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INFIRMIÈRES SPÉCIALISÉES EN
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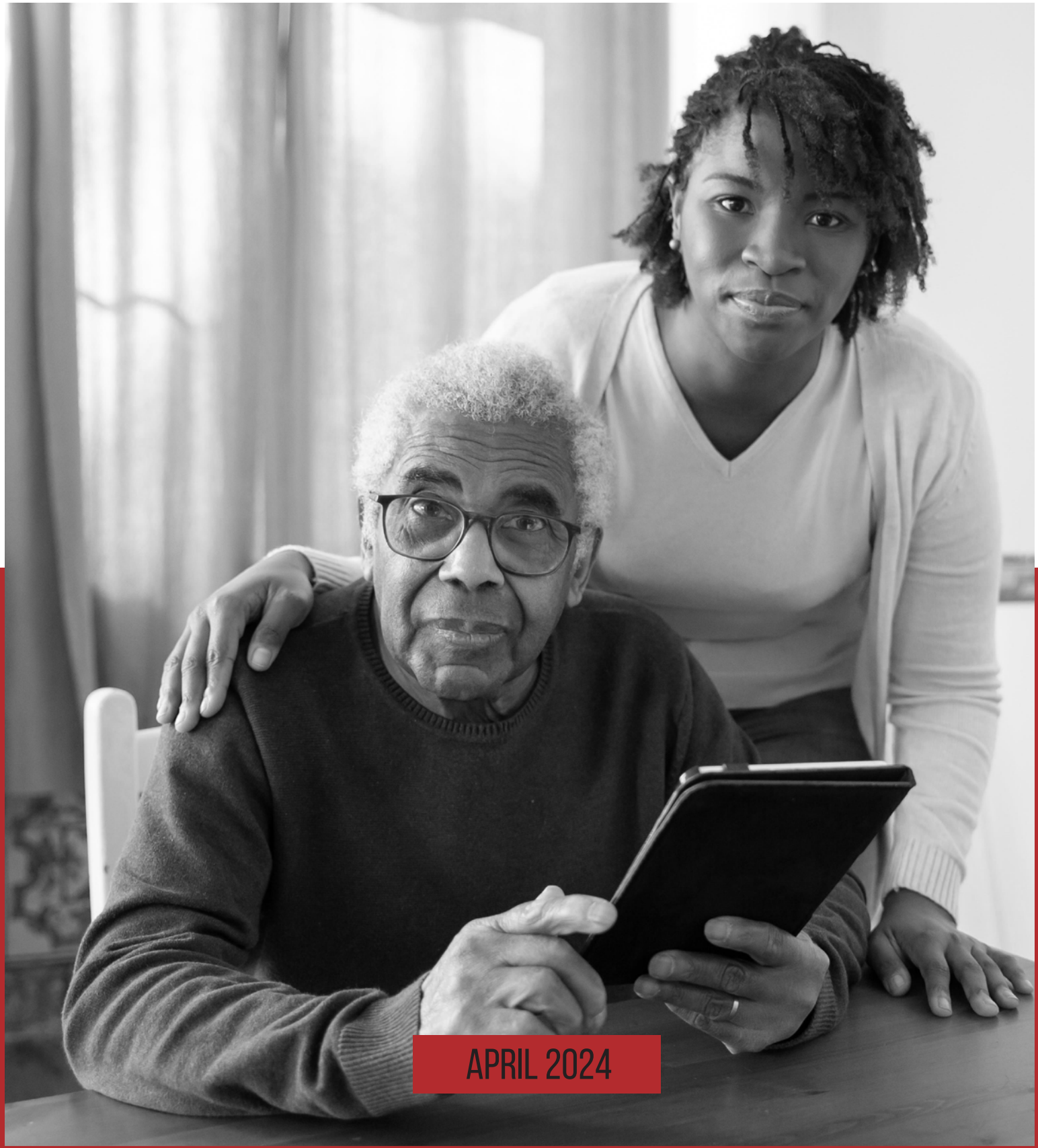
CANADA

VIRTUAL CARE TOOLKIT



APRIL 2024

INTRODUCTION

In 2020, the COVID-19 pandemic brought many changes to the personal and work lives of all Canadian health care professionals. The only option for many Nurses Specialized in Wound, Ostomy, and Continence (NSWOCs) to continue to provide support and direction to clients with wounds, ostomies, and continence challenges was through virtual care.

