



Choosing Wisely Canada: scratching the 7-year itch

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Choosing Wisely Canada (CWC) is a national, clinician-led campaign to identify tests, treatments and procedures that are unnecessary. The American Board of Internal Medicine (ABIM) Foundation launched Choosing Wisely in the United States in 2012 and developed lists titled “Things Clinicians and Patients Should Question” [1]. Similar campaigns emerged in over 25 countries—including Canada—ever since [2]. In 2021, 7 years after CWC’s official launch, the Canadian Association of Emergency Physicians (CAEP)-CWC working group reviewed CWC’s progress to date and had an honest discussion of the challenges and opportunities for emergency medicine at the CAEP 2021 annual conference. This article encapsulates the achievements of CAEP CWC and explores the challenges of heightened patient expectations, medicolegal concerns, flow and overcrowding issues, and downstream testing and treatment consequences 7 years after CWC’s inception. Much like the CAEP-CWC list of recommendations (Table 1), this paper encourages conversation on appropriateness of care decisions on the

frontline and will introduce a series of CWC articles that review each of the CAEP-CWC recommendations.

Gains thus far

CWC launched in 2014 and has since released 400 recommendations across more than 50 specialties, subspecialties, and allied healthcare teams [3]. Since 2014, an impressive campaign of awareness has been launched for front-line healthcare professionals, subspecialty consultants, and patients. Toolkits have also been disseminated to assist local, regional, and provincial implementation of recommendations. Since CWC’s inception, hospitals with the Choosing Wisely designation (Appendix 1) have demonstrated that they implemented CWC recommendations with sustained and significant reductions in low value care—many of which were based on CWC toolkits [4]. Many provincial partners and organizations took on the CWC initiatives, such as Toronto’s University Health Network’s efforts to reduce unnecessary computer tomography (CT) head imaging for minor head injury in emergency departments (ED). Using modified Canadian CT Head Rule checklist and CWC-themed head injury-specific patient handouts, this effort resulted in a 13.9% reduction in CT rates during the initial 3 months, and a sustained reduction of 8% at 16 months [5]. Similarly, Vancouver Coastal Health and Providence Health Care collaborated with CWC and used a point-of-care decision support tool to reduce the ordering of low back pain medical imaging by ED physicians (median from 23 to 19%) and reduced physician variation in ordering these tests (interquartile range from 16 to 11%) with no unexpected negative consequences [6]. Given that over-testing is expensive, it is not surprising that CWC adoption has a cost-saving effect [7]. North York General Hospital in Toronto participated in the CWC campaign in 2014 and updated all the order sets to CWC recommendations. Their ED’s initial impact analysis showed that CWC adoption led to a 31%

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Table 1 Choosing Wisely Canada—Emergency Medicine’s “Ten Things Physicians and Patients Should Question”

1. Don't order CT head scans in adults and children who have suffered minor head injuries (unless positive for a validated head injury clinical decision rule)
2. Don't prescribe antibiotics in adults with bronchitis/asthma and children with bronchiolitis
3. Don't order lumbosacral (low back) spinal imaging in patients with non-traumatic low back pain who have no red flags/pathologic indicators
4. Don't order neck radiographs in patients who have a negative examination using the Canadian C-spine rules
5. Don't prescribe antibiotics after incision and drainage of uncomplicated skin abscesses unless extensive cellulitis exists
6. Don't order CT head scans in adult patients with simple syncope in the absence of high-risk predictors
7. Don't order CT pulmonary angiograms or VQ scans in patients with suspected pulmonary embolism until risk stratification with decision rule has been applied and when indicated, D-dimer biomarker results are obtained
8. Don't routinely use antibiotics in adults and children with uncomplicated sore throats
9. Don't order ankle and/or foot X-rays in patients who have a negative examination using the Ottawa ankle rules
10. Don't use antibiotics in adults and children with uncomplicated acute otitis media

decline in the number of tests pre- and post-program implementation: savings from 10 common lab tests totalled more than \$157,000 in 1 year [8].

