

Are Australia's future doctors being educated about climate change and health?

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Climate change has been termed “the biggest global health threat of the 21st century”, potentially affecting the lives and wellbeing of billions of people¹. Doctors will be increasingly called upon to manage and help prevent the direct and indirect adverse health outcomes of climate change. But is this most important area of public health addressed in the learning objectives and outcomes of Australian medical schools' core curriculum documents?

What did we do?

We examined current Australian medical degree course core curriculum documents for learning objectives or outcomes on climate change and health. A survey instrument was developed, which was informed by a review of the literature²⁻⁴ (see table 1). The terms ‘climate change’, ‘global warming’ and ‘the greenhouse effect’ were accepted for inclusion, but not broader categories such as ‘environmental health’, ‘sustainability’ or ‘pollution’. Responses were descriptively analysed. Our focus on the core curriculum allowed standardisation of data collection and provided sound evidence that the subject was specifically addressed as part of core teaching activities.

What did we find?

Sixteen out of nineteen universities responded to our survey. We found that the majority of Australian medical schools do not have climate change and health in their core curriculum. Only two universities had curriculum documents with learning objectives or outcomes specific to climate change (10% 2/16 see figure 1). They both included teaching on the health impacts of climate change, however neither discussed co-benefits to health of action on climate change (see table 1). The survey did not inquire about teaching beyond the core curriculum however, where the subject was not covered in the document, a majority (64% 9/14) of these respondents provided comment as to ways in which it was currently being covered (2/9) and/or areas where there was the potential for this to occur (8/9).

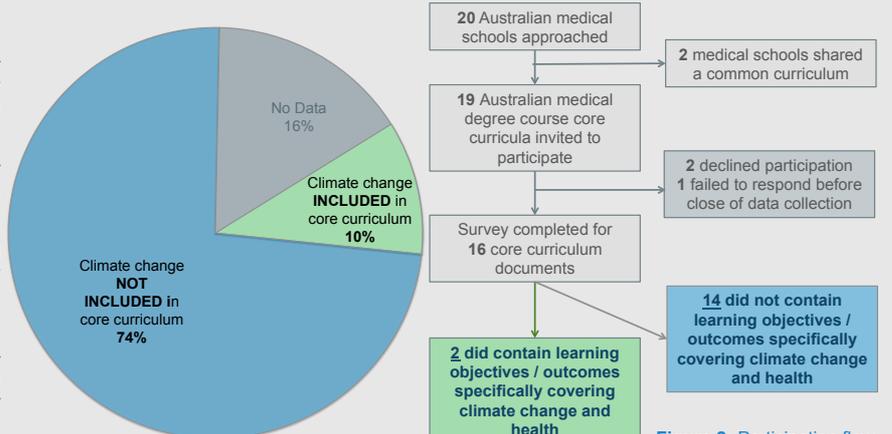


Figure 1: Results of survey: inclusion of climate change and health within current Australian medical degree course curriculum documents

Figure 2: Participation flow, response rates and data collection pathway

Scope of information requested in question set	Curriculum A	Curriculum B
Area of climate change & health addressed		
Scientific basis of climate change	No	Yes
Health effects / impacts of climate change	Yes	Yes
Health benefits of adaptation and/or mitigation	No	No
Role of the medical professional	Yes	Don't know
Other	No	Yes
Teaching method	-Lecture -Problem-based learning session	-Lecture -Tutorial -Workshop / Intensive -Case presentation
Best estimate total allocated teaching time	3	12
Responsible discipline	Public Health	International Health
Assessment	Required: Formative and Summative	Required: Summative
Stage of course during which the learning objective or outcomes are covered	3 rd or 4 th year of integrated teaching program: no division between clinical and preclinical	3 rd year: Preclinical
Degree structure	Undergraduate	Undergraduate

Table 1: Survey results for the two Australian medical school core curriculum documents containing climate change & health specific learning objectives or outcomes

Conclusions

Despite the increasing calls for doctors and medical students to understand climate change and its impacts on health, we found that there is a significant gap between the rhetoric and translation into practical implementation. Most of the Australian medical schools surveyed had not incorporated this teaching into their core curriculum. If we are to adequately equip our future medical workforce for the challenges of global climate change, we will need our academic institutions to clearly address this important issue in core teaching activities.

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Why do future doctors need to learn about climate change?

Leading health organisations, in Australia and internationally, have called for the medical workforce to be prepared for a climate-changed world through appropriate education and training^{5,6}. Despite the accepted need for medical student preparedness^{7,9} it is unclear whether Australian medical students are actually receiving, in their core medical education, teaching on this most important area of public health.

Human health is dependent on a healthy environment. From clean air and water, to secure food resources and shelter from the weather, we rely on the environment to provide us with these essential resources for health¹⁰. Climate change is projected to profoundly affect the basic determinants of health and there is evidence that we are already experiencing the effects¹¹. According to the WHO, each year climate related injuries and illness account for over 150,000 deaths and 5.5 million healthy life years lost¹².

What are other countries doing?

Medical students at the University of Western Ontario, Canada receive instruction in ecosystem health. The course is reportedly well received by students and provides them with an understanding of their future responsibility for the health of both their patients and the wider world in which they live¹³. The topic of climate change is specifically addressed¹⁴.

In January 2012 the United Kingdom's Sustainable Healthcare Education (SHE) Network presented recommendations for climate change, sustainability and health learning objectives to the General Medical Council (GMC), the national body overseeing accreditation of medical courses. Their suggestions emphasised the importance of sustainability and climate change teaching to key areas of health and healthcare education. Highlighted also, was the range of areas in which this teaching can foster and develop skills¹⁵.



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