Most NSWOCs and many health care organizations / employers lacked experience in this method of providing care; furthermore, systems to support both the client and the health care professionals were not in place. Canadian NSWOCs developed a way to support their clients. We learned a lot individually and collectively, from protecting client privacy and information to gathering pertinent data without seeing a client in person.

In the fall of 2022, a group of NSWOCs interested in virtual care came together to develop this toolkit to assist Canadian NSWOCs to safely provide virtual care in their practices. No longer are NSWOCs required to figure it out as they go, as many had done in 2020.

The NSWOCC Virtual Care Toolkit is divided into five sections: Legal and Regulatory Considerations, Technology, Equity-Oriented Care, Delivery of Virtual Care, and Knowledge Transfer. Within each section, considerations for virtual care are highlighted, and suggestions for addressing these concerns are included. Much of the available literature in the realm of virtual care relates to wound care. The advice offered here for ostomy and continence virtual care is largely the expert opinion of the task force. We have chosen to use the term client throughout meaning a "recipient of care: in the community-client, in residential care-resident, and in acute care-patient."[1 p.16]

Quick response (QR) codes have been included in this document to aid you in accessing additional resources. In the electronic edition, either use a smartphone camera to scan the QR code or click on the QR code thumbnail, which has an imbedded hyperlink. In a printed version, use a smartphone camera to scan the QR code.

This toolkit will be useful to both NSWOCs and their health care organizations / employers in ensuring that safe and effective virtual care is provided. The task force has endeavoured to formulate NSWOCC's first toolkit, which provides researched hints and tips to facilitate virtual care for wound, ostomy, and continence clients. Although this document is focused on NSWOC practice, some Skin Wellness Associate Nurses (SWANs), in particular diploma registered nurse (RN) SWANs, may have the knowledge, skills, and judgment to provide some virtual consults. Still, they must limit those consults to correspond with their local and provincial/territorial scope of practice and legislation.

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The description of the methodology can be found in Appendix 1.
Task force, disclosures, acknowledgements, disclaimer, copyright statement, and suggestion citation can be found on the last page.

VIRTUAL CARE DEFINITION

Multiple terms are used across the country to refer to virtual health care consultations, including virtual care, telenursing, telepractice, telemedicine, telehealth, nursing telepractice, and virtual nursing practice. There is little variability in the definitions for each of these terms, and the terms are used interchangeably within the literature.

For the purposes of this document, the task force has chosen to use the term virtual care as defined by Alberta Health Services.

> "The use of innovation and technology to connect providers to one another and providers to [clients] to deliver health services … ."[2 p.25]

The strengths of this terminology and definition are:

- Innovation is included, which acknowledges that different ways of carrying out virtual care will occur.
- Forms of technology are not defined, allowing for the use of new technologies without the need to change the term used and its definition.
- Connection to both health care providers and clients (patients) is addressed, which is important, as NSWOCs have an important role in providing consultations to both health care providers and clients.

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LEGAL AND REGULATORY CONSIDERATIONS

LEGAL AND REGULATORY CONSIDERATIONS

PROVINCIAL STANDARDS, SCOPE OF PRACTICE, AND JURISDICTIONAL CONSIDERATIONS

NSWOCs using virtual care in practice—no matter the duration, frequency, or modality—are obligated to comply with the same regulations and legislations governing their practice as when providing in-person care. NSWOCs should be vigilant about the geographic location of both themselves and the client, as the regulations and legislation may vary throughout the provinces and territories of Canada and abroad.

