

Early COVID-19 and the experiences of Canadian wound care clinicians: preliminary findings



Authors (left to right)
Janet L. Kuhnke, Sandra Jack-Malik, Mariam Botros, Sue Rosenthal, Crystal McCallum and Kathryn Bassett

These preliminary data are part of a larger qualitative study designed to explore the experiences and learnings of frontline wound care clinicians in Canada during the COVID-19 pandemic. This body of work may influence further research and the development of wound-related policies. Individuals on Wounds Canada's mailing list were invited to describe their experiences in a qualitative survey. Questions focused on how the delivery of wound care services were influenced during the early months of COVID-19. Using a Likert Scale, and the option to provide additional details, participant responses varied and are represented by five overarching themes, which are discussed in this article. This research is significant in its description of the limitations and challenges healthcare providers faced when providing care during a pandemic. The data-collection process offers an outlet for clinicians to share their experiences and have their voices heard. It also provides possibilities for the provision of consistent and high-quality wound care during a pandemic. Furthermore, the data highlight some of the issues faced by clinicians and patients/families when technology is required as part of receiving care. These data could be used to develop new, or modify existing, professional development opportunities.

Janet L. Kuhnke is Assistant Professor, Nursing, School of Education and Health, Cape Breton University; Sandra Jack-Malik is Assistant Professor and Chair of Education, School of Education and Health, Cape Breton University; Mariam Botros is CEO Wounds Canada, Women's College Wound Healing Clinic, Toronto, Canada; Sue Rosenthal is Director of Knowledge Mobilization, Wounds Canada; Crystal McCallum is Director of Education, Wounds Canada; Faculty of Health Sciences, Western University, London, Ontario; Kathryn Bassett is Communications Specialist, Wounds Canada

Wounds Canada includes in its mandate the responsibility to provide education and conduct research. This includes reaching out to healthcare providers to understand their ability to deliver skin and wound care services to their patients. The World Health Organization declared COVID-19 a global pandemic in January 2020 and the Government of Canada followed suit in March 2020. Despite these declarations and the limitations on human movements, COVID-19 spread. Wounds Canada and collaborating researchers put a 2-year research project in place to study the direct and indirect impacts of COVID-19 on patients, families and healthcare providers, including wound care clinicians.

As part of the research design process, related literature was reviewed. To the authors' knowledge, there were no wound care service research studies completed during the severe acute respiratory syndrome (SARS) outbreak in 2003. The authors, therefore, looked to the work described below to understand best practices in terms of implementation of wound care practices and services, including the use of technologies. The authors appreciate these are non-pandemic-related studies; however, they have been referred to because of the paucity of wound care studies during the pandemic.

Flanagan's seminal work in 2003 identified systemic barriers across clinical, educational, psychosocial (patient), professional and

Table 1. Participant role.

<i>n</i> =245	Practising regulated healthcare provider (frontline clinician)	Manager or administrator for a healthcare organisation	Practising unregulated healthcare provider
Alberta	24	-	-
British Columbia	14	1	-
Manitoba	21	-	-
New Brunswick	9	-	1
Newfoundland	2	-	-
Northwest Territories	3	-	-
Nova Scotia	14	7	-
Ontario	116	11	2
Prince Edward Island	1	-	-
Québec	6	1	2
Saskatchewan	6	-	-
No response	1	1	1

organisational systems when implementing wound care best practices (Flanagan, 2005). More recent studies focused on the experiences of healthcare providers, resulting in rich data on a range of topics. Levine (2013) found physician involvement in pressure injury care could be improved through education and communication among team members (Levine, 2013). Barriers identified were outdated wound care practices, poor communication when the patient is transferred, and wound care being considered a low priority.

In acute care, Gillespie and associates (2013) reported that many nurses (*n*=120) know how wounds heal physiologically, yet they do not implement the recommended best practices during treatment. Probst and colleagues, and the European Wound Management Association (2014), identified the need for technologies, cost-effective contracts and a focus on primary care models, which include wound care initiatives.

