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Are we headed for a shortage of burn care providers in Canada?

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ABSTRACT

Introduction: Specialized burn care is categorized as an essential component in the criteria for provincial/state and regional trauma systems. Studies in the United States and New Zealand found a need for more burn surgeons and anticipated a severe shortage in the future. The purpose of this study is to describe the current active workforce of burn surgeons in Canada and forecast any perceived shortages in the future.

Methods: Burn care providers were identified from each metropolitan area across Canada. A survey was modified from a previous study and distributed electronically via SurveyMonkey™ to representatives from 26 centres.

Results: Twenty-six centres responded to the questionnaire (response rate=100%). Four of these centres self-identified as providing dedicated burn care, 19 identified themselves as being integrated into surgical programs at their institution, and two stated they no longer treated burn injuries. The mean number of acute burn admissions per year was 67.2 (range 2–290). Of the centres admitting over 75 burns per year, 44% (4/9) are currently looking for a surgeon, 56% (5/9) will be looking for another surgeon in five years, and 44% (4/9) are having or feel they will have trouble finding a surgeon to manage burns.

Discussion: Canada is facing a shortage of burn care specialists similar to other developed nations. Active mentorship of surgical trainees is essential to maintain the delivery of high quality of burn care in Canada.

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1. Introduction

Burn injuries are common, with an approximate annual incidence of 500000 per year in the United States, 40000 of which will require hospitalization [1]. Accordingly, specialized burn care is categorized as an essential component in the criteria for regional trauma systems. Studies in the United

States and New Zealand have found a need for more burn surgeons and anticipated a severe shortage in the future [2–4]. In addition, a shortage of burn nurses has been identified in the United States [5].

A shortage of specialized burn care has significant implications for hospitals, universities, and governments, as well as disaster planning and management. No previous study has investigated the burn care workforce in Canada. Such

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an investigation is timely, as burn care in Canada has evolved over the past two decades with regionalization, creation of the Canadian Burn Network, and initiating the Canadian Burn Symposium allowing for increased surveillance of the provision of care and a national forum to review current needs.

The objectives of this study were to (1) describe the current workforce managing burn injuries in Canada, (2) understand the current and anticipated need for burn care specialists in Canada, and (3) to explore barriers to delivery of burn care.

2. Methods

An electronic survey was designed using SurveyMonkey™ (Palo Alto, CA) based on previous work by Faucher [3]. The survey included questions about number and type of acute burn admissions, surgeon demographics, current and anticipated workforce needs, barriers to delivering care, and fellowship training programs. Representative burn care providers, either burn centre directors or division heads of plastic surgery, were identified in all Canadian metropolitan areas [6]. In some cases, more than one centre provided burn care in a given metropolitan area. Twenty-six centres were identified (Fig. 1) and invited to participate via email from January to February, 2017. Three standardized follow-up reminder emails were sent to non-responders. This study was approved by the University of Toronto Research Ethics Board (#33169).

3. Results

The survey response rate was 100% (n=26). Two respondents stated that their centre no longer manages burn injuries, leaving 24 respondents for further analysis. Four centres identified themselves as providing 'dedicated burn care' with a

designated burn unit, dedicated ICU beds, and a burn operating room. Twenty centres identified themselves as providing 'integrated burn care' blended into plastic surgery, general surgery and trauma programs.

Respondents were asked about the number of patients with acute burns admitted per year (Fig. 2). A mean of 67.2 ± 71.0 total adult and paediatric patients were admitted per year, with a range of 2-290 admissions. For the purposes of analysis, nine centres were categorized as high volume (≥ 75 admissions/year) with a mean of 141.2 ± 65.5 total adult and paediatric admissions, and a range of 80-290.

Table 1 lists demographics of the general workforce of 105 surgeons covering burn care in Canada. The majority were male (72%), plastic surgeons (97%), without fellowship training in burn care (83%). By contrast, the 45 surgeons covering burn care at high volume centres had a greater proportion of fellowship training in burn care (31% versus 17%).

Respondents were asked about their current and anticipated need for surgeons to cover burn care. Four of the nine (44%) high volume centres stated they are currently looking for another burn surgeon, and five (56%) stated they will be looking for another in five years. Four (44%) of these nine centres are having, or anticipate having, difficulty finding another burn surgeon.

In addition, centres that identified as providing 'dedicated burn care' were asked about shortages of other health care providers. Three of the four (75%) dedicated centres stated they are currently looking for burn nurses; one of which (25%) reported difficulty with recruitment. None of the four dedicated centres were currently looking for burn therapists (occupational or physiotherapy) or dietitians.

Respondents from the centres providing 'integrated burn care' were asked about potential barriers to providing care. Among the twenty respondents, availability of nursing expertise (45%) and operating room time (35%) were the most common barriers, followed by availability of ICU expertise (20%) and wound care products (20%).

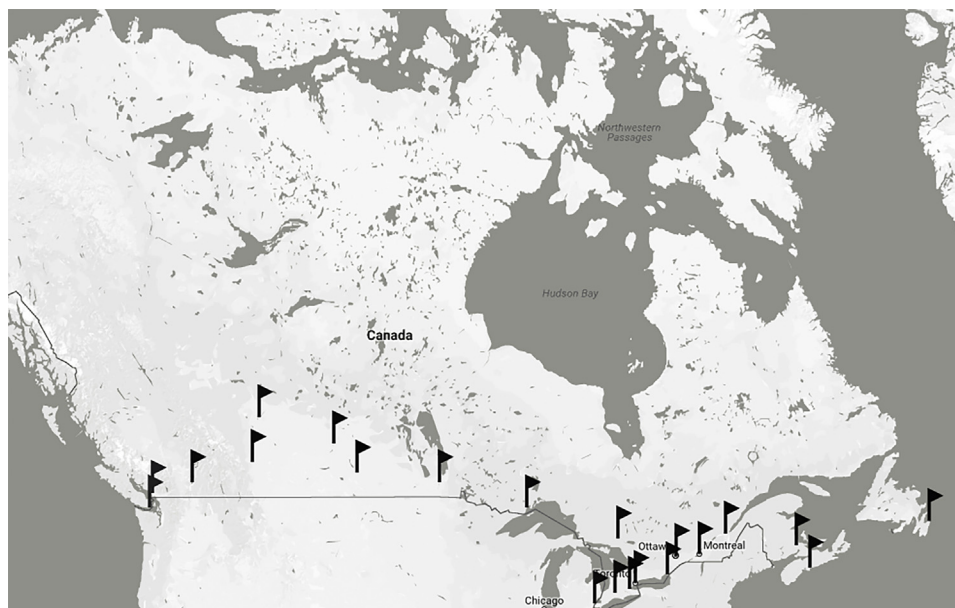


Fig. 1 – Map of Canadian centres participating in the survey.

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