ORIGINAL ARTICLE

Improving resource stewardship in post-pandemic primary care: Insights into choosing Wisely Canada guidelines

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Abstract

Introduction: The COVID-19 pandemic significantly disrupted primary care delivery, amplifying challenges in resource stewardship. Choosing Wisely Canada (CWC) guidelines aim to reduce unnecessary interventions. However, barriers to their implementation persist, particularly in rural settings where access to resources is limited and patient expectations often conflict with evidence-based care. Our study explored primary care physicians' awareness of, utilisation of and barriers to implementing CWC guidelines in a post-pandemic context, focusing on challenges, quality improvement opportunities and innovative approaches to reduce low-value care.

Methods: An online survey of primary care physicians across Canada was used to collect demographic data, practice habits and perspectives on CWC guidelines. Quantitative analysis measured trends, while qualitative analysis of open-ended responses identified recurring themes.

Results: One hundred and twenty-seven primary care physicians responded to the survey. Results revealed high awareness of CWC guidelines (97.6%) but low familiarity with post-pandemic adaptations (36.2%) and patient-facing materials (61.4%). Key barriers included time constraints, fear of missed diagnoses and limited rural resources. Physicians highlighted the need for tailored approaches in rural settings, where deviations from guidelines are often necessary because of challenges related to healthcare access. Participants identified several opportunities for improvement, including integrating guidelines into electronic medical records and developing mobile applications to support decision-making. Enhanced patient education emerged as critical for addressing demands for unnecessary tests, often fuelled by misinformation from social media.

Conclusion: Targeted medical and patient education, interprofessional collaboration and technology integration are essential for improving CWC adoption. Tailored solutions that address rural-specific challenges and systemic barriers are pivotal for achieving sustainable resource stewardship in primary care.

Keywords: Choosing Wisely Canada Guidelines, physician feedback, resource stewardship

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Résumé

Introduction: La pandémie de COVID-19 a profondément bouleversé l'organisation des soins primaires, accentuant les défis liés à l'utilisation judicieuse des ressources. Les recommandations de Choisir avec soin visent à réduire les interventions inutiles, mais leur mise en œuvre demeure difficile, surtout en milieu rural où l'accès aux services est restreint et où les attentes des patients s'harmonisent parfois mal avec les pratiques fondées sur les données probantes. Notre étude examine la connaissance, l'utilisation et les obstacles à l'intégration des recommandations de Choisir avec soin chez les médecins de famille en contexte postpandémique, en mettant l'accent sur les défis rencontrés, les occasions d'amélioration de la qualité des soins et les approches innovantes pour diminuer les actes à faible valeur.

Méthodes: Une enquête en ligne a été distribuée à des médecins de soins primaires partout au Canada. Le questionnaire recueillait des données démographiques, des informations sur les habitudes de pratique et des perceptions par rapport aux recommandations de Choisir avec soin. L'analyse quantitative a permis d'identifier les tendances, tandis que l'analyse qualitative des réponses ouvertes a fait ressortir des thèmes récurrents.

Résultats: Cent vingt-sept médecins y ont répondu. Bien que la grande majorité connaissait les recommandations de Choisir avec soin (97.6%), peu étaient au fait des adaptations postpandémiques (36.2%) ou des outils destinés aux patients (61.4%). Les obstacles principaux mentionnés incluaient le manque de temps, la crainte de passer à côté d'un diagnostic important et le manque de ressources en région. Les médecins ont souligné la nécessité d'approches adaptées aux réalités rurales, où il faut parfois s'éloigner des recommandations en raison de contraintes d'accès aux services. Les participants ont également mis de l'avant plusieurs pistes d'amélioration, comme l'intégration des recommandations dans les dossiers médicaux électroniques et la création d'applications mobiles pour soutenir la prise de décision. Une meilleure éducation des patients a été identifiée comme essentielle pour répondre aux demandes d'examens inutiles, souvent alimentées par la désinformation circulant sur les réseaux sociaux.

Conclusion: Le renforcement de la formation clinique et de l'éducation du public, la collaboration interprofessionnelle et l'intégration de solutions technologiques sont essentiels pour augmenter l'adoption des recommandations de Choisir avec soin. Des stratégies adaptées aux réalités des milieux ruraux et aux obstacles systémiques sont indispensables pour assurer une gestion durable et responsable des ressources en soins primaires.

