
Case Study



Dr Albert Ip

Deakin University

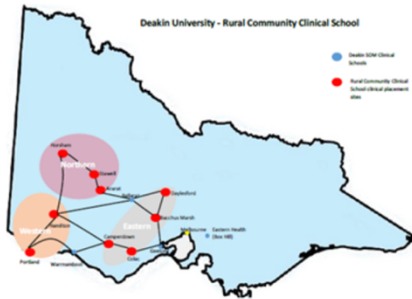
Regional Academic Coordinator, Rural Community Clinical School

This case study focuses on providing insights into the following key questions about implementation of modified undergraduate clinical education in a telehealth consultation environment:

1. **Context:** Provide a brief background about your institution, your learners and assessors.
2. **Purpose:** Explain the rationale for modified undergraduate clinical education in a telehealth consultation environment – what problems or challenges were you attempting to address through your approach?
3. **Design:** What are some smart design principles you used to maximise the success of your implementation? (Consider any international guidelines i.e. AMC standards)
4. **Implementation:** What challenges did you face in implementing the new approach? How did you maximise a smooth transition and take up of the new approach?
5. **Evaluation:** How did you evaluate the success of your implementation? On reflection, what if anything would you do differently if you knew what you now know?
6. **Future focus:** What are your next steps and what are you working on now to further improve your system of implementation?

CONTEXT

In 2016, the Deakin University Rural Community Clinical School (RCCS) was formed by the merging of the Department of Rural General Practice and the Integrated Model of Medical Education in Rural Settings (IMMERSe) program. This meant that there were now 5 clinical schools for the delivery of the undergraduate medical teaching program - Geelong, Ballarat, Warrnambool, Eastern Health and the RCCS.



The RCCS model has immersed 1-2 medical students for the entire academic year in regional General Practice for the core of this cohort of medical students' education. Together with parallel consulting with General Practitioners and Specialists that hold clinics in the local region, the program is further supplemented by one week's program of face to face contact as the whole cohort once a month to supplement and correlate their clinical skills, procedural skills and knowledge.

There are a number of weekly online education sessions with lecturers from each specialty group including Medicine, Surgery, Women's Health and Paediatrics. Supplementary online education resources were already in place prior to 2020.

As the covid pandemic evolved in 2020, the RCCS program had to modify to adapt to lockdown and social distancing restrictions. The GP component of the program had a rapid adoption of telehealth consultations and the face-to-face components were modified on an ad-hoc basis to accommodate such restrictions. These changes were organic and varied enormously between General Practices and across the different Clinical Schools. The end of year OSCE picked up on these experiences and was modified into a remote clinical examination. Telehealth components were added to the assessment criteria and processes. Anecdotal evidence revealed that RCCS students were more in tune with execution of the telehealth elements from patient identification processes to modifying history taking and examination in a telehealth environment.

In 2021, RCCS recognised the need to formalise telehealth consultation teaching in the face-to-face teaching programs and has adapted parts of this component of the program to address this.

Your opportunistic clinical learning in the RCCS is supported by a structured teaching program that includes:

- Weekly parallel consulting sessions in your GP practice
- Weekly online interactive tutorials and case discussions
- Fortnightly online medical specialist tutorials
- Local tutorials and clinical teaching sessions
- A one week face to face teaching program every 7 weeks
- Clinical skills and communication skills teaching program common to all clinical schools
- Access to updated cloud-based resources common to all clinical schools

Program outline

PURPOSE

The aim of the implementation of modified undergraduate clinical education in a telehealth consultation (TC) environment is to address skill areas that need development in response to the ongoing pandemic environment and in anticipation that telehealth medicine will continue to evolve in the Digital Health age.

RCCS recognises that TC should not be viewed as a substitute consultation, but as part of a continuum of the consultation spectrum from phone call (PC) to video call (VC) to face-to-face (f2f) consultation. A balance is required to be struck between the sufficient gathering of information to make an optimal medical management decision versus keeping safe in a pandemic environment the patient, health care provider and community.

To address this core need by RCCS, TC skill development is focussed across three key areas:

Skill Area 1: Consultation Readiness

The focus is to ensure the patient and student has capable technology to connect, identifying the patient and environment as appropriate and safe to conduct the consultation, and safety netting when technology fails

Skill Area 2: Telehealth Consultation Skills

Skills focus on time management through agenda setting, troubleshooting as situations arise, maximising information gathering, remote examination, discussion of preliminary differentials and setting out a management agenda.

