' Biomedical Multimedia Unit. The project website has been a critical element throughout the project. Initially it contained an overview of the project aim and design, information about participating institutions and hospitals and contact details for the project team.

Scoping current practice

The project team undertook a comprehensive telephone survey of all Australian medical schools and several nursing schools to scope the current state of teaching and learning of communication in healthcare settings, focusing especially on emergency settings. The team sought advice from nursing and medical members of the reference group and from participating universities about key informants for the scoping review. The review searched for curricula and materials related to EDs and other high-risk, high-stress areas and examined and analysed current curricula and teaching materials. The scoping activities identified gaps in provision, such as the lack of suitable

materials for diverse learners and for changing work practices; inadequate coverage of communication issues for implementing systems and protocols, for example, for carrying out clinical handovers and for working as an interprofessional team. Following this exploration and review, current practice was identified again in consultation with the project reference group. Researchers from UTS and UoM exchanged their findings and jointly analysed the commonalities and differences between the disciplines and contexts. A report on the outcomes of the scoping exercise and identification of current practice was made available on the CHEC project website at the end of Stage 1.

Scoping needs analysis

Using scenarios based on the ARC-funded Emergency Communication project, the team members worked with the reference group to identify learning needs for communicating in EDs. From these discussions, researchers developed a protocol for identifying students' needs that guided further discussion of needs with clinical educators at participating hospital sites. This scoping led to a statement of students' communication needs, with a particular focus on high-risk settings, from the perspectives of medical and nursing educators. These perspectives were supplemented by interviews with and observations of medical students in EDs at the Royal Melbourne and Shepparton Hospitals (two of the teaching hospitals associated with the UoM) and with nursing students in the ED of St George Hospital. The observations included clinician–clinician, clinician–patient and interprofessional team communication. The observations and interviews were conducted by an educational linguist team member working with a clinical team member to ensure the language and clinical perspectives aligned. The researchers were careful to observe and interview students from diverse cultural backgrounds. The findings from both the nursing and medical students were analysed and compared with the perspectives of the medical and nursing educators. The overall findings from the needs analysis were made available on the project website as a report, *Statement of needs for teaching and learning effective communication in high-risk settings*.

The scoping activities identified gaps in provision, such as the lack of suitable materials for diverse learners and for changing work practices...

Stage 2: Initial development of communication scenarios

An important phase of this stage was the application of findings from the ARC-funded Emergency Communication project. Educational linguists, communication experts and other specialists on the team analysed Emergency Communication project transcripts to adapt them for teaching and learning purposes. The CHEC project ensured that the ethical guidelines of the Emergency Communication project for patient confidentiality and informed consent were upheld. The communication scenarios were developed in consultation with medical and nursing educators (team members and the reference group), with several communication scenarios mapped out and informed by the results of Stage 1. The team disseminated the findings of the analyses through the project website and at conference presentations in the fields of health education, higher education, language and learning and applied linguistics.

The Emergency Communication research identified two broad areas of communication that have an impact on the quality of the patient journey through the ED: (1) how medical knowledge is communicated; and (2) how clinician–patient relationships are established and built.

The Emergency Communication project proposed that patient-centred care should reflect both these aspects. The key features of these two areas and their subcategories are outlined in the *Communication strategies* tables on pages 10-11. These tables were used to structure the teaching and learning activities in the CHEC interactive learning resource.

Stage 3: Development and piloting of resources

Preliminary resource development, including writing scripts for the scenarios and developing teaching methodologies, was informed by clinical input from the nursing and medical educators on the team and the reference group. The resources were then piloted and participating educators and students gave feedback on the usefulness of the resources and effectiveness of the teaching approaches. This feedback informed the development of the online resource materials. Feedback on the pilot materials was also sought through workshop and conference presentations.

Stage 4: Intensive development of resources and teaching methodologies

All project team members were involved in the development of the resources. Scripts and communication goals were evaluated by clinical staff and the reference group to ensure authenticity and accuracy. Input was also sought from collaborating state institutions on the suitability of the methodologies to their teaching needs and contexts. During this stage of resource development a cycle of consultation was established between team members and the reference group, between the UoM and UTS, and between team members and colleagues in the medical school and nursing faculty of their own institutions. This consultation ensured the efficacy of the resources. The web developer (UoM) worked with an instructional designer to ensure that the videos were well integrated with the accompanying tasks. The resources were then tested by a range of users to identify any technical problems with the web interface, navigation and related processes.

Stage 5: Dissemination of final materials and evaluation

Engaged dissemination: colloquia, papers, report, website

The main focus of Stage 5 is dissemination of the project's outcomes and deliverables. The main platform for initial dissemination is the one-day colloquium to be held in August 2011 at UTS. The colloquium will be advertised through the project website, by the reference group members, on higher education e-forums such as the HERDSA electronic newsletter Unilearn, and through health education newsletters such as the Australian and New Zealand Association for Medical Education. Participants at the colloquium will receive bookmark flyers with the project website details as well as a copy of this *CHEC Final Report*. The colloquium includes a workshop component on implementing the resources and using the teaching methodologies. The final report will be available on the CHEC project website and will be linked to the ALTC website.

Evaluation

A formative evaluation strategy was used throughout the project and was embedded within each project stage. The evaluation strategies aimed to develop and improve the project's deliverables. The reference group played a key role in assisting the project team to review and evaluate progress and to involve stakeholders. The formative evaluation strategies focused on inclusive consultation, usability and impact. In terms of inclusive consultations, key informants in EDs and health educators were involved in meetings and teleconferences, providing an opportunity to discuss the project and to gather the information needed. In Stages 4 and 5, the evaluation focused on the resources and teaching methodologies. Evaluation in these stages included focus groups, interviews, questionnaires and feedback forms with users, both students and educators. Participating students were asked to consider the impact of this project on their learning and the extent to which the project raised the profile of communication learning in EDs. A formal evaluation of the project, by an external evaluator, is attached as Appendix 1.

Section 5

Results and Findings

The CHEC project relates to ALTC Priority Area 1) Research and development focusing on issues of emerging and continuing importance.