An NSWOC using virtual care in any capacity must remain accountable to the following:

- provincial/territorial and federal laws;
- regulatory body / colleges of nursing:
  - standards of practice;
  - scope of practice; and
  - additional regulations and by-laws (e.g., ethics and insurance requirements); and
- health care organization / employer policies, procedures, and protocols.

All nurses are legally bound to practice within all applicable provincial/territorial and federal legislation, such as privacy and confidentiality laws. NSWOCs should familiarize themselves with associated legislations in their areas of practice. Additionally, they must comply with the scope of practice, standards of practice, code of ethics, and any other relevant regulations outlined by their regulatory body / college of nursing.[3,4] When considering cross-jurisdictional virtual nursing care, standards of practice, scope of practice, and regulations may differ from one jurisdiction to another.

> The nursing regulator in the nurse's jurisdiction may deem that the nurse is practicing in the province or territory in which they are physically located, regardless of the location of the client. However, the nursing regulator in the client's jurisdiction may deem the nursing care to be taking place in that jurisdiction, rather than where the nurse is located. Consequently, nurses engaged in telepractice should establish whether licensure is required in the jurisdiction(s) where the clients are located, where the nurse is physically located or both.[5]

Before practicing in another jurisdiction, it is advisable that the NSWOC contact the regulatory body / college of nursing of the jurisdiction they are practicing in when outside of their own to establish what standards or registration requirements are necessary. Table 1 provides links to information on virtual care in the Canadian provinces/territories.

Table 1 *Link to Provincial/Territorial College Virtual Care Information*

REGULATORY BODY	VIRTUAL CARE INFORMATION
British Columbia College of Nurses & Midwives	
College of Registered Nurses of Alberta	
College of Registered Nurses of Saskatchewan	
College of Registered Nurses of Manitoba	
College of Nurses of Ontario	
Ordre des infirmières et infirmiers de Québec	

REGULATORY BODY	VIRTUAL CARE INFORMATION
College of Registered Nurses of Newfoundland & Labrador	
Nurses Association of New Brunswick	
College of Registered Nurses of Prince Edward Island	
Nova Scotia College of Nursing	
College and Association of Nurses of the Northwest Territories and Nunavut	
Yukon Registered Nurses Association	None located

Finally, NSWOCs must follow all of their health care organization's / employer's applicable policies and procedures for virtual care use and delivery.[6-8] Having such policies in place is another way to mitigate the potential risk associated with virtual care practice. NSWOCs providing virtual care should be involved in the development and documentation of risk management plans and related policies.

A policy regarding virtual care should contain information on the following topics:

- process for determining if virtual care will meet the client's needs;
- choice of technology;
- management of care when virtual options no longer meet the client's needs;
- situations when the virtual care interaction terminates before the nurse is satisfied all concerns have been managed;
- consultation with another health care provider when the situation exceeds the nurses' scope of practice;
- procedure(s) for addressing when technology is interrupted or unavailable;
- informed consent (written, verbal, or recorded);
- privacy and confidentiality;
- documentation;
- security and ownership of the client's health record;
- appropriate video/telephone behaviour and conduct;
- liability protection; and
- sending or receiving consultations and referrals (Adapted with permission from Nova Scotia College of Nursing).[3]

INSURANCE NEEDS OF REGISTERED NURSES IN CANADA

Professional liability protection (PLP) provides legal representation for a professional (including RNs) and financial compensation for members of the public who have been harmed as a result of malpractice or negligence by a professional.[9] It is a requirement that nurses hold PLP. The specific coverage requirements set by the nurse's regulatory body vary jurisdictionally; nurses should understand what their PLP coverage requirements are to ensure that they hold PLP that meets the criteria for their primary area of practice. Nurses can independently source their own PLP insurance coverage.