Mots-clés: Recommandations Choisir avec soin; gestion responsable des ressources

INTRODUCTION

Choosing Wisely Canada (CWC) is a physician-led national campaign that aims to identify and reduce unnecessary and potentially harmful tests, treatments and procedures.[1,2] Physician orders for a patient must be evidence-based, have the potential to add value and minimise harm to patients. However, for a variety of reasons, physicians often order tests, treatments and procedures despite strong evidence that these interventions may not benefit and may even harm, their patients.[2] These unnecessary tests are often ordered by physicians, out of fear of litigation, to have all the possible information to ensure they have the correct diagnosis and to appease patients who insist they want a specific test.[3] All medical interventions are associated with some level of risk and benefit, and it is the physician's role, in consultation with their patient, to determine which tests, treatments, and procedures are likely to provide the most benefit while doing the least harm.[2] The CWC campaign aims to facilitate conversation between physicians and patients about reducing unnecessary interventions, with the goal of improved quality of care and resource utilisation in Canadian healthcare.[1,4]

Despite the good intentions of the CWC campaign, there is mixed reception among physicians.[5] Some physicians credit CWC with increasing dialogue between physicians and patients, thus encouraging greater patient involvement in their care.[5] Others appreciate that the guidelines are phrased in simple sentences, making them easy to follow, and that it is a physician-led initiative.[5] However, there remains some hesitancy among physicians in using the CWC guidelines.[5] Physicians have expressed concern that guideline campaigns developed outside frontline practice can miss clinical realities.[5] Some physicians also fear the possible legal ramifications of not providing a test or treatment to a patient that could potentially provide information about a diagnosis.[5] There is

also the sentiment among physicians that the time restraints in clinical encounters do not allow a wholesome conversation with patients about what interventions are necessary for their medical care.[5]

Since health information has become more accessible via the internet and online search engines, physicians report a shift in the power balance between themselves and their patients.[6] Patients are now frequently searching their health questions online before coming to appointments and may be requesting specific tests or have a certain expectation for the level of care they should receive.[6] The CWC guidelines state that the ideal time to educate patients about why certain interventions may be unnecessary is during the clinical encounter, but many physicians report that they are already under enormous pressure to see patients quickly, reducing their time to engage in patient education; instead, they order the requested test and move on to the next patient.[5] This may be even more likely in rural areas where there is a deficiency in primary care practitioners, and practitioners are more likely to report feeling overworked.[7,8]

Although there are numerous challenges regarding the implementation of the CWC, there have been some positive outcomes reported since its inception in 2014.[9] The Canadian Association of Emergency Physicians CW working group has reported a 31% decline in tests ordered since adopting the CWC guidelines.[9] As well, the CWC oncology working group has reported that more than 65% of oncologists use CWC recommendations "always" or "most of the time," and that over 80% of oncologists believe that the recommendations are relevant to their practice.[1] Patients are also described as responding positively to the CWC recommendations when provided with educational materials about the guidelines and the opportunity to discuss them with their primary care practitioner; however, as previously mentioned, this can be a challenge.[10]

To date, no studies have sought to understand the perspectives of primary care physicians regarding resource stewardship in a post COVID-19 pandemic context, which is a priority given current challenges in Canadian health care. Understanding the positive intentions of CWC, the successes seen in using the CWC campaign in other medical disciplines, and the challenges associated with following the guidelines is particularly important for rural primary care practitioners.[11] The primary objectives of our study were to gain a better appreciation of CWC guideline use from a rural primary care practitioner perspective, specifically regarding barriers to use following the COVID-19 pandemic.

METHODS

Recruitment of physicians was done via email invitation with a link to a Google Survey. The survey was distributed by Local Education Group administrators across 12 Northern Ontario communities and by distribution to physician members of the Society of Rural Physicians of Canada via their internal email server. The inclusion criteria were that physicians be trained in and practising Family Medicine in Canada.

The online survey collected responses from February 2024 to July 2024. Informed consent was required prior to accessing the survey. The survey consisted of three sections, including physician demographics, primary practice habits and resource stewardship implementation. Demographics such as age, years of practice, gender, practice setting(s) and location of practice were collected. Respondents were required to self-identify as residing in a rural or urban community using the rurality index of Ontario as a reference.[11] Items regarding practice habits included awareness of the CWC campaign, physician use of 17 core CWC recommendations designed specifically for Family Medicine, impacts of the COVID-19 pandemic on practice habits, opinions on inclusion of resource stewardship in medical education and barriers to implementing resource stewardship practices. Resource stewardship implementation included questions on influences of practice habits, barriers faced providing care, as well as CWC recommendations and opinions on accountability of reducing unnecessary testing in health care. The survey included 25 questions total, with closed and open-ended options involving forced choice responses to include independently generated answers not otherwise listed, if desired.

