Creation and implementation of the Ottawa Handbook of Emergency Medicine
Élaboration et implantation du Guide d'Ottawa de médecine d'urgence

Kaitlin Endres, Omar Anjum and Shahbaz Syed

Volume 12, Number 3, 2021

URI: https://id.erudit.org/iderudit/1080240ar
DOI: https://doi.org/10.36834/cmej.71393

See table of contents

Publisher(s)
Canadian Medical Education Journal

ISSN
1923-1202 (digital)

Explore this journal

Cite this document
Endres, K., Anjum, O. & Syed, S. (2021). Creation and implementation of the Ottawa Handbook of Emergency Medicine. Canadian Medical Education Journal / Revue canadienne de l'éducation médicale, 12(3), 171–173. https://doi.org/10.36834/cmej.71393

Article abstract
Implication Statement: Medical students face multiple academic challenges during their transition to clerkship, including the ability to navigate various educational resources and translate acquired knowledge clinically. The Ottawa Handbook of Emergency Medicine (EM) was created by referencing EM textbooks and relevant literature, followed by a local peer-review process. A website metrics assessment was performed to assess student uptake. Implementation of the Ottawa Handbook of EM across Canadian clerkship curriculums is anticipated to bridge the EM knowledge gap for junior learners.
Creation and implementation of the Ottawa Handbook of Emergency Medicine  
Élaboration et implantation du Guide d'Ottawa de médecine d'urgence

Kaitlin Endres,1 Omar Anjum,2 Shahbaz Syed2
1Faculty of Medicine, University of Ottawa, Ontario, Canada; 2Department of Emergency Medicine, The Ottawa Hospital, Ontario, Canada

Correspondence to: Omar Anjum, 1053 Carling Avenue Ottawa, Ontario, K1Y 4E9; phone: 613-795-5555 (ext. 19002); email: oanjum@toh.ca

Published ahead of issue: February 27, 2021; published: June 30, 2021. CMEJ 2021, 12(3) Available at http://www.cmej.ca

© 2021 Endres, Anjum, Syed; licensee Synergies Partners
https://doi.org/10.36834/cmej.71393. This is an Open Journal Systems article distributed under the terms of the Creative Commons Attribution License. (https://creativecommons.org/licenses/by-nc-nd/4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is cited.

Implication Statement

Medical students face multiple academic challenges during their transition to clerkship, including the ability to navigate various educational resources and translate acquired knowledge clinically. The Ottawa Handbook of Emergency Medicine (EM) was created by referencing EM textbooks and relevant literature, followed by a local peer-review process. A website metrics assessment was performed to assess student uptake. Implementation of the Ottawa Handbook of EM across Canadian clerkship curriculums is anticipated to bridge the EM knowledge gap for junior learners.

Énoncé des implications de la recherche

Les étudiants en médecine sont confrontés à de multiples défis académiques au moment de leur transition vers l’externat, notamment à celui de se servir de diverses ressources éducatives et d’appliquer leurs connaissances dans un contexte clinique. Le Guide d’Ottawa de médecine d’urgence (MU) a été élaboré à partir de manuels de MU et de la littérature pertinente, et il a fait l’objet d’un processus local d’examen par les pairs. Une évaluation bibliométrique a été effectuée pour évaluer son utilisation par les étudiants. L’application du Guide d’Ottawa de médecine d’urgence dans le cadre des cursus canadiens d’externat devrait permettre de combler les lacunes qu’auraient les étudiants débutants en matière de médecine d’urgence.

Introduction

Transition to clerkship poses many academic challenges for medical students.1–3 Lack of a formalized pre-clerkship emergency medicine (EM) curriculum and limited exposure to EM observerships hinders many pre-clerkship students from adequately preparing for their core EM rotation.4 Additionally, the abundance of educational tools and online information make it difficult for learners to select appropriate resources for their level, limiting acquisition and translation of knowledge into the clinical setting.5,6 Our literature review revealed a paucity of EM clerkship handbooks across Canada. To address this gap, our team created “The Ottawa Handbook of EM.” The primary purpose of our educational innovation was to design an academic resource for medical students to use on-shift. Secondarily, we aimed to assess student uptake of the handbook through a website metric assessment. Our project did not require submission to Ottawa’s Research Ethics Board because we report anonymous program-level data.

Innovation

The content of the Ottawa Handbook of EM was created by referencing EM textbooks, and relevant literature including landmark studies and practice guidelines. Five emergency staff physicians peer reviewed the first edition of the handbook in its entirety for medical accuracy and clinical utility. In subsequent editions, staff reviewers edited
specific areas of interest/specialization. This peer-review process enabled development of a sustainable model for annual student-driven updates. The cost of creating this handbook was $0 as all authors and editors volunteered their time. Similarly, the cost to access this resource is $0.