Communication skills in general are a major priority for graduates as identified in the *Graduate Employability Skills* report (DEST, 2007). Ineffective communication in health care that results in adverse events and patient complaints has been identified as a priority area by patient safety commissions nationally. High-risk, high-stress work areas such as EDs pose particular challenges for effective communication. While there are important implications for teaching and learning in the tertiary education sector there is limited documentation of current teaching practice and learning needs. To date, a major hurdle in this area has been the lack of quality, authentic teaching resources and appropriate methodologies to use these resources for student learning. This project addresses these shortcomings by providing resources and teaching methodologies to support future doctors and nurses to learn and teach effective communication. These resources and approaches have been informed by research into the learning and teaching of communication in emergency settings. The project draws on research into current practice and needs analyses based on interviews with educator informants and students. The project is informed by the data, knowledge and experiences of Slade and colleagues' ARC research into discursive practices in EDs (Slade et al., 2011).

5.1 Literature reviews

Literature reviews were conducted on communication in both nursing and medical education and these reviews informed the development of the CHEC project. It is also intended that these reviews be published in relevant journals following the completion of the project. Some findings from the reviews are outlined below.

It is well documented that effective communication is a major contributor to patient satisfaction (National Health

and Medical Research Council, 2004; O'Keefe, 2001; Salomon, Gasquet, Mesbah, & Ravaud, 1999; Sitzia & Wood, 1997) and that effective clinical communication results in better diagnoses, better patient compliance and fewer malpractice claims. However, there is no comprehensive picture of the teaching and learning of clinical communication skills in health education: little is known about its extent, relevance, effectiveness or inclusiveness. There has been no formal evaluation by stakeholders (patients, clinical educators, interprofessional teams) of graduating students' communication skills or work-readiness, particularly in high-stress workplace settings such as EDs.

Many of the findings made by Chant et al. (2002) were confirmed in the literature reviews including the variability of provision of communication skills training, poor evaluation of course outcomes, gaps between education and practice, the hierarchical structures in medical settings and the ongoing social and workplace barriers to effective communication.

The literature reviews presented EDs as characterised by unexpected and acute complaints where timely decision making and teamwork are essential. The emergency department environment presents a range of challenges including unresponsive and unconscious patients (Lorin, 2006), significant social barriers (Curtis, 2009) constant interruptions and multi-tasking (Coiera, 2002).

There is considerable interest internationally and nationally in the teaching of communication skills and practices in medical and nursing education; however, existing approaches do not sufficiently meet the communication needs of current nursing and medical students. This is because current approaches:

— *focus on discrete behavioural communication skills and lack contextualisation.* In the literature, there is little critical discussion of approaches used to practise and refine students' communication skills. For example, the widely adopted Calgary Cambridge model (Kurtz, Silverman, &

The literature reviews presented in emergency departments as characterised by unexpected and acute complaints where timely decision making and teamwork are essential.

Draper, 1998) for teaching clinical communication provides a detailed inventory of communication skills that health professionals need to master. A similar focus is reported in the nursing education literature (Chant, Jenkinson, Randle, & Russell, 2002). However, there is little or no discussion of the language used to effect such interactions or how the health professional's communication needs to be adapted to the health condition, age, cultural background and other variables of the patient or of the health delivery setting.

- *the non-authentic and decontextualised evaluation and assessment of clinical communication teaching and learning.* Evaluation of clinical teaching interventions tends to focus on measuring students' perceptions of the usefulness of the teaching (Couper, Hawthorne, Hawthorne, Tan, & Roberts, 2005; Rosen et al., 2004), while evaluation of their performance is strongly linked to assessment. In the medical context, student performance is mostly measured in the controlled setting of an Objective Structured Clinical Examination (OSCE) with a simulated patient (see e.g. Rosen et al., 2004). These evaluation measures provide little insight into student behaviours and the effectiveness of their communication when interacting with patients or other health professionals in the clinical setting. Indeed, patient perspectives on students' interviewing skills are seldom reported; however, one nursing review article reported student communication problems when dealing with particular groups of patients or clinical settings (Chant et al., 2002). Little is known of how students adapt their communication skills learning to the requirements of demanding multidisciplinary settings such as EDs.

- *display poor sequencing of communication skills teaching.* Communication skills taught in preclinical medical education are intended to foster patient-centred attitudes and behaviours. These can be overshadowed by the experience of the clinical years, resulting in some students displaying more doctor-centred attitudes and behaviours in the later years (Haidet et al., 2002). In the clinical years, teaching patient interviewing skills to medical students is integrated with other aspects of patient care. Because of time pressures clinical educators rarely observe whole student–patient interviews or give feedback on interactions with other health professionals (Silverman, 2009). In pre-registration nursing education, communication skills tend to be taught in first year with an emphasis on developing interpersonal skills that facilitate helping, such as listening, empathetic understanding and responding appropriately. Because pre-registration nurses have limited clinical exposure to high-risk, multi-participant situations, interpersonal skills are rarely contextualised to the ED, even though nurses play a critical role in such high-risk contexts. The literature indicates the benefits of communication skills training and its potential impact on the ability of clinical staff to communicate effectively (Ammentorp, 2007; Bambini, 2009; Rosenzweig, 2007; Zavertrnik, 2009).

— *make limited use of high fidelity, contextualised, authentic resources.* Undergraduate clinical communication teaching commonly uses simulated doctor–patient interviews as well as schemata developed from doctor–patient consultations to identify staging and goals (for example Lloyd & Bor, 1996). However, there is little recognition of the diverse functions that doctor–patient interviews may have, and how this may impact on the dynamics of the interaction as well as on the language choices (Woodward-Kron, 2008). Furthermore, training videos commonly used to model health professional–patient communication tend to be semi-scripted and staged dialogues between two interactants, resulting in exchanges that are sequential and uninterrupted by environmental elements such as staff, telephones and other modalities. Such models can show little of the complexity of the communication in EDs or other high-stress settings.

