

## **Co-designing an effective undergraduate course for the appropriate management of medical emergencies in dental practice**

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Introduction/background: There is an expectation within the community and from professional bodies, that dentists will have the capacity to manage common adverse reactions and medical emergencies that may occur in a dental setting. The Australian Dental Council (2016) defines the specific and supporting threshold competencies expected of all Australian dental graduates including the ability to manage both dental and medical emergencies. However, it is widely recognized that without appropriate teaching methods, a significant proportion of dental graduates both locally and internationally feel poorly equipped to manage a medical emergency.

Dentists are required to perform invasive and occasionally extensive oral procedures in a community-based setting on a diverse clientele. An ageing population coupled with advances in medical management and an increased burden of chronic disease means that clients may on occasion have significant co-morbidities or risk factors. Consequently, dental practitioners in Northern Australia report frequently encountering medical events in their daily practice. The emphasis on emergency management in a dental setting in Australia is currently on recognizing, pre-empting and treating clinical deterioration before it escalates to an emergency situation (Oral & Dental Expert Group, 2012)

The JCU Bachelor of Dental Surgery prepares work-ready graduates for practice in regional, rural and remote areas. Students are required to be competent managing both dental and medical emergencies in clinical and community settings. Through co-design with dentists and simulation-qualified emergency educators, an authentic, scenario-based training course has been developed in accordance with current guidelines. This effectively enables dental students to respond appropriately to medical emergencies in the dental clinic.

Aim: The aim of this presentation is to share the lessons learnt through five years of co-designing, delivering and assessing medical emergency competency for the JCU Bachelor of Dental Surgery students.

Methods: Post-workshop questionnaires and qualitative data from debriefing staff and students have informed the current training methodology. Through applying an iterative, participatory action approach to the medical emergency training has enabled the co-design of a high fidelity, simulation program that embeds authentic scenarios into the clinical setting. The objective has been to consolidate students' existing theoretical knowledge while providing practical skills and strategies that enhance teamwork, communication, confidence as well as competence.

Discussion: Following ongoing review and evaluation, the use of high fidelity simulated patients and authentic scenarios have been found to be the most effective strategy for enabling undergraduate dentistry students to respond competently and confidently to patients who are medically compromised. The results support the transition from manikins to authentic scenarios within the clinical setting enacted by emergency educators skilled in simulation followed by comprehensive debriefing. This has equipped senior students with adequate theoretical and practical knowledge to feel prepared for appropriately managing common emergency situations independently or with minimal assistance when practising in diverse regional, rural and remote contexts.