Moore et al (2015) identified the need for technologies in wound care and to regularly measure the effectiveness of these services long-term. Cullum et al (2016) focused on improving chronic, complex wound outcomes: they focused on understanding staff perspectives (*n*=12). Staff who sought out patient-centred treatments that supported patients' lifestyles were discouraged when wounds did not close. In contrast, nurses were

encouraged when patients were pleased with the wound progress and outcomes. Timmins et al (2018) identified barriers that included reduced access to wound dressings and related products, high nurse-to-patient ratios, lack of clarity regarding the roles and responsibilities related to wound care, and inconsistent wound care education and training.

Chaudhary and Singh (2018) stated that nurses (*n*=240) identified resources, training and education as necessary for the prevention of pressure injuries, which they identified as lacking. Lin et al (2019) reported that teams needed support to prevent surgical site infections and implement clinical best practices. Participants (*n*=20) identified the need for hand hygiene and knowledge of aseptic technique in preventing surgical site infections, and noted that nurses' adherence to recommended practices were poor.

Finally, a recent Canadian study researched the barriers to implementation of best practices and found a need for systemic education regarding said practices (Kuhnke et al, 2019). Moreover, they documented the importance of managers and clinical leadership, placing a higher value on wound care and communication.

Aim

Cognisant of these findings, our study sought to understand how healthcare professionals providing wound-care services were coping during the COVID-19 pandemic, and whether existing practices, including the provision and delivery of wound care services, remained the same, deteriorated or improved.

Specifically, this research aimed to determine how clinicians working in Canada (e.g. nurses, MDs and allied healthcare professionals) were delivering wound and skin care services during the pandemic. Participants were asked how they changed or adapted delivery of wound-care services to patients. The goal of the authors was to provide practical evidence to Wounds Canada as it continues to support clinicians through educational activities and the delivery of a range of resources.

Methodology

Online surveys generate rich data because they provide a safe forum for participants to share their experiences (Salmons, 2015). The authors used a qualitative, online survey methodology with structured, semi-structured and open-ended questions that allocated space to describe individual experiences. Survey

questions were circulated via a web-hosting platform, hosted in Canada. An online survey was chosen so participants could answer the questions when they had time in their schedules — something we deemed essential because of time demands during the pandemic.

Individuals in the Wounds Canada database were sent a link to the survey via email, accompanied by a Letter of Information and an informed consent form to sign. Participants who started the survey could stop at any time. The survey was designed with a 2-year timeline. An initial survey was sent, followed by additional surveys at three, six, nine and 12 months.

Ethics and informed consent

The study was subject to review and approved by the Cape Breton University Research Ethics Board (Sydney, Nova Scotia, Canada).

Analysis

Data were analysed by the researchers using thematic analysis (Braun and Clarke, 2013). The authors identified themes and summarised recommendations for Wounds Canada to improve support for clinicians during and following the pandemic. Using a Likert Scale, including the option to provide additional details, participant responses ranged and are represented by five key themes.

Findings

Two-hundred and forty-five ($n=245$) participants completed the first survey [Table 1]; 9,500 were emailed out (2.5% response rate). This first survey is part of a larger study that includes follow-up surveys with distribution dates of September 2020, December 2020, March 2021 and June 2021. A list of potential participants was generated from a Wounds Canada database of individuals who had previously agreed to receive invitations to participate in research. Findings presented here are the result of responses from the initial survey, which was sent out in late April 2020. Each data set was, or will be, analysed using a thematic analysis approach (Braun and Clarke, 2013).

Specifically, the authors read and re-read the survey responses looking for patterns, changes and trends. The majority of questions included an option for the participants not only to answer yes or no, but also to add details specific of their individual situation. This resulted in the data being reported statistically, as well as including a description of individual circumstances that were in turn themed across the data set.

Five themes emerged from the data:

- 1) Increased use of virtual-care technology: during the pandemic, some wound care clinics were deemed non-essential and, therefore, temporarily shut down, leading to the use of virtual care technology
- 2) Unequal clinician access to virtual care technology: clinician access to and use of technology related to assessment, treatment and follow-up was not always available, reliable or user-friendly
- 3) Unequal patient access to and expertise in using virtual care technology: families and patients did not always have access to the required technology and/or the expertise needed to be assessed, treated and cared for remotely
- 4) Increased clinician flexibility: many clinicians regularly endeavoured to adapt and be flexible
- 5) Lack of skin and wound education: an existing lack of skin and wound care professional development/education was highlighted and exacerbated by the onset of the pandemic. This deficit influenced the service healthcare professionals provided.