Nursing and medical education programs are increasingly adopting simulation in both undergraduate and graduate degrees. This response to limited clinical placement positions indicates acceptance of simulation as a useful adjunct to clinical teaching that may improve clinical learning. Recent new technologies have resulted in the availability of high-fidelity patient simulators that are used to facilitate scenarios where students respond to realistic clinical situations. These scenarios need to be well-scripted and be as lifelike as possible, as participants need to feel as though the scenario is a realistic simulation of clinical situations that may arise. Simulation, like experiential learning activities, results in an embodied encounter that is spontaneous and unable to be pre-determined, thus mimicking actual clinical situations. Currently, there is a lack of resources based on an analysis of what actually occurs in authentic clinician–patient interactions.

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Cutting across these teaching and learning issues is the increasing cultural and linguistic diversity of the student body in medicine and nursing. Cultural and linguistic diversity bring particular intercultural communication challenges. Overseas-born students need to adjust to learning and practising health care in new settings, with patients from unfamiliar cultural backgrounds in a country with high levels of migration. Australian-born clinicians are similarly challenged by the diversity of their colleagues and their patients. Our experience as intercultural communication educators suggests that many health educators are ill-equipped to incorporate intercultural communication skills into their teaching yet are well aware of the need to do so.

The focus on effective interprofessional and clinician–patient communication in emergency settings provides a context in which to embed an innovative approach to communication teaching. By developing materials from authentic emergency department interactions, the resources can be situated in a recognisable context of practice that can be explored in all its complexity and with all its challenges.

5.2 Scoping of current communication needs

National scoping of nursing curricula

All of the 38 Australian universities that offer an undergraduate nursing degree were contacted during the latter half of 2009 and asked to participate in a curriculum scoping exercise. Nominated representatives of seven schools of Nursing completed the scoping survey. The findings indicated that there was a dedicated interpersonal communication subject in the first year of the three-year program. The rationale for placing this subject in the first year was that communication skills were deemed to be ‘foundational’ to nursing practice and a competency requirement of the Australian Nursing & Midwifery Council (ANMC). Subjects were offered in a lecture and tutorial mode. Tutorials used role plays and discussion groups as teaching strategies. It was

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assumed that further development of communication skills occurred in subsequent subjects. Formal assessment of learning primarily took the form of essays that involved reflection, with the assumption that subsequent assessment took place during clinical placements, although there was recognition that this might be haphazard. No programs included communication specific to EDs, although some had a specific focus on related areas such as crisis, disasters, and patient anxiety and aggression.

Focus group interviews with students

Fifteen students in the final third year of their undergraduate program at UTS participated in focus group interviews in October 2009. The students reported that the communication subject that they had taken in the first year of the program had not seemed relevant to them at the time, especially because interpersonal communication had been taught in a de-contextualised, simplistic and generic manner. It was not until they entered the clinical setting that they came to understand the challenges and complexity of communication in nursing practice. The students reported that they would have preferred that a communication subject be placed later in their program when they were more fully aware of the importance of good communication. The students also reported that they thought the best place to learn communication skills was in the clinical setting where they could observe other nurses and interact with patients; learning from both good and poor examples of communication. They also reported that, in retrospect, they came to appreciate the learning value of the role-play activities that they had completed in the first year subject.

The students also commented that their mental health clinical experience was the most challenging for communication with patients. They did not feel prepared for this experience and were fearful of 'saying the wrong thing' to a mental health patient. The students also reported that they had no experience in high stress and emergency situations as they were often told to stand back from these situations. They said they would have appreciated having some experience in emergency situations as they recognised that after they graduated and were registered they would be expected to perform in emergencies.

Interviews with academic staff

At UTS, six academic staff were interviewed individually and nine clinical facilitators took part in a focus group interview. They all taught in a variety of subjects and clinical settings, including mental health and medical surgical nursing. All were positive about the need to develop communication in the nursing undergraduate program because they saw it as central to nursing practice and a competency requirement of ANMC. They referred to the formal subject in the first year course but recognised that the clinical setting was vital to developing students' communication competency. While there was some assessment in the communication subject, these educators acknowledged that assessment of communication in the clinical setting was not formalised. In addition, clinical facilitators expressed frustration with their inability to assess student communication in the clinical setting due to time constraints and assessment of other clinical skills. All of the educators acknowledged that, although there was some clinical experience during the undergraduate program, newly graduated nurses would have to 'learn on their feet' with regards to communication. This would especially be the case in emergency situations because students would have had little exposure during their undergraduate education.

The educators noted the challenge inherent in cohorts with students for whom English was an additional or second language. In fact, educators brought up this topic spontaneously during the interviews as soon as the topic of communication was introduced. There was much discussion about the reluctance of these students to participate in classroom activities such as role-plays and in communication with patients and staff during clinical placements. The educators also reported difficulties with having to teach at a different pace when students did not speak English as their first language.

National scoping of medical curricula

Curriculum scoping

The project team contacted a senior academic representative at all 19 Australian university medical schools in late 2009/early 2010 and asked them to complete a telephone survey of communication skills teaching in their courses. The data show that all medical schools include communication skills as a core subject, typically a communication skills component that is built into a clinical skills subject during the first two pre-clinical years of the course. Few schools focus specifically on communication skills in emergency situations. Twelve schools include some communication skills in the emergency situation, almost all in the context of advanced life support simulation training. The most common methods for teaching general medical communication skills were through observation, role play with simulated patients and explicit instruction. Textbooks were the most common resources, especially *Skills for Communicating with Patients* (Silverman, Kurtz & Draper, 2005) and *Communication Skills for Medicine* (Lloyd & Bor, 1996). Nine schools use film resources and three use online programs. Communication skills are mainly assessed by Observed Structured Clinical Examinations (OSCEs). All schools report some focus on intercultural communication, which often includes Indigenous health issues. The main reasons for including communication skills in the curricula were research evidence of the need for communication skills for medical students and the need to meet Australian Medical Council (AMC) accreditation and respond to perceived doctor–patient communication problems. The threats to the effectiveness of communication skills programs were limited time, money, staff availability and training and increased student numbers.