Confidentiality and anonymity were maintained by aggregating all responses per question while not collecting any identifying information. Survey responses were securely stored on a password-encrypted Google Drive

that was not linked to respondents' email and was accessible only to researchers involved in this study.

Descriptive analysis was completed using frequency tables for nominal and ordinal data. To explore underlying themes within the qualitative data (open-ended responses), we employed thematic analysis to enable the identification and reporting of patterns (themes) within the data. Thematic analysis was chosen for its flexibility and to provide a detailed and nuanced understanding of the data collected.[12] To do this, the three student researchers conducting the study began with data familiarisation, each reviewing the responses to the seven qualitative questions and responses. Researchers independently generated initial codes from the data which involved systematically coding features of the data across the entire dataset of these seven questions. Each code represented a specific segment of data that was relevant to the research questions. Coding was done inductively, meaning that codes were derived directly from the data without preconceptions, ensuring that emerging themes were grounded in participants' perspectives. Codes were then narrowed down into potential themes. This process entailed collating codes into broader categories that reflected overarching patterns in the data into charts to visualise the relationships between different codes and themes. Finally, the identified themes were reviewed and refined. This stage involved two levels of scrutiny: Reviewing the themes in relation to the coded data and revisiting the entire dataset to ensure that the themes accurately represented the data. This iterative process ensured that the themes were both internally coherent and distinctly separate from one another.

Our study received ethical approval through the Laurentian University Research Ethics Board (certificate 6021522).

RESULTS

A total of 127 primary care physicians responded to the survey [Table 1].

A quantitative analysis was initially conducted to examine potential differences in the responses of primary care physicians when comparing key factors such as geographical practice settings, years into practice and familiarity with CWC guidelines. Our analysis revealed no statistically significant differences across these variables, suggesting that the perspectives and practices regarding CWC guidelines were consistent, regardless of geographic location, years of professional experience or level of familiarity with CWC guidelines.

Physicians represented diverse experience levels [Table 2].

Table 1: Practice setting versus practice location

What best describes your current practice setting?	Rural Northern Ontario	Urban Northern Ontario	Rural Southern Ontario	Urban Southern Ontario	Rural Canada	Total	
						Count	Percentage
Solo practice	3	7	1	1	4	16	12.6
Group practice	42	31	5	0	11	89	70.1
Locum	6	3	0	0	6	15	11.8
Other	2	5	0	0	0	7	5.5
Total count	53	46	6	1	21	127	100.0

Table 2: Respondent age and years of practice

What is your age?	5 years or less	6–9 years	10–15 years	16–19 years	20 or more years	Total	
						Count	Percentage
Under 30 years	2	0	0	0	0	2	1.6
30–39 years	17	14	1	0	0	32	25.2
40–49 years	1	7	17	11	4	40	31.5
50–59 years	0	0	1	1	27	29	22.8
60 or above	0	0	0	0	24	24	18.9
Total count	20	21	19	12	55	127	100.0

Ninety-seven-point-six per cent (n = 124) of respondents reported an awareness of the CWC Family Medicine practice recommendations to reduce unnecessary tests/investigations. About 61.4% (n = 78) of respondents were aware of CWC information created for patients, and only 36.2% (n = 46) of respondents were aware of CWC recommendations to reduce low-value care after the COVID-19 pandemic.

The qualitative analysis of open-ended responses revealed several key themes regarding primary care physicians' experiences with CWC guidelines: misalignment, accessibility, consistency, fear of a missed diagnosis and time constraints in the clinical encounter.

The COVID-19 pandemic catalysed significant changes in primary care delivery, affecting both resource stewardship and clinical workflows. Key changes included increased use of virtual care and phone appointments, reduction in ordering tests and investigations, fewer routine physical examinations, increased use of personal protective equipment and adaptations to staff shortages and workflow changes. One respondent noted,

> *"Everything has changed: Workforce depletions and leadership disorganization have led to workarounds for MDs. We are not secretaries, administrators, and clinicians."*

Physicians reported various methods for staying current with medical knowledge, including frequent use of UpToDate (evidence-based clinical solutions for health care) for case-specific research, using online content and social media (e.g., Twitter, FOAMed), teaching medical learners, which reciprocally updates the physician's knowledge, conferencing with colleagues and attending organised CME sessions. One physician mentioned,

> "*Teaching med students and residents! They update me on so much all the time*!"