The first edition of the handbook was published in March 2018 on our departmental open-access blog “EMOttawa.” The handbook contains one-page summaries of high-yield EM topics split into three main sections: resuscitation, symptoms-based approach, and medical emergencies. The second edition, published in February 2020, included updates on trauma, vertigo, and POCUS. Each one-page summary is subdivided into four colour-coded sections. Appendix A provides further layout and content details. Over 14,381 unique downloads have occurred since launch. Table 1 exhibits a breakdown of website metrics collected to assess student uptake.

Next steps
Our well-established peer review process allows for future updates. The third edition in 2021 will include updates to management of stroke, pulmonary embolism risk stratification, end-of-life care, mental health emergencies, and an approach to electrocardiograms and chest x-rays. In a world of constant enhancements to information and digital technology, we also aim to create an “App” for the Ottawa Handbook of EM. Both the first and second editions of the Ottawa Handbook of EM were published in the standard 8.5x11.0 inch size and are available for users to print or use on their device on-shift. A goal for our third edition is to offer the handbook in a pocket size (4.0x7.0 inch) edition.

Conclusion
The Ottawa Handbook of EM is the only resource of its kind available to Canadian clerkship students. It includes content that is relevant to common topics encountered in EM and useful for quick knowledge translation on-shift. The value of this handbook for junior learners entering their EM rotation is evident as student uptake of this handbook was robust. While originally intended for medical students as the target audience, it has come to our attention that nurses, paramedics and off-service residents have been incorporating this resource into their clinical workflow.

Conflicts of Interest: The authors have no conflicts of interest to disclose.
Funding: The authors have received no financial support for the creation of this innovation.

References
1. Atherley A, Dolmans D, Hu W, Hegazi I, Alexander S. Beyond the struggles: a scoping review on the transition to undergraduate clinical training. Med Educ. 2019;53(6):559-70. https://doi.org/10.1111/medu.13883
2. Perrella A, Milman T, Ginsburg S, Wright S. Navigating tensions of efficiency and caring in clerkship: A qualitative study. Teach Learn Med. 2019;31(4):378-84. https://doi.org/10.1080/10401334.2018.1556667
3. Subramanian A, Vafa S. The introduction of digital game-based learning in a surgical clerkship: a pilot study. Med Sci Educ. 2014;23(3):329-35. https://doi.org/10.1007/BF03341644
4. Penciner R. Emergency medicine preclerkship observerships: evaluation of a structured experience. Can J Emerg Med. 2009;11(3):235-9. https://doi.org/10.1017/S1481803500011258
5. Brien BO, Cooke M, Irby DM. Perceptions and attributions of third-year student struggles in clerkships: do students and clerkship directors agree? Acad Med. 2007;82(10):970-8. https://doi.org/10.1097/ACM.0b013e31814a4fd5
6. Peterson MW, Rowat J, Kreiter C, Mandel J. Medical students’ use of information resources: is the digital age dawning. Acad Med. 2004;79(1):89-95. https://doi.org/10.1097/00001888-200401000-00019

Table 1. Website metrics results for the Ottawa Handbook of EM

| Downloads by Edition | No. of Unique Downloads |
|----------------------|-------------------------|
| First edition (Mar 2018-Feb 2020) | 11,000 (76.5%) |
| Second edition (Feb 2020-Apr 2020) | 3,381 (23.5%) |
| Total (Mar 2018-Apr 2020) | 14,381 (100%) |

| Device Use | No. of Unique Downloads |
|------------|-------------------------|
| Desktop device | 3,486 (42.0%) |
| Mobile device | 4,316 (52.0%) |
| “Other” device | 498 (6.0%) |

| Countries of Download | No. of Unique Downloads |
|-----------------------|-------------------------|
| 1. Canada | 4,554 (31.67%) |
| 2. United States of America (USA) | 1,276 (8.87%) |
| 3. Taiwan | 544 (3.78%) |
| 4. United Kingdom (UK) | 258 (1.79%) |
| 5. Saudi Arabia | 240 (1.67%) |
| 6. Australia | 170 (1.18%) |
| 7. Other | 7,339 (51.04%) |
Appendix A Handbook at a Glance

1 page summaries  65 references
44 total pages  5 staff peer-reviewers

*Signifies handbook details for the first edition of the Ottawa Handbook of Emergency Medicine (EM). The second edition was 48 pages in length, contained 74 references and was peer-reviewed by 9 staff. A full and free copy of the Ottawa Handbook of EM is available at: https://emottawablog.com/2020/09/ottawa-handbook-of-emergency-medicine