In some instances, health care organizations / employers may offer PLP to their employees. PLP coverage provided by a health care organization / employer is often subject to limiting terms or conditions that may impact the possible support provided in the event of a legal proceeding. An insurance policy provided by a health care organization / employer should be reviewed to ensure that it meets the requirements set out by your regulatory body.[10]

NSWOCs who operate in independent practice "do not operate under the direct control of another health professional, employer, or healthcare institution, and are legally accountable for the professional services they provide as well as business matters."[11] Therefore, the NSWOC must be certain to obtain adequate professional liability insurance in accordance with the requirements of their regulatory body and should consider if additional business insurance coverage or cyber liability coverage is required.[12] Cyber liability coverage is an additional insurance policy that provides protection or support in the event of a privacy or network security breach when the professional is involved.[13] For example, an NSWOC in independent practice

stores personal health information on their personal computer following a virtual consultation. The NSWOC opened a phishing email sent to their personal email account that resulted in their computer being hacked and a resulting privacy breach. Cyber liability protection may provide response support and protection in the event of a legal proceeding. Extra liability insurance may be required by the regulatory body / college of nursing for their province/territory and may require NSWOCs to disclose/declare to their regulatory body / college of nursing that their work is or may include private practice to be eligible for insurance coverage.

The NSWOC is responsible to provide reasonable safeguards for client information, confidentiality, and privacy, including but not limited to:

- hardware is password locked;
- Canadian- or Quebec-based secure server;
- virtual private network (VPN);
- hardware in a secured physical location;
- 2-factor authentication to access and store information; and
- antivirus protection.

The client should be advised that they also have a responsibility to have reasonable safeguards on their own hardware.

Box 1.
All nurses should review their current PLP insurance to ensure their coverage is not hindered by providing care via virtual means. Nurses with questions about legal implications of providing virtual nursing care should contact their insurance plan administrator or the Canadian Nurses Protective Society (CNPS).

Canadian Nurses Protective Society

The legal and regulatory considerations apply equally to the domains of wound, ostomy, and continence.

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TECHNOLOGY

TECHNOLOGY

Virtual care requires the NSWOC and the client (as well as on-site health care professionals and/or caregivers) to access appropriate hardware and software that adhere to Canadian (provincial/territorial and federal) privacy and security regulations to safeguard client data. Considering these factors, it is important to adapt communication methods to the specific needs and limitations of clients, especially those in rural and remote areas. This might involve using different technologies (such as telephones, smartphones, email, and/or video calls) to ensure effective and secure communication when sharing health information.[14]

HARDWARE

Technology is constantly changing; numerous forms of hardware exist to share the information that is required for virtual care. These may include fax machines, landline phones, cameras, tablets, laptop and desktop computers, smartphones, cell networks, and internet services. Identifying the limitations and available options for communication can help ensure effective virtual care in all geographical areas. These are explored in Table 2.

Table 2 *Considerations for Using Different Hardware*

HARDWARE	CONSIDERATIONS
Fax machine	Still commonly used by some health care professionals, as they are considered a secure method of communication with other health care providers; however, they may not be easily accessible to clients. The popularity of fax machines is decreasing due to technological advances of efaxing, email, and file encryption.*
Landline phone	Less commonly used due to the widespread adoption of smartphones but more accepted by some clients.[15] Its capability is limited to voice communication only. In rural and remote settings, clients may still rely on landlines where cell networks are unreliable or unavailable. VoIP can be an adjunct or alternative to traditional landlines but depends on reliable internet and power access.
Point and shoot camera	Still available to use and share images with health care providers. They have become less common due to the high prevalence of smartphones. Challenges may include the need to physically connect a cable or SD card to a computer to upload the images. Photo quality of captured images can vary based on resolution, with higher resolution cameras providing more reliability and accuracy.

