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Research Article

# Moving Evidence Forward: Addressing the Barriers to Evidence-Based Practice in Radiotherapy

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**ABSTRACT**

Improving the quality of care is an ongoing challenge for medical professionals in the Canadian healthcare system. One generally accepted method of improving health outcomes has been the clinical implementation of evidence-based practice. Historically, the barrier in clinical settings has been efficient access to reliable information. Point-of-care (P-O-C) tools have been proven to be effective and help promote evidence-based practice in professions outside radiation therapy. To examine the potential usefulness of a P-O-C tool for radiation therapists, a Canada-wide survey was distributed to practicing radiation therapists. Results showed a clear desire by radiation therapists for a P-O-C tool. Sixty-nine percent of surveyed practitioners stated that having a practitioner-focused evidence resource would change their daily work practice, but stipulated that the proper integration of resources into the day-to-day workplace is crucial to supporting clinical evidence-based decision-making. Study participants also highlighted several barriers to their ability to do so, including access to evidence-based data, differing organizational research philosophies and practices, lack of resources to promote discipline-specific practitioner research, and necessary integration of educational and mentoring programs into daily practices. Although they have not been found to be an all-encompassing remedy, P-O-C tools have the potential to aid front-line healthcare providers in fostering evidence-based practice.

**RÉSUMÉ**

L'amélioration de la qualité des soins est un défi constant pour les professionnels de la santé œuvrant au sein du système de santé au Canada. L'une des méthodes généralement acceptée d'amélioration des résultats en matière de santé est la mise en œuvre clinique des pratiques fondées sur les données probantes. Historiquement, l'accès efficace à une information fiable a été l'obstacle principal en milieu clinique. Les outils au point de service ont démontré leur efficacité et ont aidé à faire la promotion de la pratique fondée sur les données probantes dans les professions autres que la radiothérapie. Afin d'examiner l'utilité potentielle d'un outil au point de service pour les radiothérapeutes, un sondage pancanadien a été distribué aux radiothérapeutes en exercice. Les résultats montrent clairement que les radiothérapeutes souhaitent avoir accès à un tel outil. Soixante neuf pour cent des répondants ont indiqué que le fait de disposer d'une ressource probante axée sur les praticiens modifierait leur pratique quotidienne, tout en ajoutant que l'intégration adéquate des ressources dans la routine quotidienne du milieu de travail était essentielle pour appuyer la prise de décision. Les participants à l'étude ont également soulevé plusieurs obstacles à leur capacité de le faire, notamment l'accès aux données fondées sur des preuves, les différences entre les organisations en matière de philosophie de recherche et de pratique, l'absence de ressources pour faire la promotion de recherches spécifique à la discipline par des praticiens et la nécessité d'intégrer les programmes d'éducation et de mentorat dans la pratique quotidienne. Bien qu'il n'ait pas été démontré qu'ils puissent être un remède tout-puissant, les outils au point de pratique ont le potentiel d'aider les professionnels de la santé en première ligne à favoriser une pratique fondée sur des données probantes.

*Keywords:* Evidence-based practice; radiation therapy; point-of-care tools; clinical decision support tools; health communication; evidence-based medicine

The author currently works as a faculty member in the University of Alberta's Radiation Therapy Program. She is interested in improving the efficiency and effectiveness of health professionals and the healthcare system through positive changes in practice. Particularly, the development and integration of health technologies and innovative clinical communication methods to support healthcare practitioners such as access evidence-based medicine, translating knowledge into applied clinical settings, and supporting front-line decision-making on a day-to-day basis.

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Improving quality of care is an ongoing challenge for medical professionals in the Canadian healthcare system [1]. One generally accepted method of improving health outcomes, used as far back as the seventeenth century, has been the clinical implementation of evidence-based practice. Historically, the barrier in clinical settings has been efficient access to reliable information [2]. Today, numerous strategies and resources exist for providing practitioners with quick and easy access to research evidence. Despite this, research shows that evidence-based recommendations and research findings are still not commonly used [1, 3, 4]. The question, therefore, is: what type of resource can best complement practitioner's clinical expertise to support evidence-based practice in clinical settings?

