

## **Challenges for teaching pharmacology in a regional university**

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Teaching pharmacology in a regional University presents many challenges for academics that are shared by colleagues in metropolitan Universities, and also some unique challenges that are associated with geographical location and student demographic. The University of the Sunshine Coast (USC), situated 100 km north of Brisbane, is the most recent Australian Public University to receive accreditation (University accreditation in 1996). Student enrolment in 2011 was 7,766, with most students (77.7%) having their permanent residence within the region. A high proportion of students are mature aged (mean age, 25 years), and are first in their family to attend University (49%). USC does not require prerequisite knowledge of mathematics or chemistry from school leavers applying for entry into the science disciplines, and consequently a diverse range of underpinning knowledge in these core subject areas is evident in students who take pharmacology. Initiatives such as a tertiary preparation pathway and access to enabling courses in mathematics, chemistry, cell biology and physiology has helped to bridge the knowledge divide. Nonetheless, some students require additional support, particularly in mathematics-based topics such as pharmacokinetics, and this is provided to the students during tutorials and laboratory classes by the teaching team. At USC, pharmacology is taught at second year level to students enrolled in programs including Paramedic Science (42.7%), Biomedical Science (37.7%) and Clinical Exercise Science (9.4%), and at third year level to students primarily enrolled in Biomedical Science (92.6%). The diverse program pathways of enrolled students require lecturers to teach a broad range of subject material, often outside their specialist areas. Laboratory classes at USC examine the principles of pharmacology using a mixture of lab experiments, for example pharmacodynamics using isolated tissue preparations, and lab studies that entail problem solving and computer-assisted learning. Students are not exposed to *in vivo* animal experiments in either pharmacology course, with distance to the closest animal house facility (Brisbane) being a limiting factor. Despite the challenges, regional Universities such as USC provide opportunities for regional students to attend University and to obtain skills for life-long learning. Graduates with knowledge in pharmacology enter the workforce, or continue their learning as they enrol in the Higher Degree by Research program, or postgraduate studies such as medicine and pharmacy.