

# Do you know...

about simulation-based learning  
in health care?



The many definitions of the term simulation include:

A situation or environment created to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing or to gain understanding of systems or human actions

*Society for Simulation in Healthcare Accreditation, 2014*



## What is simulation-based learning?

Simulation has long been a part of education, and is widely employed in aviation. However, health care simulation does not have to replicate the complexity of the flight simulator.

Simulation can be very 'low tech' in nature and does not always require elaborate equipment. For example, interviewing or examining an actor who takes on the role of a patient is a common form of simulation.

Easily available and commonly used equipment can be introduced to teach procedures such as blood pressure recording or assembling equipment for intravenous cannula insertion or suturing. More complex activities such as emergency resuscitation may require access to more complex and higher-tech equipment.

This DYK provides a basic introduction to the world of simulation in healthcare education and a very brief overview of simulation-based learning opportunities in the Otago medical degree.

## Why should we invest in simulation-based learning?

Research evidence shows that simulation-based education is an effective educational tool for learning and evaluation of the individual and team-based cognitive, affective, psychomotor and social skills. Simulation-based education should be considered as part of the healthcare practitioner's repertoire of educational strategies and operational techniques, aiming to complement and optimise learning from exposure to real patients for clinical practice as seen in the apprenticeship model of learning (Motola et al, 2013).

## Where can simulation-based learning take place?

Simulation-based education commonly occurs in purpose-designed simulation laboratories or educational facilities commonly known as simulation centres. These centres are designed to mimic real environments found in clinical practice and allow healthcare professionals to practice clinical situations without harm occurring to the patient.

In-situ simulation occurs in the real workplace environment, using real equipment and involves a team of health professionals working together in simulated yet authentic clinical situations. Both types of simulation environments have their advantages and disadvantages (Parekh & Thorpe, 2012).



## Health professionals and simulation-based learning

Simulation-based education for health professionals can be embedded into the undergraduate curriculum and continue into the postgraduate education of the healthcare workforce and other health team members. Simulation-based education is appropriate in inter-professional and inter-organisational situations that require a high level of teamwork and collaboration; patient safety innovations such as Crisis Resource Management training; and for environment and equipment design and testing.

## Simulation-based learning and the University of Otago medical degree

Throughout the entire Otago medical degree, there are regular opportunities for students to learn by simulation. For example, in the early years of the course (Early Learning in Medicine), clinical skills are taught using a variety of simulation methods such as professional actors, anatomical models, demonstrations and student peers.

In the senior years of the degree (Advanced Learning in Medicine) students experience a range of simulation scenarios and learning opportunities. These range from the practical (e.g. taking bloods, suturing, resuscitation) to more complex communication skills. Venues in which simulated learning takes place can be classroom-based mock-up, clinically-based mock-up, clinical demonstrations, access to a clinical skills laboratory and a simulation facility.

Support for developing simulation-based learning is available from your local Education Unit and the Otago Medical School Simulation Academic Lead, Dr MaryLeigh Moore (University of Otago, Christchurch Simulation Centre Director, contact: [maryleigh.moore@otago.ac.nz](mailto:maryleigh.moore@otago.ac.nz))

## REFERENCES

- Society for Simulation in Healthcare Accreditation (2014). *SSH accreditation informational guide*. Retrieved from: <http://www.ssih.org/Accreditation/Full-Accreditation>
- Parekh, A., & Thorpe, T. (2012). How should we teach undergraduates in simulation scenarios. *The Clinical Teacher* 9 280-284
- Motola, I., Devine, L., Soo Chung, H., & Issenberg, S. (2013). Simulation in healthcare education: A best evidence practical guide. *AMEE Guide No. 82 Medical Teacher* 35 (10).

For further information and assistance, contact your local medical or clinical education adviser:  
[otago.ac.nz/medicine/mbchb](http://otago.ac.nz/medicine/mbchb)

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