HARDWARE	CONSIDERATIONS
Tablet	Tablets continue to advance and may include the same functionality as smartphones as well as laptop and desktop computers for video conferencing in addition to other means of communication. Tablets require internet access for the functions required for virtual care.
Laptop and desktop computer	Have similar functionality to smartphones. These have the capability to email, upload and download data, and video conference using VoIP apps such as Zoom, Microsoft Teams, and Skype. Note, for VoIP apps, the computer must have a camera, speakers, and a microphone.
Smartphone	Now ubiquitous for the last decade and widely used in health care. They are the primary means of electronic communication and data sharing for most people. In Canada, 87% of those aged 45–64 own a smartphone.[16] Smartphones are highly versatile and support various forms of communication, including voice, email, photography, as well as video calls and conferencing. For example, photo images captured with a smartphone camera by clients can be emailed to NSWOCs; thus, using the device to aid consultation practices.[15]
Cell networks and internet service providers	Access may pose a greater challenge in rural and remote locations and may create a barrier for use in some areas. NSWOCs and clients need to consider the availability of cell network coverage in their physical location. Radio and satellite internet may allow WiFi-based calls on newer smartphones but are limited to the range of the WiFi.
Router	May be a financial burden to obtain or may not be readily accessible for some clients. Rural and remote internet with LTE uses technology to connect a radio signal from a radio tower to a receiver in the person's home. Internet is tied to a physical location but is not as fast as urban broadband. Internet speeds (which are necessary for uploading and downloading data) are becoming faster. Satellite internet is becoming more affordable and accessible across the world using low Earth orbit satellites.

LTE = long term evolution; SD = secure digital; VoIP = voice over internet protocol.
*File encryption refers to software that provides confidentiality of sensitive end-to-end messages.

SOFTWARE

Real-time video capabilities (which are available on hardware such as laptop and desktop computers, smartphones, and tablets) often require specific apps for communication.[15] Commonly used apps by Canadian health care organizations / employers for video or virtual visits include FaceTime, Microsoft Teams, Skype, and Zoom. Apps for mobile devices are available through app stores and may vary depending on the health care organization / employer. Some health care organizations / employers may opt for proprietary software for additional customization and security.

Video visits can range from VoIP calls to full-video interactions based on hardware capabilities as well as user preferences and accessibility. Email-based consultations also exist but require additional security measures to protect privacy and personal information. To ensure online safety, malware and virus software is essential. Cross-platform integration is also required for smooth functioning of different software programs so that users can connect uninterrupted to hardware and apps. Clients should be cautioned to not share the link for the virtual care and should be advised that a password may be required to access the virtual care.

TECHNICAL REQUIREMENTS

To ensure successful usage of technology and its components to provide virtual care, several technical requirements must be in place. Firstly, the software used must be up to date, as older versions may not support the required functional performance, particularly for virtual care via video. Additionally, clients and NSWOCs must have access to hardware such as smartphones, tablets, or laptop or desktop computers that can run software such as Apple iOS or Microsoft Windows operating systems. Reliable internet access and service along with a stable power source are essential to maintain uninterrupted communication during virtual care. Fundamentally, clients need to have the financial means to afford the necessary hardware and software for communication, as this directly impacts their accessibility to care. Furthermore, the NSWOCs and clients should possess basic proficiency and competence in using the hardware and software to ensure efficient and effective virtual care services.

PRIVACY AND SECURITY

Providing care in a virtual environment creates added complexity for privacy and security of personal health information than care delivered face-to-face.[5] Digital storage of client health information and delivery of care by virtual means is at greater risk of data breaches, including eavesdropping, hacking, and cybersecurity threats.[17] Some privacy and confidentiality considerations when providing virtual care include:

- a well-documented privacy and security program that complies with provincial/territorial and federal legislation to ensure the privacy and security of client data. Examples of legislation include British Columbia's Freedom of Information and Protection of Privacy Act (FIPPA), Ontario's Personal Health Information Protection Act (PHIPA), and Canada's Personal Information Protection and Electronic Documents Act (PIPEDA). Use the QR codes below;
- obtaining client permission and informed consent for care; this includes using photos and videos, which clients may opt to not use;
- not sharing client data with other health care providers without the client's or caregiver's consent;
- not harvesting or sharing client information with third parties for commercial purposes;
- storing medical records and documentation on verified Canadian- or Quebec-based secure

servers. Commonly used platforms include Amazon Web Services (AWS), Google Cloud, and Zoom for Healthcare (recordings only). AWS (Canada) is commonly used by health care organizations / employers to store data across different platforms, including hospital-based electronic medical records (EMR). The free version of Google Docs should not be used for client data. It should be the verified and dedicated Canadian- or Quebec-based servers;

- being mindful of mobile devices, as they may be setup to automatically store messages and images within a cloud system. This is especially important to disable if a personal mobile device is used for virtual consultation purposes. Platforms like Apple iCloud and Google One should be avoided for storing client data, as they use servers located outside Canada;
- utilizing software with end-to-end encryption* for virtual visits;
- only using approved communication platforms, which is typically governed by privacy and confidentiality departments within health care organizations / employers. These platforms may include phone, email, text, or video communication tools;
- health care organizations / employers requiring that only their issued hardware be used for virtual care; noting that certain features (such as iCloud on work-issued iPhones) may be disabled;
- health care organizations / employers prohibiting the use of certain hardware, software, platforms, or apps if they are deemed to be a security risk. It is important to note that this may apply even if other health care organizations / employers consider them secure or have built-in safeguards;
- ensuring each piece of hardware has a specific password for added security;
- ensuring photos or screenshots do not contain specific client identifiers such as names;
- using an identifier as specified by the health care organization / employer, such as a medical record number (MRN);
- avoiding client identifiers in email subject line; and
- NSWOCs and clients/caregivers being responsible for the security of the hardware that they use, including installing malware and virus protection as well as security updates, maintaining locked screens, and ensuring secure physical locations for consultations.

**File encryption refers to software serving as a mechanism to provide confidentiality of sensitive end-to-end messages.*

Examples of privacy and security legislation

FIPPA British Columbia

PHIPA Ontario

PIPEDA Canada

As an example, the CNPS client consent form adapted with permission from Canadian Medical Protective Association can be assessed here.

CNPS client consent form

AVAILABLE APPS

A variety of apps are available for virtual consultation, including Jane App, Microsoft Teams, Skype, Telus Health, WhatsApp, and Zoom. However, as the demand for virtual care continues to rise, some companies may use proprietary platforms. Existing apps are customized or adapted to align with their enterprise requirements. Health care organizations / employers choose the acceptable apps that function best in their health care setting. Multiple apps may be utilized.

How easily an app may be used is highly dependent on the hardware and software as well as the knowledge and skills of the NSWOC and client/caregiver. Younger adults may have greater comfort using technology than older adults.

Again, in principle, technology applies equally to the different domains of wound, ostomy, and continence. However, ostomy and continence issues may be in more intimate areas of the body, making it important for the NSWOC to be cautious when requesting photos and performing assessments via video.

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EQUITY-ORIENTED CARE

EQUITY-ORIENTED CARE

Equity-oriented care is an important component of virtual wound, ostomy, and continence care. There is a shortage of NSWOCs across the health care continuum and this particularly impacts rural settings. Virtual care has been shown to reduce the geographic inequity of NSWOC care.[18] Virtual NSWOC care can reduce both the financial and health burdens of travel to access care as well as the inequity between urban and rural clients.[19,20]

To improve equity of virtual care, confirm that the client has a stable internet connection, has the hardware available, and has the understanding / health literacy needed to manage virtual care. Clients may need to have hardware provided to them to ensure equity of access.