Educators thought that students should listen to patients, show respect, acknowledge family members in the ED, focus on the major presenting problem, interact with patients... and with allied health and services outside the hospital.

Educator perspectives

While educators agreed that good communication skills can be taught, they believed that they must be contextualised in the clinical setting, be meaningful and provide the opportunity for practice. Educators thought that students should listen to patients, show respect, acknowledge family members in the ED, focus on the major presenting problem, interact with patients from a wide range of backgrounds and with allied health and services outside the hospital. In the ED, opportunities for students to practice communication skills are very limited and they receive very little feedback on communication skills and tutors rarely observe students interacting with patients. Some educators thought that there is an opportunity for communication skills in the ED to be built into an OSCE, that simulation provides a controlled environment and that registrars are a possible resource. A major challenge for communication in EDs is developing skills in identifying the crucial information in an environment where you are bombarded with information and frequently interrupted.

Student perspectives

Medical students who were asked about communication skills teaching programs suggested that pre-clinical communication skills teaching was largely irrelevant in the clinical rotations where the emphasis is mainly on learning how to present patients to consultants and registrars. There is little formalised communication skills teaching in the ED. The students considered that they learned communication skills by observing both good and poor communication and that while there may be some opportunities for reflection there is little or no feedback on communication skills in the clinical years of the medical course, apart from OSCEs. While most students believe that they can learn communication skills by osmosis, they would appreciate the opportunity for more practice with patients and being given feedback from direct observation.

5.3 Piloting the web-based multimedia resource

The CHEC reference group members were pleased with the progress of the resource when it was trialled at a meeting in Melbourne in June 2010. They welcomed the fact that it is interdisciplinary, informed by evidence, and that it presented realistic emergency department scenarios.

The meeting discussed the following key points that contributed to the development of the resource.

- The meeting recognised that while the resource could not cover all aspects and challenges faced in the ED, it was important to show the complexity of the ED environment and the fact that patients often present with complex and multiple health issues.
- The inclusion of elderly patients was seen as valuable as this was commonly the profile of ED patients who have multiple health issues. It was recommended that the resource use a patient scenario that was complex, e.g. an elderly patient with independence and mental health issues.
- The concept of the patient journey was well received as a framework that would provide a logical visual and interactive information pathway through the resources.
- While many of the challenges in EDs are organisational, it was felt that the scenarios presented captured some of the key issues such as patients being seen by multiple staff members, interruptions, noise and distractions and the patient and family members not knowing what's happening and being anxious.
- The resource needed to be adaptable and flexible so it could be used for both classroom and self-access use in both medical and nursing settings, including the opportunity to be learner driven.
- There is a need to replicate the complexity of the ED environment, not just with patient stories but also with sounds and images that reflect time pressures and interruptions. Students should also be provided with opportunities to interact.
- The meeting highlighted the importance of including cross-cultural communication and intercultural factors including the role of family in the ED.
- The meeting agreed that the resource needed to fill in gaps rather than reproduce what had already been done.

The resource was piloted with 20 first year Bachelor of Nursing students. The overall response was positive: students were engaged by the online activities that encouraged discussion with fellow students. Many suggestions for changes were recorded and incorporated into the ongoing development of the resource. For example, a preference for live action was translated into video segments in the vertical journeys of Ken and Marlina. The majority of students noted that they had learnt 'slightly' or 'significantly' more about communication in the ED. However, feedback suggested that the feeling of being in the ED needed to be heightened with appropriate sounds and interruptions in the visual clips. As a result of this feedback, several scenes were re-shot and re-recorded to improve the authenticity of the ED interactions. The piloting also led to improvements to layout and navigation. It became clear that the fact that the interactions were drawn from authentic materials needed to be emphasised so the students understood that they were observing scenarios that had occurred in real life. Nursing students found the resources more compelling when they knew the scenarios were based on authentic data.

The project team delivered a large number of presentations to academic colleagues and their suggestions for activities have been incorporated into the resource. These included issues raised about clinical handover, for example using the telephone and using a standardised handover protocol that is used in many hospitals (i.e. ISBAR).

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Section 6

Dissemination and Linkages

6.1 Dissemination

The CHEC project website was established early in the project's life and has been an ongoing point of dissemination throughout the project. It has allowed for timely dissemination of project findings, for example, the results of scoping and literature reviews were summarised and available on the website as they were completed.

A key focus of the dissemination strategy is the one-day colloquium to be held in August 2011 at UTS. The colloquium will be advertised through the CHEC project website and key stakeholder networks will be informed through emails and listservs, as discussed earlier. Participants at the colloquium will receive a copy of this *CHEC Final Report* and will participate in a workshop on implementing the resources and using the teaching methodologies. The reference group members will have a key role in dissemination in medical and nursing education settings. The final report will be available on the project website and linked to the ALTC website. Team members have also disseminated the project's work through key conference and seminar presentations, outlined in Appendix 2.

6.2 Linkages

Existing and recent national projects have contributed to the comprehensiveness, validity and impact of the CHEC project. First, the research findings of the ARC Linkage project *Emergency Communication: Addressing the challenges in health care discourses and practices* (Slade et al., 2011) informed the development of the multimedia resources. Secondly, the project draws on Department of Human Services funded multimedia projects for communication training of international medical graduates currently in progress at the UoM (Dr Woodward-Kron, Dr Flynn). Thirdly, the project has been informed by the findings of a pilot study on clinical handovers, led by Diana Slade at the UTS and carried out

in collaboration with the NSW, ACT and WA Departments of Health (see McGregor et al., 2011).

The pilot project on clinical handovers was the first stage of a recently funded three-year ARC project (led by Diana Slade) that will involve audio and video recording, analysing and describing approximately 60 handovers across 18 sites in four different states — WA, SA, NSW and ACT. This national project commences in July 2011.

Project members from both universities are in the process of designing new curricula. The UoM is implementing a graduate medical program (MD), developed by Professor McColl and colleagues, that will replace the existing MBBS. The undergraduate nursing program at UTS is being revised over the next 18 months. The CHEC resources and methodologies are now available to be incorporated into the new degree programs at the respective institutions.