Challenges

Despite increased awareness, CWC alone may be insufficient to move the needle on behaviour change, especially where local adherence to best practice guidelines is already high [9]. Even with demonstrated results, publication alone does not necessarily lead to sustained transformation. While CWC has resulted in changes such as a decrease in physician ordering of various imaging, there are limited projects showing how these affect patient-oriented outcomes [8]. Prior work also shows that limited implementation of Choosing Wisely recommendations does not achieve the maximal potential resource reduction and savings without proper supports and audit/feedback mechanisms in place [10]. Many hospitals have achieved national recognition by implementing CWC toolkits [6]. However, outcomes being prioritized by authors need to be reviewed to ensure that they are congruent with key stakeholders' values. High-quality and high-value care are viewed differently through different lenses and paradigms, especially that of the ultimate stakeholder—the patient. Patient education and counselling are crucially needed to avoid further misunderstanding and confusion in CWC efforts. To illustrate, as part of the CT Head imaging campaign at the University Health Network in Toronto, a conversation with the provider was enabled through patient-oriented education pamphlets, as opposed to only utilizing printed material that could be subject to misunderstanding [5]. The need for patient and public involvement in medical research and guideline production have been well developed using principles of “experience-based co-design” [11–13] and are now an essential part of most

government grant funding submissions (e.g., CIHR SPOR frameworks).

While CWC has made strides in the past 7 years, ensuring ongoing acceptability of CWC while navigating competing priorities remains a challenge. Given competing priorities, the degree of “actionability” for providers, patients, and health system leaders of each CWC recommendations is inevitably variable. Lastly, funding gained by judicious resource utilization may invite further questions on gain sharing: how should funds from cost-saving CWC campaigns be utilized locally? Who should arbitrate on its redistribution and re-investment? These questions warrant further consideration and discussion.

A recent comprehensive systematic review on inappropriate Canadian clinical practices offers some insights relevant to the CAEP CWC EM recommendations [14]. On the diagnostic side, there was overuse of low back pain radiography (29.1%) and head scans (28.9%). On the therapeutic side, inappropriate antimicrobial overuse was noted in 11.8–76.0% of included studies, and opioids were overused in 0.1–23.9% pain conditions. These results highlight the importance of implementing appropriate imaging and antimicrobial stewardship outlined in the CAEP CWC Recommendations lists [15, 16].

Challenges for the future

Choosing Wisely is not merely a list of recommendations, it is a philosophy of thinking before we initiate medical interventions whether the intervention is likely to benefit the patient. The lists, however, have been pivotal in demonstrating opportunities to start with. Without a doubt, CWC can achieve more. This first phase, which in Canada is but 7 years old, has been about awareness and education, which ranks low on the hierarchy of intervention effectiveness [17]. Even so, ongoing efforts are required to embed the

CWC message into medical education, to foster a responsible culture in us, the guardians of healthcare resources; this is needed to ensure sustained positive impact to both our patients and the healthcare system [18]. The next phase will be more ambitious: integration of CWC principles into medical culture and patient expectations. This will be more challenging, but it is where we are going to see an exponential and lasting impact of CWC. This begs the question—what should this next implementation phase look like? The past 2 years of the COVID19 pandemic have revealed vulnerabilities in Canada’s health care system and increased the role of the ED as the ultimate safety net. The pandemic has shown us that many changes, to both practitioners and the system, are necessary, complementary, and synergistic. The advent of, and advances in virtual and interactive technology can further facilitate the dialogue between the patient and provider in a positive way regarding the effectiveness of proposed interventions. Changes to practitioners can be enhanced through training of the next generation of providers, who can teach ‘up’ to their supervisors and colleagues by reconsidering “historical” practices.