Please note that the next five subheadings detailing the five themes that emerged from the data include direct quotes from the participants.

1) Increased use of virtual technology

During the pandemic, some wound care clinics were deemed non-essential and were, therefore, temporarily shut down, thus requiring the use of virtual technology, in order to deliver patient care. Participants shared the following* about the changes they experienced:

- The closing of the wound clinic triggered a series of delays in availability and access to both wound care providers and the ability to maintain/secure enough personal protective equipment (PPE) supplies needed to provide safe care**
- Nurses specialised in wound, ostomy and continence (NSWOC) were not considered an essential service; therefore, in-home visits could not be carried out and only virtual visits were allowed
- We did not do virtual visits but there was always a photo and follow-up assessments being done through email consultations
- We initiated virtual rounds and use of Ontario Teleconference Network (OTN) conferencing
- More staff knowledgeable in wound care are needed. If we have exhausted all our knowledge in wound care, we would refer to NSWOC. Arrangements via virtual technology

would be arranged to assess patients and give recommendations for wound care.

*To protect confidentiality throughout the research process, participant responses have been reported in aggregate form (American Psychological Association, 2020).

**Participant survey data were edited for clarity.

2) Unequal clinician access to virtual care technology

Clinician access to and use of virtual care technology related to assessment, treatment and follow-up was not always available, reliable or user-friendly.

- The booking of technology could be a challenge
- It was beneficial for doctors to observe progress and/or challenges, yet the quality and visibility of the video conference software was not clear
- The assessing physicians were not always on time and this delayed the schedule. As nurses, our biggest challenge was to complete the dressing within the 15-minute time slot. If you needed to clear space for the next telehealth patient, then the dressing time was rushed. Moreover, most patients using telehealth do not have simple dressings
- A strength of using technology is that the provider can see the wound virtually. Yet, the assessing provider needs to have strong wound and skin care knowledge to make best fit virtual recommendations. If the provider lacks knowledge regarding signs and symptoms and does not know what questions to ask, he/she does not make credible recommendations. Technology is only as good as the user's capabilities
- With the use of smartphones, nurses were able to electronically submit wound photos to physicians. Prior to COVID-19, nurses were reluctant to use this technology or transmit photos. Since COVID-19, nurses regularly transmit photos for consultation
- We have been ramping up our OTN services as we recognised the value of this service. It increases accessibility to health care and resources and minimises travel time between sites; this resulted in more rapid response times to consults and improved patient outcomes.

Unequal patient access to and expertise in using virtual care technology

Patients and their care partners did not always have the required technology and/or expertise to have their wounds assessed, treated and

cared for virtually.

- It is very challenging to utilise virtual care technologies with senior populations, and even within the community home visits, as many do not have video or microphone knowledge or equipment. Many do not have reliable internet. As well, they lack equipment needed for virtual care
- Older patients are resistant to trying virtual platforms. The authors' NSWOC does not particularly like the platform for the initial consultation, yet finds it appropriate for patient follow-up visits
- Some virtual visit training has been done, but relies on the patient being able to manage at their end; this is not consistent.

4) Increased clinician flexibility

Clinicians were creative problem solvers who endeavoured to adapt and be flexible.

- Usage of remote technology, such as Zoom and OTN, has increased. It has enabled staff to connect with patients, families and care partners, thereby enabling clinicians to provide teaching and address any questions/concerns that patients may have prior to discharge
- During COVID-19, we have started to use more virtual care in our work, which has allowed us better access to patients and to see more people
- Work has continued almost uninterrupted for some clinicians and they are working more collaboratively with other health disciplines, physiotherapy and occupational therapy
- Wound photos and communication are being utilised within the RN role. This has facilitated things nicely; we are also accessing wound care conference meetings
- I continued to use my phone, including email with photos; on one occasion I did a live video conference.