The cross-disciplinary outcomes of the CHEC project can be applied to a range of other medical and nursing contexts. Because the resources are based on authentic interactive data and apply innovative teaching methodologies, students in many different subjects would benefit from their use. The project takes into account that the extent and integration of communication teaching in nursing and medical education varies considerably from institution to institution. While the focus of this project is communicating in emergency and high-stress, high-risk settings, many institutions will welcome resources tailored to the Australian healthcare context that also address more generic principles of effective clinical communication such as patient-centredness.

Section 7

Success and Challenges

7.1 Critical success factors

The professional and intellectual composition of the interdisciplinary team meant that individual members brought a range of high level skills, knowledge and expertise to the project, with clear ideas about the range of communication issues in the emergency context. Further, the project reference group, consisting of nursing and medical professionals who shared a keen interest in and commitment to health communication education, provided valuable direction and expertise to the project.

The multimedia resource draws on authentic data gathered by the ARC Emergency Communication project. This was important as the scoping and literature reviews identified the lack of teaching resources based on authentic data. The use of authentic data enhanced the unique value of the CHEC resource and demonstrates a productive link between research and practice.

The initial consultation and feedback from the stakeholders in the field (surveys of nursing and medical educators, the reference group and the focus groups) informed the project team about the current state of teaching and learning in health communication in Australian universities and was a key factor in the development of an effective teaching and learning resource.

The project team actively disseminated the project's findings at each stage by discussing them with the reference group and key stakeholders; by presenting at conferences and seminars; and by publishing findings on the project's website. The project's website has been particularly important as an ongoing online method for disseminating key findings.

The responsiveness of the project team to feedback from the consultations and piloting and the flexibility of the team to make ongoing changes in developing the resource was critical to the quality of the final product.

7.2 Challenges and limitations

As with many projects, unexpected challenges emerged. The geographical distance between project teams and the inability to meet face-to-face regularly, challenged the organisation and operation of some aspects of the project. However, regular phone link-ups were held to attempt to compensate for the lack of face-to-face meetings.

The multimedia production, based at the UoM, was a time-consuming and demanding process; the team has relied on the UoM to undertake all aspects of this production, creating a larger share of the workload for the UoM team in Stage 4.

The scoping phase of the project was more time intensive than expected as it involved contacting the 38 institutions that teach nursing nationally to arrange interviews and surveys. Piloting the resource was limited by the constraints on student availability due to clinical placements and exams.

Filming the video triggers involved recruiting a number of actors and since all the interactions involved several health professionals, this impacted on employment costs. Furthermore, the lack of a pool of ethnically diverse simulated patients and actors was a major barrier to recruiting participants (patients and health professionals) who could be representative of the ED environment.

7.3 General lessons learnt

The scoping and needs analysis phase of the project was conceptualised as a stage to be completed in six months in order to inform Stage 2 (initial development of resources). However, there are benefits to be gained from viewing scoping as an ongoing activity because time is needed to establish trust and maintain relationships with clinical teachers and other hospital staff.

Identifying key informants to participate in the nursing curriculum scoping within the nominated timeframe also emerged as a challenge. In some instances, we may not have interviewed all key informants and as a result we are viewing the scoping phase as informative but not conclusive. It was, however, valuable and beneficial in terms of the data produced as well as raising the profile of the project.

We learnt that designing teaching and learning materials for professional environments requires ongoing piloting and feedback. The creative writing process and producing storylines based on authentic data required extensive time to read and select suitable extracts and to develop the video scripts in a way that truly reflects the real life communication events recorded.

A key lesson learnt during Stage 4 of the project is that the complexity of producing innovative online resources across two interstate locations meant more face-to-face meetings and workshops were required.

Section 8

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Section 9 Appendices

Appendix I: CHEC Final Evaluation Report

A Process Evaluation of the ALTC Project Communication for Health in Emergency Contexts (CHEC): Final Report

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Background to the evaluation

In order to accomplish a task, team processes operate as a mediating factor between project resources and project achievements. Team processes involve members of a team working interdependently using the resources available to the project (e.g., expertise, funding) to produce specified outcomes (Marks, Mathieu & Zaccaro, 2001). Efficiency of team processes is clearly a major factor underlying successful achievement of project outcomes (LePine, Piccolo, Jackson, Mathieu & Saul, 2008). For this reason, it is important to evaluate how team processes over the life of a project might impact upon achieving project objectives.

Purpose of the evaluation

The purpose of this evaluation was to examine the extent to which team processes and other factors across the life of the CHEC project enabled or hindered the achievement of project objectives. The evaluation aimed to provide a basis for reflection and possible improvement of project procedures (e.g., Scriven, 1967). To achieve this aim, the evaluation incorporated a feedback component, whereby the project team had the opportunity to respond to an evaluation at the project mid-point, by developing strategies to deal with challenges identified at the mid-point, in the final year of the project. The mid-point evaluation provided useful information to the members of the project team about successes and challenges of team and project procedures and activities during the first year of project. By providing this information at the mid-point of the project, the project team members had the opportunity, within the current project, to respond to perceived challenges in accomplishing project tasks. This final evaluation provides a reflection on team processes over the 2-year project. It is likely to be of value for designing future projects because it identifies team strengths and challenges; highlighting approaches identified by the team to reduce the impact of challenges. As designed, the evaluation also satisfies ALTC requirements to report on factors implicated in the project's successes, as well as factors that impeded its success.

Evaluation methods

A plan for the evaluation was developed in consultation with the project team, who provided feedback that was incorporated in the final form of the evaluation plan.