As CWC focuses on implementation strategies in its next phase, emphasis needs to be not limited to knowledge generation, but also knowledge translation, implementation, and meaningful action. A truly multi-dimensional strategy is needed to optimize engagement and outcomes. The initial successes observed by CWC are due, in no small part, to the financial and operational support of academic centres. Spreading and scaling up the interventions across a larger jurisdiction, including that of community and rural health care facilities, are the logical next steps for greater impact. While this may not be straightforward in a country with various provincial health systems and EDs caring for diverse patient populations covering rural and remote communities, CWC has partnered with various health networks to engage community partners [19]. The COVID-19 pandemic has shown that campaigns can be achieved through improved virtual connectivity. Through these integrated networks, local champions, community organizations and Local Health Integration Networks (LHINs) that drive the programs can be connected to ensure alignment, sustainability and engagement of healthcare workers and community members.

The diversity of talent existing among CAEP members must also be mobilized, including the CWC-CAEP working group, the research community, *quality improvement and patient safety (QIPS)* leaders, medical education experts, and patient engagement groups. As outlined above, hospitals with the Choosing Wisely designation have demonstrated sustained reductions in low value care. However, there remains a paucity of ED-based and high-quality studies that assess specific Choosing Wisely interventions like the Choosing Wisely toolkits [20]. In addition, while there have been studies that demonstrated the effectiveness of Choosing

Wisely interventions collectively, they often did not address individual interventions, which would be of greatest use to those settings with fewer resources, which must prioritize highest-yield interventions [20]. There have been limited studies reporting validation on CWC engagement, which is another anticipated barrier and a worthwhile area to direct future CWC work. As the Choosing Wisely culture grows, there need to be ongoing efforts to measure change and impact and to constantly improve existing and design novel CWC interventions [21]. In relatively resource-poor and broad-based specialties like emergency medicine, this should lead to engagement and action by most stakeholders, as opposed to only those earlier adopters.

We propose the following six-pronged focus points to start the next phase of Choosing Wisely in the ED:

- (1) Patients need to be informed and engaged meaningfully without tokenism to be competent partners;
- (2) Experts need to continue to find strong evidence and use it in knowledge translation and QIPS activities, especially when it pertains to the themes of equity, diversity and inclusivity that have been highlighted as challenges in the ED throughout the pandemic;
- (3) Clinicians must be empowered and incentivized with knowledge, time, and risk protection to become conscientious stewards.
- (4) Validated multimodal medical education and change management strategies need to be undertaken to optimize clinical behaviour modification in engaged stakeholders, to achieve meaningful and sustainable change;
- (5) Electronic and other digital technologies must be leveraged to assist real-time clinical decision-making at the bedside (e.g., computerized decision-support systems, forced functions, virtual care).
- (6) Accessing reliable, real-time institutional information on diagnostic imaging test and antimicrobial ordering patterns of ED physicians, to properly monitor individual practice and offer audit and feedback reports in prospective QIPS Plan-Do-Study-Act cycles. This is certainly easier to achieve in an electronic health record (EHR) environment. Obtaining imaging test information is easily achieved via information queries with diagnostic imaging partners and hospital administrative support services, in either an EHR or paper-chart environment. Collecting antimicrobial prescribing information may be more challenging, especially in a paper-based charting system that relies on thorough physician documentation.

CWC is a relatively new approach that has enjoyed tremendous success, especially compared to other campaigns that have existed far longer than, or that didn’t even last, 7 years. Many concerns and challenges of CWC remain just as

valid now as they were at the start. As we move into the next phase of CWC in emergency medicine, it is time to move the debate away from whether or not the CWC recommendations are perfect. Let's focus on improving our culture with regard to resource use, and on implementing and driving good knowledge translation principles.

How the CAEP–choosing wisely Canada recommendations were created

CAEP generated an initial set of recommendations by forming an expert working group, which included CAEP subcommittee chairs. These recommendations were voted by 100 selected emergency physicians. The recommendations with the highest votes were reviewed by the working group. By consensus, the final ten recommendations were created and released in October 2016 [15, 16].

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Declarations

Conflict of interest None.

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