Skill Area 3: Recognising the need to escalate up the spectrum

This area focuses on recognising the inherent limitations of each modality of virtual consultation and the indications/cues that would trigger escalation to an alternative form of clinical assessment. For example, the missing inputs of vision when conducting a PC and on-site physical examination on VC and when to escalate up the spectrum to assist in gathering sufficient information to make an optimal medical management. It also focuses on recognising a patient in distress in the telehealth environment.

DESIGN

Guiding principles

Modified undergraduate clinical education in a telehealth consultation environment follows the same guiding principles of the undergraduate clinical education program of Deakin University. Basic tools of history taking, examination, differential diagnosis formulation, investigations and management were expanded and enhanced using the Medical Board of Australia's and the Royal Australian College of General Practitioners' guidelines of technology based patient consultation, to 3 key areas in our re-design:

1. Telehealth Beginnings

- a. Pre-consult: Equipment, Bandwidth, Environment, Privacy
- b. Introduction: Medicare requirements
- c. Beginnings:
 - i. Defining Agenda
 - ii. Defining limitations
 - iii. Negotiating Agenda

2. Telehealth Middles

- a. History, Exam, Investigations, Management
- b. Reviewing which parts are good and which parts need escalation to next level of re-evaluation on the continuum
- c. How to explain things remotely

3. Telehealth Ends

- a. Red flag identification
- b. Escalation to next modality of consult or clinical care
- c. Consensus on plan and follow up
 - i. Common agreement
 - ii. Check consensus and understanding
- d. Make time for "By the way doc..."
- e. Make time for admin follow up
- f. (Make next appointment)
- g. (self reminders)

These elements are similarly reflected in practices around the world (see University of Oxford Video Consultations: a guide for practice and Royal Flying Doctor Service of Australia, Telemedicine Consultations)

IMPLEMENTATION

TC consultation skills were introduced ad-hoc in 2020 in a few substitute online tutorials for RCCS' week long f2f sessions.

In 2021, the f2f clinical skills team have been adding 1 formalised session of telehealth consultation skills to clinical skills/simulation sessions per core rotation as seen in the example below:

Peripheral Vascular Disease Session (1 of 4 stations in a surgical examination clinical skills session)

Pre-2021

A 40-min clinical skill simulation using a case scenario to facilitate the simulation for the students to include the following:

- Take a relevant history from Mrs. XXX
- Perform a relevant physical examination of Mrs. XXX's lower limbs
- Discuss differential diagnosis
- Request further investigations on request forms provided
- Discuss the treatment principles for Mrs. XXX's condition

In 2020, the student was asked to provide instructions if the physical examination was a video consult instead of face-to-face

2021 version

A 40-min clinical skill simulation using a case scenario to facilitate the simulation to include the following:

- Starting in a phone consult scenario for the student to take a relevant history from Mrs. XXX
- To perform a relevant physical examination of Mrs. XXX's lower limbs in a video consult scenario
- Students are asked what would constitute red flag scenarios on phone and video consult and when they would escalate to a face-to-face consultation
- Discuss differential diagnosis
- Request further investigations on request forms provided
- Discuss the treatment principles for Mrs. XXX's condition

EVALUATION

We are planning to evaluate the implementation in the following ways:

- 1) An analysis and comparison of 2020 vs 2021 OSCE performance on remote consultation performances especially on remote examination stations of RCCS vs other clinical schools at Deakin
- 2) A Telehealth specific OSCE using the principles from the f2f teaching sessions but not topic related, e.g., not Peripheral Vascular Disease, will be used to evaluate students across 2 different Clinical Schools to gauge skills gains and preparedness for Telehealth Consultations.

As the education program evolves to accommodate Digital Health Initiatives, standardisation of nomenclature will help match education goals with new skill goals. It is hope that this will aid in future evaluation.

FUTURE FOCUS

Telehealth Consultation skills will continue to evolve depending on global and local health needs. Whilst the Covid pandemic has brought into focus the need to be covid safe by avoiding unnecessary contact and maintaining safe distance for medical care, the skills and work flow processes could easily extend to areas of health care services. For instance, remote and distant health care demands can be met using Telehealth to supply health care.

With evolving digital technology, telehealth consultation is the beginning of the future of Digital Health within the MD at Deakin University. Future development area includes

- 1) Bioinformatics and Data Management: With voluminous information so rapidly gathered, the utilisation of the data to improve diagnostics and management algorithms is the natural next step in medicine.
- 2) Digital Procedural Skills: Remote robotic procedural delivery of care requires new eye hand coordination and muscle skills. E.g. The robotic surgical device that currently is physically attached to the operator, may translate to a Wi-Fi or remote digital robotic device. Deakin University will need to incorporate such physical skills development into education delivery.