The evaluation comprised five main components:

1. Individual in-depth interviews with four key project team members (two from the Sydney team and two from the Melbourne team) were used to develop a brief analysis of the effectiveness of team processes and other factors in achieving the goals of the project in its first year. This evaluation report was included in the first year CHEC progress report.
2. Project team members were invited to review and discuss the Year 1 evaluation and to provide feedback. It was recommended that they develop a plan for (a) building on positive aspects and (b) minimising the impact of challenging aspects of the strategies utilised to achieve the project objectives.
3. At the end of Year 2, a second round of interviews with six project team members was used to evaluate team processes over the course of the project and to assess the degree to which the team responded to the challenges of Year 1. In general, the interviews sought to elucidate those aspects of team processes that worked well (and why they worked), and those aspects that were challenging (and why they were challenging). For those aspects that were challenging, project team members were asked to reflect on what could be done differently in future collaborations.
4. Observations of one reference group meeting at the end of the first year of the project, as well as two whole team meetings, were incorporated into the evaluation. These meetings allowed the evaluator to observe team interactions and reference group involvement, and to assess progress towards goals.
5. This final report summarises the findings of the evaluation, it includes a brief summary of the analysis of Year 1 interviews, findings from the Year 2 interviews, and incorporates observations from the reference group meetings and team meetings attended where relevant.

Evaluation findings

At the end of Phase 1 of the project, the team held positive views about the functioning of the team; giving high ratings across nine team process elements. In particular, team members felt strongly that team meetings functioned well in making progress on the project. The team also held high opinions of the effectiveness of communication within the team, the team's capacity to resolve disagreements, and the team's shared understanding of the goals of the project. Further investigation of individual ratings was undertaken during individual interviews. Overall, the team began the project well effectively and reported few difficulties in establishing the team and gaining commitment to the project. It was clear, however, from the Phase 1 evaluation that maintaining effective communication in the larger Melbourne-Sydney team would be an ongoing challenge. Regular teleconferencing, face-to-face meetings where possible and distributing meeting minutes to the wider team for comment were employed as strategies to ensure team members were informed about the progress of the project and included in decision-making. At the midpoint of the project, the clarity of roles in the team had also emerged as a challenge and was identified as a focus of attention for the final phase of the project.

Through the second phase of the project, CHEC team members have continued to work together to achieve the goal of producing a multimedia resource to facilitate teaching of effective communication in emergency health contexts. Phase 2 of the project had a significantly different focus than Phase 1, with the production of the multimedia resource now the central focus of team activities. At the beginning of the Phase 2 interviews, project team members rated a number of statements about team processes. These statements were also used in the mid-point evaluation to focus the interview on the efficacy of team processes. Table 1 summarises ratings on these items. Grey shading indicates responses to the final evaluation and the solid lines shows ratings on the same items at the midpoint evaluation. In general, the team regarded team processes as effective. There was a tendency for similar or slightly lower ratings at the end of Phase 2 than at the midpoint evaluation, with the exception of communication in the team which provided a greater challenge during the second phase of the project. The main function of these ratings was to generate reflection among team members about the strengths of the team and elements of team processes that were challenging. These reflections are summarised in the following sections.

Table I. Summary of Ratings of Team Process Evaluations

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Team meetings are an effective way of moving the project forward				
[Bar chart showing approximately 85% in Agree and 15% in Strongly Agree]				
The project team has a shared understanding of the goals of the project				
[Bar chart showing approximately 75% in Agree and 25% in Strongly Agree]				
All team members contributed to making decisions				
[Bar chart showing approximately 80% in Agree and 20% in Strongly Agree]				
The team received adequate support from other organisations (e.g. the University, ALTC)				
[Bar chart showing approximately 80% in Agree and 20% in Strongly Agree]				
The team has effective strategies for resolving disagreements				
[Bar chart showing approximately 70% in Agree and 30% in Strongly Agree]				
Project team members have clear understanding of their roles in the project				
[Bar chart showing approximately 75% in Agree and 25% in Strongly Agree]				
The team has handled challenges well				
[Bar chart showing approximately 70% in Agree and 30% in Strongly Agree]				
Team members work better together now than at the start of the project				
[Bar chart showing approximately 75% in Agree and 25% in Strongly Agree]				
Communication within the project team was effective				
[Bar chart showing approximately 70% in Agree and 30% in Strongly Agree]				
Team members work better together now than at the midpoint of the project				
[Bar chart showing approximately 70% in Agree and 30% in Strongly Agree]				

Team strengths

The CHEC project drew on the extensive knowledge of team members in medicine and linguistics to develop the multimedia resources and there was clear evidence of creative synergy in the interdisciplinary nature of the project. The establishment of a project team that spanned two states enabled the team to benefit from broadening their networks and to establish contacts that could provide feedback to the project.

At the same time, the project team also felt that the interdisciplinary nature of the team and the dispersion of the team across states presented a challenge for effective communication that the team had to address across the course of the project. In the main, this challenge was met effectively through the use of regular teleconferences and distribution of meeting minutes for comment. Regular meetings provided momentum to the project and were critical in developing project goals and distributing tasks. Although face-to-face meetings were conducted less frequently, all team members agreed that these meetings were most beneficial

in moving the project forward, generating valuable ideas and enhancing team cohesion. The team put a great deal of effort into communication in an effort to reduce the barrier created by having a team spread across states; the team discussed important issues and made an effort to ensure all views were considered.

Team members had a strong commitment to the project, a belief in its importance and a common vision for what they were trying to achieve. An overarching vision provided a solid foundation for the project and provided stability for the team during challenging times. All team members had other commitments in addition to the CHEC project, but all continued to commit significant time to achieving the project goals. Effective leadership of the teams was also a critical factor in providing momentum for the project and ensuring project deadlines were met.

The team used the first phase of the project effectively to gather knowledge about the context and to gain clarity on

what they were trying to achieve. As the team moved into the second phase of the project, they knew other team members better and were more familiar with team member's work styles, capabilities and interests. Although conflict sometimes occurred, this was generally regarded as a means promote to team development, through negotiation and communication, rather than a negative event.

Team challenges

The geographic distance between the Melbourne and Sydney teams inevitably presented a challenge to effective functioning of the team. It was difficult for individual members of the Sydney and Melbourne teams to get to know members of the other team and with the benefit of regular face-to-face contact and more frequent communication the individual Melbourne and Sydney teams had moved more quickly in developing effective team processes. Reliance on email as the primary form of interaction tended to increase the possibility of misunderstanding and slowed down decision-making because it generated a large volume of communication. Some members of the team emphasised that it was essential to sometimes telephone other team members to clarify email content and speed up the decision-making process.

