



## Original research

## An evaluation of physical activity training in Australian medical school curricula



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## ABSTRACT

**Objectives:** To evaluate the current level of physical activity (PA) training provided to Australian medical students.

**Design:** Individual interviews were completed via phone interview or online survey from June–October 2015.

**Methods:** Program leaders from Australian medical schools, who were knowledgeable about their curriculum content, were invited to participate in the study. The number of programs, hours of PA training instruction, institutional attitude towards offering PA, barriers experienced, and content areas in which PA training was offered, were explored.

**Results:** Seventeen of the 19 (89%) Australian medical schools participated in the study. Among the responding schools, 15 (88.2%) reported providing specific PA training to medical students. Thirteen of these 15 schools (86.7%) taught the national aerobic guidelines while only seven (46.7%) taught the national strength training recommendations. Four, five, and six year programs reported providing an average of 6.6, 5.0, and 12.3 h of PA training, respectively, across their entire curriculum. Only 42.9% of the schools that had PA training reported that it was sufficient for their medical students. Nearly half (41.2%) of the respondents reported no barriers to implementing PA training into their medical curricula. **Conclusions:** Most Australian medical schools reported including some PA training in their medical curriculum. Key topics, such as the national strength recommendations, however, were not taught by most schools. Given the importance of PA for the prevention and treatment of numerous mental and physical health outcomes, it is unlikely that the attention it currently receives adequately prepares medical students to treat patients.

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## 1. Introduction

Physical inactivity is a leading cause of morbidity and mortality accounting for an estimated 9% of premature mortality per year.<sup>1</sup> As in most of the rest of the developed world, physical inactivity is a major chronic disease risk factor in Australia.<sup>2</sup> National Nutrition and Physical Activity Survey 2011–12 data showed that more than 80% of adults do not meet the current physical activity guidelines

that incorporates both aerobic- and strength-promoting exercise,<sup>3</sup> making physical inactivity the most prevalent chronic disease risk factor in Australia.<sup>4</sup>

Although the importance of physical activity (PA) as a health-promoting intervention has been recognized unequivocally by public health and medical authorities, systematic provision of PA counselling is virtually non-existent within Australian healthcare and general practice. There are various explanations for this gap between population health needs and current practice. For example, the 2015 Royal Australian College of General Practitioners (GPs) vision for a sustainable healthcare system places emphasis on the implementation of the medical home, which presents GPs with

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**Table 1**  
Overview of physical activity training in Australian medical curriculum.

	Frequency (%)
The institution believes that medical students are interested in receiving PA training	12/17 (70.6%)
The institution feels that it is their responsible for providing medical students PA training	17/17 (100%)
The institution provides specific training on PA in the medical curriculum	15/17 (88.2%)
The institution has specialized instructors to provide PA training in the curriculum <sup>a</sup>	6/14 (42.9%)
The institution teaches the national recommendations for aerobic activity	13/15 (86.7%)
The institution teaches the national recommendation for strength training	7/15 (46.7%)
The institution prepares students to effectively refer their patients to accredited exercise professionals <sup>a</sup>	9/14 (64.3%)
The institution currently provides a sufficient level of PA training to the medical students <sup>a</sup>	6/14 (42.9%)
The institution plans to increase the level of PA training offered to medical students	6/15 (40.0%)

PA: Physical activity.

<sup>a</sup> One program did not respond to these questions.

a greater opportunity to discuss preventive healthcare activities with their patients.<sup>5</sup> Evidence from the US and UK suggests that the onset of such systemic lack of support may have its origins in medical education. The average provision of PA training across the entire 4-year medical degree curriculum is 4.2 and 8.1 h in the UK<sup>6</sup> and the US, respectively.<sup>7</sup> PA is a complex behaviour and effective interventions assume that, at a minimum, doctors have a sound understanding of key concepts and principles of such counselling. Although meta-analytical evidence supports the implementation of brief PA interventions in primary care,<sup>8</sup> the reluctance of GPs to use PA as a therapeutic and preventative modality may reflect unmet educational needs, and a lack of knowledge and basic skills.

