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Simulation-based training and interprofessional education (STRIPE)

Background

The Australian Bureau of Statistics reports that from 2006–2010, the Local Growth Areas of Melton and Wyndham grew by 7.4% and 7.2% respectively.1 They rank among the highest growth rates in the state.

Western Metropolitan Clinical Placement Network’s (WMCPN) population has been identified as one of the most rapidly growing in Australia and is expected to grow by 40% over the next decade.2 In addition, the catchment population of 650 000 is the most culturally diverse and the most rapidly ageing community in Victoria.2 The western region, as a whole, is currently under-resourced in intensive care.

Poor communication and responding to deterioration have both been identified as lead risks by the National Quality Health Care Standards (NSQHS) Commission and by local healthcare services.

The population is also ageing and this compounds the pressure on health services that are expected to increase efficiencies. A greater proportion of Australians now live with a long-term health condition and chronic disease and health services must be prepared to manage chronic disease and respond to acute changes in patient conditions. There is a need to build capability in critical care skills for acutely unwell patients, as well as improve the quality of their care across the continuum of their healthcare journey. Traditional approaches to health care provision are no longer acceptable and organisations need to collaborate more and start to adopt interprofessional approaches that improve working relationships and communication skills and thus improve the patient experience overall.

Problems/drivers

The development of new initiatives to educate our future workforce is critical to improving service efficiency, coordination and continuity. It is essential that these changes focus on the optimal and efficient use of existing human resources while maintaining quality and improving access to health care for all consumers. The Australian Commission on Safety and Quality in Health Care (ACSQHC) supports the provision of information using “simulation centre and scenario-based training.”3

Many of the senior clinicians in the West are keen to utilise the principles of simulation in the training and development of students and clinical staff but time to commit to developing simulation scenarios and programs is a major factor as they are juggling a clinical role and an educational profile.

The principles that underpin this proposal are based on those outlined in the strategic plan for simulation for Victoria:

* Simulation has intrinsic value as a teaching and learning method.
* The most important consideration in relation to the availability of simulation resources and facilities is ensuring all health professional learners have access to the learning opportunities and modalities that will best prepare them for safe, high quality, patient-centred practice.
* Victorian simulation resources and facilities are a public good and should be valued, properly maintained, applied efficiently and distributed fairly.
* The Victorian simulation community of practice should embody good governance, ethical management and transparency in decision-making.

The best outcomes will be achieved if stakeholders collaborate to identify and implement solutions that are responsive to local needs.

The Victorian Clinical Skills Simulated Learning Environment Infrastructure Review 2010 and the Victorian Strategy for the Development of simulation-based education and training (SBET), identified there are potential barriers to the optimal utilisation of simulation at full capacity in existence in organisations.3-4 Cultural barriers across disciplines, lack of dedicated staff and coordination amongst programs for professional entry-level health care students and the relatively newness of the simulation centres within the region, also impact on our ability to develop and deliver simulation programs in the region. In addition, it is also extremely difficult to access external programs or centres suitable for delivering content, due to issues relating to cost, access, and large numbers of participants and the challenges of timetabling.

WMCPN identified the following criteria as central themes to underpin any simulated learning plans and activity across the region:

* Enhance outcomes for patients
* Develop interprofessional capabilities
* Allow for non-acute and non-public facilities to gain/assure access to SLE facilities
* Build and develop student understanding of the continuum of care
* Genuinely work to increase of clinical placements in expanded settings – acute to whole of health model

Meet SLE strategic priorities by a collaborative approach building on and/or enhancing existing SLE resources within WMCPN

Arriving at a solution

A WMCPN Simulated Learning Environment (SLE) Working Party was formed involving key stakeholders in the West to review and identify specific areas of need within the region that would require ongoing training and support for students. These areas were considered for the purpose of this submission and the five main cohorts of patients expected to grow were identified as:

* Patients with chronic disease
* Critical care patients
* Maternity and obstetrics patients
* Mental health patients

Culturally and linguistically diverse (CALD) patients.

This project focuses on the chronic disease area as well as an element relating to the critical care area, or to be more specific, the deteriorating patient. The two other Western CPN projects focussed on; maternity and obstetrics and culturally and linguistically diverse (CALD) patients.

Aims

The STRIPE project aims were to develop an interprofessional team and program that included a collaborative approach to teaching and learning through simulation for professional entry-level students to improve the safety and quality across the continuum of care for patients in the west.

The vision was that the program could be applied in different simulated learning environments and be accessible to a wide range of professional entry-level students (i.e. nursing, medical, physiotherapy, and social work students) to prepare them for work. Effective communication and teamwork among clinicians is an essential requirement for recognising and responding to clinical deterioration in all health care professions, hence the program will also be tailored to the graduate workforce in the same disciplines.