The second phase of the project shifted from a period of project scoping to a phase where the focus was on production of resources. This transition created challenges for communication as the form of the resource that the team were developing had to be negotiated. Although there was agreement that the team shared a common vision for what they wanted achieve, the team had to negotiate different viewpoints on the best way to achieve project goals.

At times, unclear demarcation of roles was seen by team members as a challenge to the effective functioning of the team. Team members tended to take on roles in a more ad hoc fashion, rather than adopting agreed roles from project commencement. There was sometimes confusion about the

tasks for which individual team members were responsible, but in the second year, as the project progressed, greater clarity was achieved. The range of professional expertise in the team was a clear strength of the project but also challenged the team to negotiate what individual team members could contribute to the project at different stages.

Learning from the current project

It was clear from discussions with project team members that they had learned significantly from the experience of conducting the project and developing the multimedia resources. In some respects, what was learned related to elements of the project that team members perceived were highly successful and contributed to the project's success. In other respects, what project team members learned related to elements of the project they felt had hindered the progress of the project and which they would like to change were they to undertake the project again. The main themes identified by project team members as critical aspects of the project's success and those aspects project team members identified as aspects to change are described below.

Aspects of the project to retain

Project team members identified several elements of the project that were critical to its success. These elements included:

- The rich data source that was the impetus to the project provided a strong basis for undertaking the project.
- The use of a range of mediums (face-to-face meetings, teleconferences, phone conversations, Skype and email) was helpful in communicating regularly to keep project team members informed and to keep the project on track.
- Face-to-face meetings were highlighted as a highly effective means of advancing the project and there was a desire for more face-to-face contact in future projects.
- The team overall had a strong sense of commitment to the goals of the project and felt a responsibility to achieve the final product.
- Broader networking has been undertaken by team members throughout the project. Contact with the reference group and presentations at conferences have contributed to broader dissemination of the progress of the project.
- Piloting of the resources provided valuable feedback to further develop the resource
- Working together in small groups across states was extremely valuable, but due to funding constraints these opportunities were limited.

Aspects of the project to change

- Establishing a clear path to the development of the resource at the start of the project through intensive face-to-face meetings might have provided more momentum to the project earlier.
- Clear articulation of the roles at the start of the project, rather than allowing them to evolve over the course of the project, was identified as a means to provide greater clarity among team members about role expectations.
- A greater opportunity to work in small teams, particularly with team members from different states, was seen as desirable. Small group work was valuable for participating members and also added to the overall cohesion of the larger team.
- Project coordination would be facilitated by assigning a dedicated administrative officer in both Melbourne and Sydney.
- Additional input from ED clinicians would be valuable.
- Establishing a role from the beginning of the project dedicated to generating publications from the project would be useful.
- Additional team reflection aimed at understanding and promoting the process of team development may be useful.

Conclusions

The evaluation of the CHEC project focused on highlighting team processes that were most effective in achieving the goals of the project and identifying aspects of team processes that were challenges to effective functioning of the team. The evaluation comprised a formative component at the mid-point of the project that provided feedback to the team to promote reflection on their progress in team development in the first phase of the project. This final evaluation report summarises the team strengths and challenges across the final phase of the project.

Project team members identified a number of strengths in the team that contributed to achieving project goals, including the productivity of team meetings (particularly those conducted face-to-face) and the establishment of shared goals. The major challenge to effective team processes was communication, particularly when team members were located in different states. Nonetheless, the team demonstrated awareness of this difficulty and instituted strategies (such as regular teleconferences and minuting of meetings) to ensure the wider team was informed of the progress of the project and were able to participate in decision-making.

Since the midpoint of the project, there has been a rapid acceleration in the intensity of tasks as the development of the multimedia resource was undertaken. The team has collaborated successfully to produce an educational resource that has been widely publicised over the course of the project, which demonstrates the importance of a strong vision for what the project was trying to achieve. This vision and the team's commitment to the development of the resource have enabled the team to achieve the goals of the project.

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Evaluation Appendix I

Phase 2 interview questions

Provide ratings on the following aspects of the CHEC team's processes over the course of the project.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
The project team has a shared understanding of the goals of the project					
Project team members have clear understanding of their roles in the project					
Communication within the project team was effective					
All team members contributed to making decisions					
The team received adequate support from other organisations (e.g. the University, ALTC)					
Team meetings are an effective way of moving the project forward					
The team has handled challenges well					
The team has effective strategies for resolving disagreements					
Team members work better together now than at the start of the project					
Team members work better together now than at the midpoint of the project					

Reflect on your responses to the questions above.

- For those questions where you provided agree or strongly agree responses, choose the three areas of team functioning that you think most reflect the strengths of the team and made the most difference to the team achieving its goals.
Give examples of how the team has worked well in these areas (overall or within the individual Melbourne or Sydney teams) and explain how you believe these things have helped the team to achieve its goals.
- For those questions where you provided neutral, disagree or strongly disagree responses, choose the three areas of team functioning that you think provided the biggest challenges to the team achieving its goals.
Give examples of how the team has not worked so well in these areas (overall or within the individual Melbourne or Sydney teams) and explain how these things worked against the team achieving its goals.
- In what ways do you think the team works better now than since the midpoint of the project?
- Are there any aspects of the way the team works that are worse than at the midpoint of the project?
- If you were to undertake this project again, what aspects of it would you definitely do again? What aspects have been crucial to its success so far?
- On the other hand, if you were to undertake this project again, what aspects would you definitely want to change and how?

