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# Are family medicine residents trained to counsel patients on physical activity? The Canadian experience and a call to action

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## ABSTRACT

Physical inactivity is a leading risk factor for non-communicable diseases (NCDs) and early mortality. Family physicians have an important role in providing physical activity counselling to patients to help prevent and treat NCDs. Lack of training on physical activity counselling is a barrier in undergraduate medical education, yet little is known regarding physical activity teaching in postgraduate family medicine residency. We assessed the provision, content and future direction of physical activity teaching in Canadian postgraduate family medicine residency programs to address this data gap. Fewer than half of Canadian Family Medicine Residency Programme directors reported providing structured physical activity counselling education to residents. Most directors reported no imminent plans to change the content or amount of teaching. These results reflect significant gaps between the recommendations of WHO, which calls on doctors to prescribe physical activity, and the current curricular content and needs of family medicine residents. Almost all directors agreed that online educational resources developed to assist residents in physical activity prescription would be beneficial. By describing the provision, content and future direction of physical activity training in family medicine, physicians and medical educators can develop competencies and resources to meet this need. When we equip our future physicians with the necessary tools, we can improve patient outcomes and do our part to reduce the global epidemic of physical inactivity and chronic disease.

## BACKGROUND

Physical inactivity is the fourth-leading risk factor for death worldwide.<sup>1</sup> Low levels of cardiorespiratory fitness expose a patient to greater risk of dying than does smoking, obesity, hypertension or high cholesterol.<sup>2</sup> Worldwide, one in four adults do not meet the 2010 Global Recommendations on Physical Activity for Health<sup>1</sup>—guidelines which have been recently updated.<sup>3</sup> In Canada, this number is four out of five.<sup>4</sup> As physical inactivity and associated non-communicable diseases (NCDs) disproportionately affect minoritised communities including individuals with disabilities and persons of colour, there is an urgent need for education and training on physical activity counselling to foster equitable healthcare delivery.

Family physicians can address the problem of physical inactivity<sup>5</sup> as over 80% of patients visit

their offices annually and prefer to receive health information from them directly.<sup>6</sup> Family physicians who provide physical activity advice play an important societal and public health role due to their frequent contact with large segments of the population, especially those with poorer health, lower socioeconomic status and/or who are older.<sup>7</sup> Physical activity promotion in primary care is effective,<sup>8–11</sup> and cost-effective.<sup>12 13</sup> One survey found that 93% of patients agreed or strongly agreed with the statement, ‘If my doctor advised me to exercise, I would follow his or her advice’.<sup>14</sup> Despite this, too few physicians make specific recommendations concerning physical activity.<sup>5 15 16</sup> Barriers to counselling include time constraints, complex comorbidities, perceived lack of patient engagement and a lack of physician training or education on physical activity counselling.<sup>6 17</sup> Seventeen per cent of Canadian family physicians surveyed indicated they did not feel qualified to counsel on physical activity while 43% believed they should be counselling most if not all patients.<sup>18</sup> A systematic review evaluating physical activity counselling training in primary care residency programmes identified only four studies; they had been undertaken in Israel and the USA. The systematic review authors concluded that ‘a lack of knowledge and training are barriers to physical activity counselling’.<sup>19</sup>

To date, there have been no studies examining the extent of postgraduate medical education on physical activity counselling in Canadian Family Medicine Residency programmes. Our aim was to describe the provision, content and future direction of physical activity teaching in all 17 Canadian postgraduate family medicine residency programmes, and recommend ways forward to meet these needs.

## METHODS

### Design

We conducted this survey in 2017 and built it on similar surveys related to physical activity teaching in undergraduate medical schools.<sup>20 21</sup> We modified these surveys to better fit the Canadian Family Medicine Residency programme context (ie, 2–3 years programmes vs 4–6 years). Our survey included 11 questions in either English or French. Free-text explanations were elicited to allow for further details regarding physical activity in the curriculum.

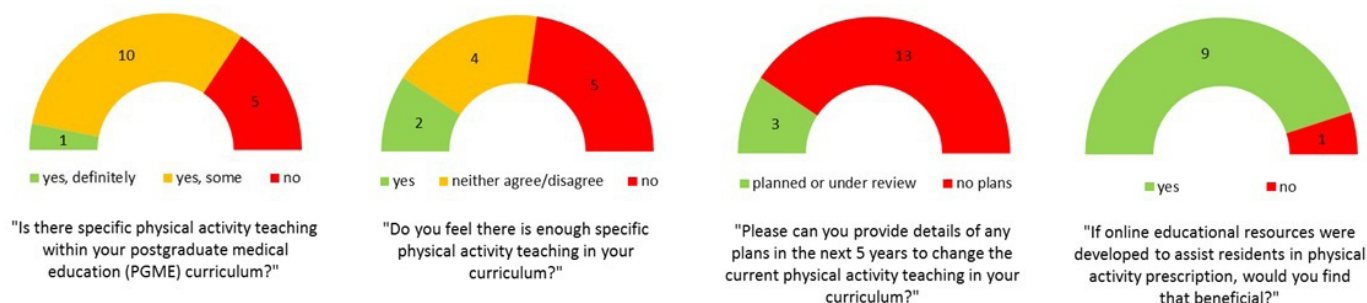
We contacted each university’s Family Medicine Residency Programme director or curriculum lead



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## Education and learning



**Figure 1** How 16 family medicine programme directors responded to questions about physical activity teaching.

by email to introduce the study with a cover letter, letter of information/consent and link to the questionnaire on the Qualtrics platform (<https://www.qualtrics.com>).