5) Lack of skin and wound education

An existing lack of skin and wound care-related professional development/education was highlighted and exacerbated by the onset of the pandemic. This influenced the care delivered by healthcare providers and received by patients. They shared the following:

- Nurses in long-term care (LTC) settings require ongoing education related to wound care to provide and meet the needs of their residents
- Community care is understaffed. There is high turnover and nurse burnout; nurses visit 12–15 patients per day. Nurses lack

experience when recognising wound types and comorbidity

- The authors' facility does not have any NSWOC trained nurses. We are RNs with experience and basic education in wound care
- Due to the undervaluation of the community nurses' contribution to health care, our sector is underfunded compared to facilities. This makes it difficult to keep experienced nurses and increases the demands. If the goal of clinicians is to provide holistic care and create care plans with patients that include education and encourage self-care, then we are seeing too many patients. The existing model makes it more likely for nurses to get in, provide the dressing change and then move on
- I was increasingly able to teach clinicians to complete the advanced lower-limb assessments. Hopefully, as we move forward, we can obtain total contact casting education and supplies. I would be very satisfied if staff had more education on wound management, including conservative sharp wound debridement (CSWD).

Discussion

Commitment to patient-centred care

The data set included descriptions of the concerns clinicians have as they relate to the provision of wound care at the outset of the pandemic. It is also important to note that clear descriptive threads related to the commitment clinicians have to provide quality care were also evident.

Deeming wound care clinics as non-essential was unexpected and not fully understood by clinicians, patients, families and health service providers. Participants described how patients' wound-related needs are complex and demanding, and often require the services, supplies, and expertise readily available and accessible at a clinic. Moreover, clinicians responded, adhered to and administered the COVID-19 pandemic guidelines as established and laid out by the Canadian government (Government of Canada, 2020a), which resulted in many changes to the care patients were accustomed to receiving (Government of Canada, 2020a; 2020b).

Halpern et al (2020) discussed the importance of clear communication and leadership during COVID-19 and emphasised the need to communicate clear strategies to mitigate the spread of the virus. This in part explains the discrepancies between the care clinicians

wanted, and were accustomed to providing, and the care they were able to provide as a result of pandemic-related restrictions (Rogers et al, 2020).

Participants described being committed to the delivery of patient-centred care. They first directed their energies to dealing with COVID-19 and implementing associated infection-control protocols, including personal protective equipment (PPE) practices to minimise risk to patients and themselves. They also described their efforts when attempting to rebook patient visits and modify triaging processes and workflow, as many wound clinics were deemed non-essential.

Technology: access, quality, reliability and usability

Clinicians turned to technology during the early months of COVID-19 as face-to-face interactions were often no longer available and/or permitted. Webster (2020), quoting Sandy Buchman, president of the Canadian Medical Association, states that healthcare providers, designers and consultants raced to adapt new and existing technologies to meet healthcare demands. The availability of a reliable internet connection, the required devices and the expertise to utilise and participate in virtual healthcare appointments were repeatedly noted as areas of concern.

Furthermore, participants described inequities and assumptions made by individuals and organisations, resulting in clinicians using their own data plan or device to engage in virtual healthcare. Participants also wondered about using devices not approved by care providers (reimbursing agencies), with respect to confidentiality and privacy. Rogers and colleagues presentation noted that "during the pandemic, it is advisable to implement strategies for a wider use of remote patient monitoring (RPM), which essentially uses technology ... to screen patients at home and provide early warnings of ulcers or complications" (Rogers et al, 2020).

Clinicians were aware of the care their patients needed and wanted to provide it; however, the technology repeatedly fell short and, therefore, patients were not regularly screened for early identification of wounds and related complications. Calhoun et al (2017) reported that home access to the internet can be an important barrier when utilising electronic health (eHealth) services.

Clinicians respond creatively to the ever-changing demands of COVID-19

From the preliminary survey data, we recognised consistent, creative efforts by clinicians to adapt and respond during the early months of the pandemic. Clinicians ‘danced’ with technology as the demand to conduct work online or use technology moved past the short term. Similar to the findings of Mehrdad et al (2020), participants describe the impact on patients, families and themselves as they adapt to working and providing skin and wound care in a pandemic, and trying to normalise the experience. This resulted in the increased uptake of electronic and virtual healthcare technologies to support patient care and overcome barriers imposed by the pandemic.