Evidence-based medicine is defined by Best and Holmes [5] as a process that involves finding the best evidence for one's purposes, critically evaluating the literature you find, and using what evidence you find in conjunction with your own professional expertise to apply your learning's into clinical practice to make evidence-informed decisions [5]. The incorporation of evidence into clinical decision-making processes can lead to more consistent standards of practice, reducing variations between practitioners [6]. In light of these findings, healthcare organizations have begun to recognize the importance of academic research for front-line healthcare providers and are promoting integrative work practices. However, many barriers exist that hinder practitioners from being able to access and use evidence to support their decisions. Barriers can include defining what constitutes appropriate evidence, gaining accessibility to available evidence, the capacity to understand and interpret evidence, time and space to review literature, needing the organizational structure to support practices, having overwhelming workloads and constant crisis-like situations, working within overarching politics, lack of mentors, and technological concerns [7].

Many barriers to evidence-based practice involve access to information. Online evidence information tools, called point-of-care tools (P-O-C), are becoming increasingly popular for making informed patient care decisions. P-O-C resources are broadly defined as a clinical decision tool for healthcare professionals allowing information to be retrieved quickly and used immediately at the bedside [8]. P-O-C tools can take on different technological forms and provide users with evidence that has been synthesized and evaluated by other healthcare practitioners. They offer a rationale for patient care decision recommendations, as well as a link to the original evidence. They are a convenient and fast way to access synthesized evidence-based medicine and aid practitioners in keeping up with available health literature, regardless of research capabilities [8, 9]. Some established examples of P-O-C tools include: *The Cochrane Collaboration*, an independent international organization committed to dissemination of medical intervention reviews; *DynaMed*, an EBSCO-based physician synthesized evidence decision tool; and *Lexicomp Online*, a pharmaceutical information resource [10].

Table 1
Summary of Examples of How Practitioners Keep Current With Research in Their Practice

| | |
|---|---|
| Journal reading and literature database searches | Workplace study sessions |
| Asking for physician input and opinions | Departmental presentations |
| Participating in workplace research projects | Learning from change management process |
| Multidisciplinary, physics, and quality assurance rounds | Interacting with communities of practice |
| Attending conferences | Social media (Twitter/ Facebook) |
| Peer-to-peer networking | Participation in workplace committees |
| Continuing education courses from the Canadian Association for Medical Radiation Technologist | Departmental education sessions |
| Vendor Webinars | Discussions with medical physicists |

The P-O-C tool studied in this article is *UpToDate*, a physician literature synthesis website "considered as one of the best sources for answering clinicians' questions at the P-O-C" [8]; (p. 729) and provides a good example of a tool that practitioners embrace in their daily work According to *UpToDate*, their overarching goal is to help physicians make better patient care decisions by offering evidence-based recommendations from a trustworthy, diverse group of credible physicians who have evaluated the current available research literature and publications [11]. To achieve this, the website has built a strong reputation in the medical world and has been noted by Bowen and Graham [8] to be "more comprehensive in content and also faster [in] compar[ison] to the other [P-O-C tools]" (p. 729) such as ACP PIER, Essential Evidence Plus, and First Consult.

Despite the obvious benefits of P-O-C tools, there are limitations and assumptions to be considered. Of primary concern is whether the content provided by third-party sources is accurate and credible [9]. Important, too, is that P-O-C's should be reflective of "everyday practice by being supportive of the way clinicians think and act" [10]; (p. 120). In other words, P-O-C's should be designed by practitioners for practitioners. Furthermore, if the technology is not

Table 2
Response Summary of Existing Barriers that Limit Access to Research and Evidence-Use

- Lack of dedicated quiet space and protected research time
- Lack of support from management to act on evidence-based findings
- Workload exhaustion
- Lack of organizational funding and opportunities for front-line practitioner research initiatives
- Limitations of personal research capabilities, evaluation of research
- Limited access to databases and full-text journal articles
- Limited computer access
- No additional time to use workplace technology for research initiatives
- Limited involvement in creating departmental vision, goals, and research directions
- Limited funding for educational opportunities and conferences
- Departmental research is not valued by management