The 2014 Australian Medical Association position stand highlights the role of medical doctors as key facilitators and providers of PA-promoting interventions and highlighted the medical school curricula and vocational training needs in this area.<sup>9</sup> However, there is no research describing the current levels of PA training in undergraduate medical school curricula in Australia. The aim of this study was to provide an overview of the provision of PA teaching content in the curricula of Australian medical schools.

## 2. Methods

Data collection for this study involved a two-stage process. First, we followed a previously used model<sup>10</sup> to examine if Australian medical school websites provided information on PA training, domains, modules and units where PA training was offered, if courses focused solely on PA were offered, if opportunities outside of the classroom format (i.e., health fairs) for PA training existed, and for any other innovative efforts to provide PA training.

Next, we attempted to complete phone interviews with identified program leaders of each Australian medical school. Leaders were identified at each institution based on their positions listed on the medical school website. An email was sent to identified leaders that explained the purpose of the study and requested their participation. If the individual contacted felt another person at the institution was more suited to answer the survey questions, we followed up with that recommendation. If no response was received, a follow up e-mail was sent a week later and/or another person was contacted within the medical education program. Attempts to collect a response from a medical school were stopped after six weeks of non-response or when a representative formally declined to participate. Program leaders who were unable or unwilling to complete the phone interview were invited to complete a written, online version of the interview. Participants provided consent either verbally (phone interview) or in writing (online survey) before proceeding. The position held by the study participants varied considerably across medical education programs, but can be generally categorized as curriculum directors (n=7), medical educators/lecturers (n=4), PA lecturers (n=3), or administration (n=3). Specific examples of job titles included Director of Medical

Education, Curriculum Coordinator, and Senior Lecturer. All study materials and procedures were approved by the Human Research Committee at the University of Sydney (reference 2015/446).

The interview script was adapted from that used in previous investigations in the UK<sup>6</sup> and the US<sup>7</sup>. The script was designed to elicit information on medical students' desire to receive PA training, the inclusion of national PA guidelines in the curriculum, the number of hours of PA training each year of medical school, and the content areas in which PA information was taught. Additionally, participants were asked if they believed their institution had a responsibility to provide PA training, and whether they felt that their current PA training was sufficient to prepare their students to counsel future patients on PA. Finally, participants were asked about any barriers that prevented the addition of PA training to their curriculum and who the key stakeholders were that would oversee that process. To allow online participants an opportunity to provide contextual information, comment sections were included with each question.

Frequencies and proportions were recorded for each survey item. Mean values were calculated for the number of PA training hours per year of medical school. Cumulative mean totals were calculated by averaging the total number of PA training hours based on the length of the medical program. For open-ended responses, such as the identification of key stakeholders and barriers to implementing PA training, responses were analyzed as a whole to identify common ideas that were expressed across all participants. The number of times certain ideas or phrases were used was recorded for each open-ended question.

## 3. Results

The review of all 19 Australian medical education websites revealed that while several provided in-depth information on aspects of their medical education curriculum, there was no specific mention of PA training on any website.

We collected information on PA training from 17 Australian medical schools. Six surveys were conducted via phone interview, while the remaining 11 were completed via online survey. Table 1 provides a summary of the responses from the program leaders. All program leaders felt that it was the responsibility of their institution to educate students on PA. Specific PA training was included in the curriculum of 15 of 17 (88.2%) schools. Of these 15 schools that included PA training, 13 (86.7%) taught the Australian Department of Health PA & Sedentary Behavior Guidelines that recommend 150–300 min per week of moderate intensity PA to reduce the risk of chronic diseases.<sup>11</sup> In contrast, national recommendations for strength training were included in only seven (46.7%) medical education curriculums. Further, only six schools (42.9%) employed specialized instructors to provide the PA training.

Five medical school representatives (33.3%) believed that their students did not desire training in PA. Two of these leaders

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