Call of the wild: Creating a formal wilderness medicine elective for Canadian pre-clerkship medical students

L’appel de la forêt : création d’un stage au choix officiel de médecine en milieu sauvage pour les étudiants au pré-externat d’une université canadienne

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Article abstract
Implication Statement
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Geordon Omand,1 Katie Gourlay,1 Michael Zeeman,1 Matthew Pietrosanu,2 David Jerome1,3

1Faculty of Medicine, University of Alberta, Alberta, Canada; 2Department of Mathematical and Statistical Sciences, University of Alberta, Alberta, Canada; 3Division of Clinical Sciences, Northern Ontario School of Medicine, Ontario, Canada

Correspondence to: Dr. David Jerome, 5019 – 53 St, Yellowknife NT, X1A 1V5; phone: (709) 725-1341; email: djerome@ualberta.ca

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Introduction
Pre-clerkship Wilderness Medicine (WM) instruction increases interest in WM, improves self-assessed knowledge of WM concepts, and, importantly, influences medical students’ career trajectories.1 Multiple fellowships in WM exist in the United States and efforts are underway to establish a fellowship in Canada. Despite being in high demand, however, WM is still not commonly taught in Canadian medical curricula.2 This study describes the curriculum of a pre-clerkship WM elective at the University of Alberta. We report student demographics and student-reported strengths and weaknesses of the elective, and discuss student-reported interest and knowledge changes after taking the course.

Description of the innovation
The elective hosted eight two-hour sessions between September 2020 and April 2021. Topics included altitude medicine, military medicine, search and rescue, hypothermia and hyperthermia, dive medicine, disaster medicine, scene safety and primary survey, first aid and first aid kit construction, wound management, and animal bites and envenomation. Due to COVID-19 pandemic restrictions, the course was completed virtually using video conferencing software.

An anonymous pre-elective questionnaire collected data on (1) participant demographics, (2) interest/awareness of WM and related careers, (3) existing knowledge of WM topics (rated on a five-point Likert scale ranging from 1 =
no knowledge to 5 = in-depth knowledge), (4) self-reported barriers to future pursuit of WM, and (5) open feedback. Apost-elective questionnaire assessed changes in each of the first four sections above, as well as enjoyment of specific course topics. Paired pre-post survey comparisons were made using Wilcoxon signed rank tests with Holm-Bonferroni corrections for multiple testing.

This study was approved by the Research Ethics Board at the University of Alberta (Study ID: MS1_Pro00103961).

Outcomes
Out of a total of 78 participants, 45 students completed the pre-elective survey, and 20 also completed the post-elective survey. There was no significant difference in gender at either time point. Most participants were 20-29 years old and in their first year of medical school.

Personal interest and practical skill acquisition were common reasons for enrolment. Applicability, interest, engaging presenters, and interactive formatting were common reasons for sessions to be ranked as enjoyable, whereas lack of a hands-on component, speakers' presentation styles, and poor memorability made sessions less enjoyable. Participants commented favourably on the presentation styles, and poor memorability made sessions less enjoyable. Participants commented favourably on the lack of formalized assessments.

There was a statistically significant increase (on median) in self-reported awareness of career opportunities that exist in WM (Table 1; adjusted $P$-value = 0.009). There was also a statistically significant increase in self-reported knowledge in each topic on median (adjusted $P$-values all < 0.027) (data not shown).

The elective was more effective at recruiting students with previous WM interest/experience. Student requests for more interactivity reinforced that WM is best taught through hands-on practice, as has been reported in existing literature. 3-6

This study is limited due to the low number of linked pre- and post-elective surveys. The drop in respondent numbers may introduce response bias.

Suggestions
Canadian medical schools with interested instructors may apply a similar curriculum for teaching students in WM. Student feedback emphasized the value of a diverse presenter panel and perceived usefulness of the learning material. Future iterations of the elective would benefit from a greater emphasis on hands-on, participatory instruction including in person instruction and simulation. Promoting the course to students without a pre-existing interest in wilderness activities may also increase accessibility.

Conflicts of Interest: The authors have no conflicts of interest to declare.

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References