Appendix 2: Conference, seminar and workshop presentations

Date/s of the event	Event title, Location	Brief description of the purpose of the event	Number of participants	Number of Higher Education institutions represented	Number of other institutions represented
10 June 2009	NSW Department of Health, Sydney (UTS)	Presentation — Emergency Communication: Interim Findings.	20	1	5
20 August 2009	Project presentation Medical Ed Unit, Melbourne	To introduce the project to an audience of medical educators.	15	1	1 (Royal Melbourne Hospital)
8 Sept 2009	Ilana Rischin Oration, University of Melbourne (UTS)	(affiliated event) To present findings of affiliated ARC Emergency Communication project. Provided opportunity for team leader to introduce ALTC project.	40	4	Hospitals represented
15 Oct 2009	Reference group meeting — teleconference	To discuss project aims and findings so far; to establish procedure for engaged evaluation and dissemination; to draw on skills and expertise of the reference group members.	15	4	5 (hospitals and colleges)
Nov 2009	13th annual Cabrini Research Day, Cabrini Institute, Melbourne (UTS)	Keynote address: Emergency Communication: Understanding the challenges of effective patient clinician interaction in emergency departments.	100	4	15
19 Feb 2010	Seminar /presentation (UTS)	Developing effective doctor/patient consultations: the relationship between the medical and the interpersonal. ELTON Consultancy	25	2	3
24-25 Feb 2010	ALTC Project Management Workshop, Sydney	Project manager participated in the workshop to gain skills and knowledge. Presented the CHEC project and examined the management procedures.	16	16	0
25 May 2010	Presentation to rep from Linkoping University (Sydney)	Linkoping has large repository of health communication skills teaching resources – CHEC wishes to establish collegial links with this university.	11	3	0

Date/s of the event	Event title, Location	Brief description of the purpose of the event	Number of participants	Number of Higher Education institutions represented	Number of other institutions represented
10 June 2 2010	Reference group meeting – Melbourne	To present the progress of the project. To outline the procedure for engaged evaluation and dissemination; to draw on skills and expertise of the reference group members.	12	4	5 (hospitals and colleges)
June 2010	ALTC health sciences seminar series, UoM	To present findings of scoping phase.	25-30	1	0
28-30 June 2010	COMET Conference Boston	Conference presentation.	170	Worldwide representation	Worldwide representation of hospitals
2 July 2010	ACEM Education Meeting, Melbourne	Invited Presentation of CHEC Project to Emergency Medicine specialists in a College Education meeting.	12	N/A	Many major Australian teaching hospitals
August 2010	ANZAME Townsville, (UoM)	Presented a paper on project findings and proposed resources.	250-300	National conference	National conference
6-8 Sept 2010	Australasian Conf on Safety and Quality in Health Care, Perth (UTS)	Presentation: Pathways to Effective Emergency Communication.			
4-8 Sep 2010	AMEE	Conference presentation.	3,000	Worldwide university reps	Multiple health service
7-10 Nov 2010	Melbourne National Prevocational Medical Education Forum	Conference presentation.	500	Multiple	Multiple Health Services & Hospitals
21 Nov 2010	Australian College of Emergency Medicine Annual Conference	Invited workshop on Emergency Communication: Improving the quality and safety of patient care through Effective communication.			
22 Nov 2010	UTS Learning and Change Seminar	Present a paper on project findings and proposed resources.	20	2	n/a
6 Dec 2010	Healthcare Communication Symposium, University of Melbourne	National symposium hosted by The University of Melbourne including speakers from Hong Kong, bringing together healthcare communication researchers, teachers and health professionals. www.meu.medicine.unimelb.edu.au/HCCS	89	14	10 (hospital, health departments), health professional training organisations

Date/s of the event	Event title, Location	Brief description of the purpose of the event	Number of participants	Number of Higher Education institutions represented	Number of other institutions represented
19 May 2011	Departmental seminar, University of Melbourne	Presentation of research and development activities: open to health professional educators and clinical colleagues from UoM.	15 -20	1	Several affiliated teaching hospitals
9 June 2011	Faculty of Medicine, Nursing and Health Sciences, Education Seminar, Monash University.	Monthly seminar for health professional education seminar to disseminate research and practice in health professional education (invited talk).	15-20	1	Affiliated teaching hospital

International collaboration

Date/s of the event	Event title, Location (city only)	Brief description of the purpose of the event	Number of participants	Number of Higher Education institutions represented	Number of other institutions represented
16 Mar 2011	International Roundtable on Healthcare Communication Polytechnic University, Hong Kong,	International Roundtable bringing together researchers, health professionals and health professional educators (invited speakers).	30	11 Universities from UK, Europe, Taiwan, China, Hong Kong, USA and Australia	10 (hospitals, health departments, private medical organisations and practices from many different overseas countries)
7 -14 May 2011	Intensive course on Applicable Linguistics, University of Science and Technology, Beijing	Intensive Course on Applicable Linguistics for Masters and Doctoral students and academics from across China.	60	10	

International fora where the CHEC project has been represented

Date/s of the event	Event title	Location: city and country	Brief description of participation
14-17 Sept 2009	5th Mediterranean Emergency Medicine Congress, (UTS)	Valencia, Spain	Paper presented -Emergency Communication: Addressing the challenges in health care discourses and practices
25 Jan 2010	Emergency Communication Seminar (UTS)	Hong Kong Polytechnic University	Presentation of emergency communication project data and the findings and proposed resources of the ALTC project.
24 June 2010	Invited presentation	New York USA	Director and team of Sloan Kettering Hospital's Psycho-Oncology Communication skills team.
28 June 2010	Invited presentation	Boston	Members of Harvard Medical School Communication Skills teaching program.
26-30 June 2010	Communication, Medicine and Ethics (COMET) UTS	Boston	Presentation.
August 2010	Association Medical Education in Europe (AMEE)	Glasgow	Present a poster on project findings and proposed resources.
5-8 Sept 2010	International Conference on Communication in Healthcare	Verona	Presentation: Doctor/Patient Communication in Hospital Emergency Departments: Contextual Complexity and Competing Discourses.
7-10 Oct 2010	Fortaleza, Brazil	Conference Presentation	Worldwide university representation.
12-14 Oct 2010	Plenary Speaker	La Plata, Argentina	Cohesion and Coherence in Spoken Interaction, Facultad de Humanidades y Ciencias de la Educación Universidad Nacional de La Plata.