### RESULTS AND DISCUSSION

A 94% response rate was achieved (16/17 programmes). Response rates to individual questions varied (see [figure 1](#)).

#### Provision of teaching

Only seven Canadian family medicine residency programmes (44%) provide teaching regarding physical activity counselling to future family doctors. The average total duration of teaching was 1.2 hours. This reveals the striking chasm between the recommendations of WHO,<sup>1</sup> the Canadian Senate Report on Obesity<sup>22</sup> and the Canadian Medical Association,<sup>23</sup> which call on doctors to prescribe physical activity, and the knowledge gap articulated by family medicine residents. Only two programme directors (18%) felt they provided sufficient teaching on physical activity counselling in their respective programmes.

#### Which elements of the curriculum include physical activity prescription?

When asked what physical activity teaching comprises, some programme directors were specific, that is, including physical activity in 'a variety of topics, including cardiovascular risk reduction, mental health impacts, obesity, physiotherapy and musculoskeletal' or 'part of a talk on preventative medicine and as part of discussions for specific conditions, for example, diabetes mellitus, hypertension, etc'. Others responded more generally, noting that 'each site is specific, 'basic exercise guidelines' were taught, or it is 'part of obesity counselling'. Eight of 10 respondents (80%) said they taught the national (Canadian) physical activity guidelines.

#### Barriers to teaching physical activity in the postgraduate family medicine curriculum

We flag an obvious disconnect between the aspirational advice of the national medical association (Canadian Medical Association in this case) and the College of Family Physicians of Canada curriculum. The latter's competency-based training programme<sup>24</sup> contains three elements: Comprehensive education and patient care, Continuity of education and patient care, and Centred in family medicine (3 Cs). It aims to prepare physicians for practice 'that is fundamentally oriented to graduate outcome abilities' and claims to be 'derived from an analysis of societal and patient needs'.<sup>24</sup> The Triple C Curriculum does not list physical activity as a priority topic. And what gets measured gets done—or not done in this case.

Another oft-cited barrier to including physical activity in the postgraduate curriculum is captured in the common refrain: 'It is difficult to add teaching to an already full curriculum'. Residency programme directors are used to juggling priorities across their portfolio. We argue that given the burden of disease associated with NCDs, and the evidence that physical activity is both preventive and therapeutic, maximising efforts related to teaching physical activity prescription should be a top priority in line with the United Nations Sustainable Development Goals.

#### Shaping the path forward: making things easier for postgraduate medical leaders

We were not surprised that nine of ten respondents in our small survey agreed that they would appreciate online educational resources they can use to assist residents in physical activity prescription. Examples around the world demonstrate that this is possible.<sup>25</sup> In the UK, undergraduate teaching resources on physical activity were developed for medical students through a partnership with Public Health England and ExerciseWorks! (@exerciseworks) and its team of international experts.<sup>26,27</sup> For physicians, Public Health England published a set of e-learning resources with BMJ Learning on physical activity for the prevention and treatment of chronic disease,<sup>28</sup> with more than 3500 physicians completing at least one module within the first 6 months after its publication.<sup>27</sup>

A similar national strategy in Canada is producing further tailored resources and examples of best practice.<sup>29</sup> Training facilitators and medical educators will also be key to further establishing physical activity as a priority topic. Future directions could include internationally recognised educational content. For example, WHO has developed the ACTIVE toolkit on 'Promoting Physical Activity Through Primary Health Care' as part of their 2018–2030 Global Action Plan on Physical Activity.<sup>30</sup>

In summary, we add new data regarding the provision, content and future direction of physical activity teaching in Canadian postgraduate family medicine residency programmes. We add to the argument that there is insufficient training in physical activity counselling for family medicine residents in Canada. Canada is not alone.<sup>19</sup> Looking toward solutions, we argue that there are resources that can be accessed free of charge and national medical schools can work together to develop shared programmes. The benefits of easily accessible video mean that training does not have to be replicated at every geographic site that hosts a family medicine resident. Canada has formed a national collaborative to curate online physician-facing learning resources and patient education materials.<sup>29</sup>

## List of learning points

- ▶ Physical inactivity is a leading risk factor for early morbidity and mortality worldwide; globally, most adults are inactive.
- ▶ Physical activity prescription in primary care is effective and cost-effective.
- ▶ Few Family Medicine Residency Programmes provide structured training in physical activity counselling. There are substantial gaps between WHO and the Canadian Medical Association's calls for physical activity counselling and the teaching Canadian family medicine residents receive.
- ▶ Almost all Canadian Family Medicine Programme directors agreed that online educational resources would be beneficial. This underscores the need for resource development, collation and dissemination locally and globally.

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**Contributors** JT developed the idea, carried out the study and wrote the first draft. RW developed the original survey design for the UK study and helped with modifications for the present study. RP provided study oversight. All authors were responsible in editing the manuscript and final approval of the submission.

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