A prominent theme that emerged was the misalignment between patient expectations and CWC guidelines. Physicians frequently reported that patients often have preconceived notions about necessary tests or treatments, which may conflict with evidence-based recommendations. This misalignment created challenges in clinical practice, as physicians noted their need to navigate patient expectations while adhering to best practices. Many respondents emphasised the need for increased patient education to address this issue. One physician stated,

> *"The public needs to be better* educated/informed*."*

Another noted,

> *"Daily, family physicians battle the health "education" provided on TikTok and other forms of social media. Choosing Wisely should* advertise/promote *to patients on those platforms."*

The extent to which physicians incorporated CWC recommendations into their daily practice varied among respondents. Some practitioners reported fully integrating the guidelines into their clinical decision-making processes, finding them valuable for providing evidence-based care. However, others noted that the guidelines were not always aligned with their clinical experience, particularly in rural settings where unique challenges exist. Rural practitioners highlighted specific issues, such as limited access to certain investigations or specialists, which sometimes necessitated deviations from CWC recommendations.

A significant theme that emerged was the desire for improved accessibility to CWC guidelines. One physician expressed interest in having the guidelines integrated into their electronic medical record systems, which would allow for easier reference during patient consultations. In addition, 49.6% (n = 63) of respondents suggested the development of a dedicated mobile application for quick access to CWC recommendations. These comments reflect the growing importance of technology in clinical practice and the need for guidelines to be readily available at the point of care. Primary care physicians felt it should be a team effort driven by health care providers who ultimately order tests.

Concerns about consistency in following CWC guidelines across different healthcare providers were raised by one respondent. This individual highlighted a discrepancy in guideline adherence, stating:

> *"Specialists and other physicians are often not following the guidelines, which makes things difficult. For example, radiology will word things as if repeat scans, etc., are needed, and it is hard to explain to patients why this is not evidence-based and may cause harm."*

Several challenges were identified in implementing CWC guidelines, including fear of missing diagnoses, rare diseases or medical presentations post-pandemic and perceived misalignment between CWC recommendations

and standards of care or clinical experience. Physicians also described difficulty remembering numerous guidelines, patient expectations and demands for unnecessary tests and time constraints in educating patients about appropriate testing. One respondent noted,

> *"Patients are often more stubborn than I am-they whittle me down. I am often already exhausted by so many competing challenges in primary care that I can't be bothered to fight with them."*

Respondents offered several suggestions for improving the implementation of CWC guidelines, including enhanced patient education initiatives, better integration of CWC guidelines into undergraduate and postgraduate medical education, development of a user-friendly CWC mobile application, regular updates and CME sessions on CWC recommendations. Suggestions on improved consistency in guideline adherence across different healthcare providers, and adaptation of guidelines to accommodate diverse clinical settings, particularly in rural areas, were noted.

DISCUSSION

In our study, researchers wanted to better understand the utilisation of resource stewardship, particularly with CWC guidelines, from rural primary care physicians' perspectives, in a post-COVID-19 pandemic context. We found that primary care physicians in rural settings across Canada expressed many common concerns in their clinical practice environments following the COVID-19 pandemic. Our study also highlighted how the pandemic led to rapid changes in primary care, with increased reliance on virtual care, fewer routine physical exams and changes to the patterns of ordering tests. Our research is consistent with current studies which highlight the burden being placed on primary care physicians working within a system that is not functioning as optimally as it should be.[13-15]