Moving forward

This research study was designed to identify challenges and opportunities that arose as a result of the pandemic, and may lead to the need for further research and the development of future policies. These policies can address some of the gaps exposed by this research to provide more sustainable access to wound care clinics, increased development opportunities of wound care competencies, and improved usage and equitable access to virtual care in wound prevention and care.

WINT

References

- American Psychological Association (2020) *Quotations from Research*. Washington DC: APA. Available at: <https://bit.ly/2Qmeb6D> (accessed 21.04.2021)
- Braun V, Clarke V (2013) *Successful Qualitative Research: A Practical Guide for Beginners*. Thousand Oaks, CA: SAGE Publishing
- Calhoun PS, Wilson SM, Hicks TA et al (2017) Racial and sociodemographic disparities in internet access and ehealth interventions utilization among veteran smokers. *J Racial Ethn Health Disparities* 10.1007/s40615-016-0287-z
- Chaudhary S, Singh N (2018) Assessment of knowledge and practice and identification of barriers toward pressure ulcer care and prevention among nursing professionals. *Ann Phys Rehabil Med* 61s: e309–e433
- Cullum N, Buckley H, Dumville J et al (2016) *Wound Research for Patient Benefit: A 5-year Programme of Research*. National Institute for Health Research. Southampton (UK): NIHR Journals Library
- Flanagan M (2005) Barriers to the implementation of best practice in wound care. *Wounds UK* 1(3): 74–82
- Gillespie BM, Chaboyer W, Allen P et al (2013) Wound care practices: A survey of acute care nurses. *J Clin Nurs* 23(17–18): 2618–27
- Government of Canada (2020a) *COVID-19 Pandemic Guidance for the Health Care Sector*. Available at: <https://bit.ly/32AfhhM> (accessed 21.04.2021)
- Government of Canada (2020b) *COVID-19: For Health Professionals*. Available at: <https://bit.ly/3v9dyfr> (accessed 22.04.2021)
- Halpern SD, Truog RD, Miller FG (2020) Cognitive bias and public health policy during the COVID-19 pandemic. *JAMA* 324(4): 3370338
- Kuhnke JL, Keast D, Rosenthal S, Evans R (2019) Health professionals’ perspectives on delivering patient-focused wound management: a qualitative study. *J Wound Care* 28(Sup 7): S4–S13
- Levine JM (2013) Physician involvement in wound care: Barriers and solutions. (Abstract). *JAMDA* 14: B3–B26
- Lin F, Gillespie BM, Chaboyer W et al (2019) Preventing surgical site infections: Facilitators and barriers to nurses’ adherence to clinical practice guidelines—a qualitative study. *J Clin Nurs* 28(9–10): 1643–52
- Mehrdad EA, Nasserbakht M, Bernstein C et al (2020) Healthcare providers experience of working during the COVID-19 pandemic: a qualitative study. *Am J Infect Control* S0196-6553(20)30896-8
- Moore Z, Angel D, Bjerregaard J et al (2015) eHealth in wound care: From conception to implementation. *J Wound Care* 24(Sup5): S1–S44
- Probst S, Seppänen S, Gethin G et al (2014) EWMA Document: Home care-wound care: Overview, challenges and perspectives. *J Wound Care* (23 Suppl 5a): S1–S41
- Rogers LC, Armstrong DG, Capotorto J et al (2020) Wound center without walls: The new model of providing care during the COVID-19 pandemic. *Wounds* 32(7): 178–85
- Salmons J (2015) *Qualitative Online Interviews* (2nd ed.). Thousand Oaks, CA: SAGE Publishing
- Timmins BA, Thomas Riche C, Saint-Jean ME et al (2018) Nursing wound care practice in Haiti: facilitators and barriers to quality care. *Int Nurs Rev* 65(4): 542–8
- Webster P (2020) Virtual health care in the era of COVID-19. *Lancet* 395(1031): 11–7