The content development team comprised of a medical consultant, nursing consultant and allied health consultant representing physiotherapy and social work, who worked together to research, design and write an interactive simulation learning program using both mannequins and actors. They scanned the environment for resources that could meet the core learning objectives however they were not successful so they set out to design the learning program which became known as STRIPE (Simulation-based training and interprofessional education) Program.

Implementation process

The content development team were guided by the Advisory and Mentors Group represented by the same four disciplines, education and simulation experts regarding the content and the project management team regarding the project commitments and timeframes.

The project was structured into standard project phases such as listed in the project activity section of the table below.

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| Project activity | Project deliverable |
| Implementation of pilot program | Finalise the pilot program schedule – minimum of six programs delivered year 1  Aim for a minimum of 120 professional entry students  Recruitment of trainers  Recruitment of simulated patients |
| Complete Development Phase Year 1 | Commence the design and development of the curriculum  Develop first draft of program Modules 1–2  Develop the Train the Trainer program  Develop the Train the Actor program  Complete the development of the evaluation |
| Complete Delivery Phase Year 1 | Complete delivery of six programs to students |
| Complete Evaluation Phase Year 1 | Recruited research consultant  Curriculum content and framework reviewed  Students participate in evaluation  Analysis of data complete  Complete pilot evaluation report |
| Complete Development Phase Year 2 | Reviewed the existing program for adaptation to graduates workforce  Finalise and complete proposed changes |
| Complete Delivery Phase Year 2 | Complete delivery of four programs to WMCPN graduate workforce |
| Complete Evaluation Phase Year 2 | Curriculum content and framework reviewed  Attendees participate in evaluation  Analysis of data completed phases 1 and 2  Complete evaluation report |

Outcomes

The project has successfully achieved its objectives except that the targeted number of participants to attend the STRIPE programs was not achieved, see barriers below for some explanations, i.e.:

* 72 undergraduates students attended rather than the target of 120 students

66 graduates attended rather than the target of 80

STRIPE is Western Health’s first fully designed, developed and delivered interprofessional simulated learning program.

A multidisciplinary simulated training program has been developed. The program focuses on three key phases of the patient journey and how health care professionals can work together and to assess and respond to the patients safety issues. The program uses interprofessional and collaborative learning approaches.

A portable training package has been developed so that it can be delivered by each simulation partner in the region. Each simulation centre purchased additional units of any equipment required for their program delivery for their Western partners i.e. Western Health purchased three SimMan 3G mannequins, the additional two for Victoria University and Werribee Mercy Hospital which is utilised in the delivery of STRIPE. Werribee Mercy Hospital purchased a SimNewB for Western Health for their maternity program.

Actors were recruited and trained as simulated patients for use in the program which was a new and highly positive experience for Western Health resulting in a bank of actors employed casually, being available for simulation programs in the future. These actors are also available for the region.

The STRIPE program had a noticeable impact on the simulation hours increasing them from being virtually non-existent in 2011 to over 800 hours by June 2013 for interprofessional programs. Entry level professional students were not commonly trained audiences in the Simulation Centre in 2011, less than 40 students to be exact, however by June 2013 over 500 students had received simulation training which is a significant increase.

Barriers

The program was resource intensive as it required a lot of trainers to run it. Although there were times when there weren’t enough trainers, the team were usually able to juggle roles around or recruit a simulation trainer from the Centre of Education at short notice. However the common problem that kept recurring was that there were not enough participants in the class and predominately these shortages were from both the undergraduate and workforce medical groups. This issue was partly mitigated by recruiting existing allied health and social work staff to fill in roles, preserving the multidisciplinary structure of the scenarios, however this strategy was not on the list of the mitigation strategies. Some specific issues are identified below:

* Scheduling conflicts resulting in unavailability of participants to attend and/or clinical caseload requirements of participants limiting availability.
* Alignment of curriculum to the program because STRIPE was not an integral component it was seen as an additional activity to the students.
* Interns were not encouraged to leave the clinical area to attend training (they need permission to leave/support from the medical team).

Some were genuinely too busy to leave.

Future directions

Western Health was fortunate to be successfully funded for the delivery of additional STRIPE programs in the SLE funding round from HWA 2013–2014. The project has recently commenced and the main project team is in place. The learning’s from STRIPE Phases 1 and 2 programs have already informed to content and structure of the modified STRIPE Phase 3 program particularly in the area of using less resources. This strategy is working towards a more sustainable program that can support itself when the funding is complete. There are also internal discussions occurring about STRIPE’s future.

Further information

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References

1. Australian Bureau of Statistics. Regional Population Growth, Australia, 2009-10. 2011; ABS cat. no. 3218.0.

2. Western Health. Western Health Strategic Plan 2011 – 2015. Melbourne: WH, 2008 (updated 2011).

3. Australian Commission on Safety and Quality in Health Care. Windows into Safety and Quality in Health Care 2011. Sydney: ACSQHC, 2011.

4. Ravens Consulting Group. Victorian Clinical Skills Simulated Learning Environment Infrastructure Review - Final Report. Melbourne: RCG, 2010.