With regard to resource stewardship, particularly CWC recommendations, there was varying consensus around utilisation and barriers to use in practice. Despite variations in practice settings (urban vs. rural) and years of practice among surveyed primary care physicians, they had equivalent awareness of CWC guidelines. This suggests that primary care physicians, especially those in rural Canada, have a widespread understanding of CWC. Despite this, the full actualisation of resource stewardship has not followed suit. Notable barriers to implementation became evident, such as fears of missing diagnoses, the frequency of so-called 'zebra' cases following long periods of reduced direct patient contact, and overwhelming time constraints which reduce the opportunity to discuss with patients why guidelines support reduced testing. Regional differences were also important to note, as physicians in more remote locations felt that ordering more investigations for their patients was important, as their ability to access repeated or additional follow-up was significantly limited. This demonstrates that guidelines are just guidelines; their applicability in unique clinical contexts warrants further understanding, not explored in this study. More insight into why there is discordance between awareness and implementation of resource stewardship practices like CWC may come from inconsistencies of awareness between medical specialities. This was one area deemed particularly problematic by primary care providers, in that patients can sometimes be presented with conflicting suggestions as to why they may or may not need further testing. This suggests that awareness of CWC recommendations in other specialities is not consistent, which may warrant further exploration. Education for trainees is also paramount. Overwhelmingly, physicians felt that integration of CWC recommendations and resource stewardship principles into undergraduate medical education should be done.

Our study demonstrated minimal awareness among primary care physicians regarding CWC patient-facing materials around reducing unnecessary testing. Nonetheless, understanding patients' awareness of these same materials was not studied, and this would be useful in the future. Physicians in our study expressed concern that patients can be influenced by social media and non-evidence-based means, which often results in their insistence on tests and treatments that are not medically needed. Therefore, improving patient education to address misconceptions and to promote shared decision-making should be a priority for resource stewardship, particularly in CWC's

campaigns moving forward. This discordance demonstrates a barrier for physicians who are already tasked with an insurmountable expectation to reduce resource burden on the healthcare system and abet patients' expectations for care. It is important to recognise that primary care physicians are often exposed to numerous practice guidelines which are used to frame their practice policies.

The themes we have identified in this study provide valuable insights into the challenges and opportunities associated with implementing CWC recommendations in diverse clinical settings. The CWC initiative is one among many that physicians can choose to utilise, but it is not the only viable resource available, nor does it preclude the use of other initiatives.[1-4] Guidelines are just guidelines– they are not prescriptive elements. Physicians' practice habits are shaped by numerous factors, including those of guidelines, practice location and regional or community factors which we examined in this study. Understanding how physicians' practice habits are influenced by initiatives such as CWC, as in our study, offers insights that could also be examined with other resource stewardship or clinical practice guidelines.

Our study highlights that it is not the sole responsibility of primary care physicians to reduce the burden of unnecessary care. Resource stewardship efforts should also include policymakers and patients, who need to be made aware of these principles, particularly in the context of our overwhelmed primary care system.

While general awareness of CWC guidelines among rural primary care physicians across Canada is present, challenges persist in translating this awareness into consistent practice. In the face of evolving patient expectations and COVID-19 pandemic-related disruptions, there is a need for continued efforts in medical and patient education, technology integration of resource stewardship and guideline adaptation to local contexts. Attempts to improve the current systemic challenges in primary care, particularly in rural regions, by reducing unnecessary testing is feasible. There is no blanket approach; however, targeted early education for healthcare providers from all specialities and patient education is paramount. Balancing expectations while reducing unnecessary testing and investigations with patient harm is key.

Limitations

Sampling bias may have occurred, as the survey distribution may have excluded physicians not engaged with the particular networks utilised. This may have skewed the sample towards those already aware of or interested in resource stewardship. In addition, the study focused on rural primary care physicians, limiting the generalisability of the results to other regions with different healthcare contexts. The use of self-reported data introduces potential social desirability and recall biases, with physicians possibly over-reporting their awareness or implementation of CWC recommendations. The sample size may also limit the robustness of the conclusions and their broader applicability. Thematic analysis of qualitative data, although rigorous, is inherently subjective and interpretations could be influenced by researcher bias. The short data collection period (February to July 2024) means that our results reflect practices during this specific time frame and may not capture longer-term trends or ongoing impacts of the COVID-19 pandemic on physician behaviour.

CONCLUSION

Our study highlights that while awareness of CWC guidelines among primary care physicians is high, consistent implementation remains limited– particularly in rural settings facing unique access and resource challenges. Sustained improvement in resource stewardship requires more than awareness; it demands system-wide strategies that integrate guideline education into medical training, support for interprofessional collaboration and leveraging of technology to make evidence-based decisions easier at points of care. Strengthening patient education and aligning expectations with the best clinical practices will be critical to advancing sustainable and high-value primary care in the post-COVID-19 pandemic era.

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