Wound assessment support apps are becoming increasingly popular, and several are leveraging artificial intelligence (AI) to support wound assessment and predict time to closure; however, AI doesn't come without its disadvantages. It is well documented that AI algorithms may present a bias to skin tones, as the algorithm is only as diverse as the data set used to create it. With skin- and wound-specific apps, the data set tends to overrepresent light skin tones. Thermal imaging cameras eliminate the dependence on skin colour to diagnose wound infection.[21] It is also recommended that a validated skin assessment tool be used when assessing different coloured skin tones. Refer to the resources of the Pan Pacific Pressure Injury Alliance available here.

Pan Pacific Pressure Injury Alliance

Hearing, vision, and literacy levels can impact effective delivery of virtual care. Ensure client and caregiver can see and hear the NSWOC. Test the video/audio quality ahead of time, and consider using a headset/microphone to improve audio quality and privacy for the NSWOC, client, and caregiver. Poor audio/video quality negatively impacts virtual care, as does people entering and leaving the room during the visit.[22] If volume needs to be increased, remember to close doors to protect privacy. Be mindful of the speed and cadence of speech and define medical terminology you use during the virtual care. Many online platforms have a closed captioning function, and Microsoft Teams has a speaker coach function for feedback. Allow time for the client to absorb what was said, and consider asking clarifying questions to confirm comprehension.

Not all clients and caregivers will be able to see smaller details on a screen, so use the zoom function to enlarge the teaching area when demonstrating a task and move slowly through steps.

HEALTH LITERACY

Health literacy includes the ability to read and understand materials related to health care.[23] Digital health literacy requires knowledge and skills to use technology that enables clients to participate in virtual care.[24] Research from 2005 shows that almost 38% of persons older than 50 years old have low health literacy.[25] Three common health literacy and screening tools are listed in Table 3.

Table 3 *Health Literacy Assessment and Screening Tools*

TITLE/NAME	AVAILABILITY
Health Literacy Measurement Tools (SAHL & REALM-SF)	Tools and direction available in English and Spanish at Agency for Healthcare Research and Quality website https://www.ahrq.gov/health-literacy/quality-resources/tools/literacy/index.html
The Newest Vital Sign (health literacy tool)	Available in English and Spanish at https://www.pfizer.com/health/literacy/public-policy-researchers/nvs-toolkit
The Newest Vital Sign, and Short Test of Functional Health Literacy in Adults (STOFHLA)	https://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=201210-0935-001&iclD=204408

Note. Reproduced with permission of Wolters Kluwer Health, Inc. from WOCN Society Core Curriculum Wound Management Second Edition, 2021.

Lower levels of health literacy are related to poor understanding of written health information; provide follow-up information in the client's native language, using graphics wherever possible. Virtual care can improve communication, which has a positive impact on the health care provider / client relationship.[26] Provide follow-up material to reinforce key points if appropriate. Print material should be at a grade 4–6 reading level; 60% of Canadians have low health literacy levels, and 88% of seniors in Canada have low health literacy.[27]

BC PHSA translation services

Use translator services during virtual care when the NSWOC, client, and caregiver do not share common language(s). Some translator services can be booked to attend virtual care and may provide numerous languages, including American Sign Language (ASL), to enhance comprehension and cultural sensitivity. Professional interpreters are preferred yet not always available. The client's family members or caregivers may act as an interpreter. Remember to speak directly to the client and/or caregiver, not the translator.

Some provincial/territorial health agencies have translation services for example the British Columbia Provincial Health Services Authority (PHSA).

As noted previously in the section on technology, equity-oriented care applies equally to the different domains of wound, ostomy, and continence care. However, ostomy, and continence issues may be in more intimate areas of the body. NSWOCs need to exercise increased cultural safety. A detailed discussion of cultural safety is outside the scope of this toolkit. The NSWOC Standards of Practice as well as Public Health Agency of Canada resources provide an excellent description of cultural safety.[28]

PHAC cultural safety

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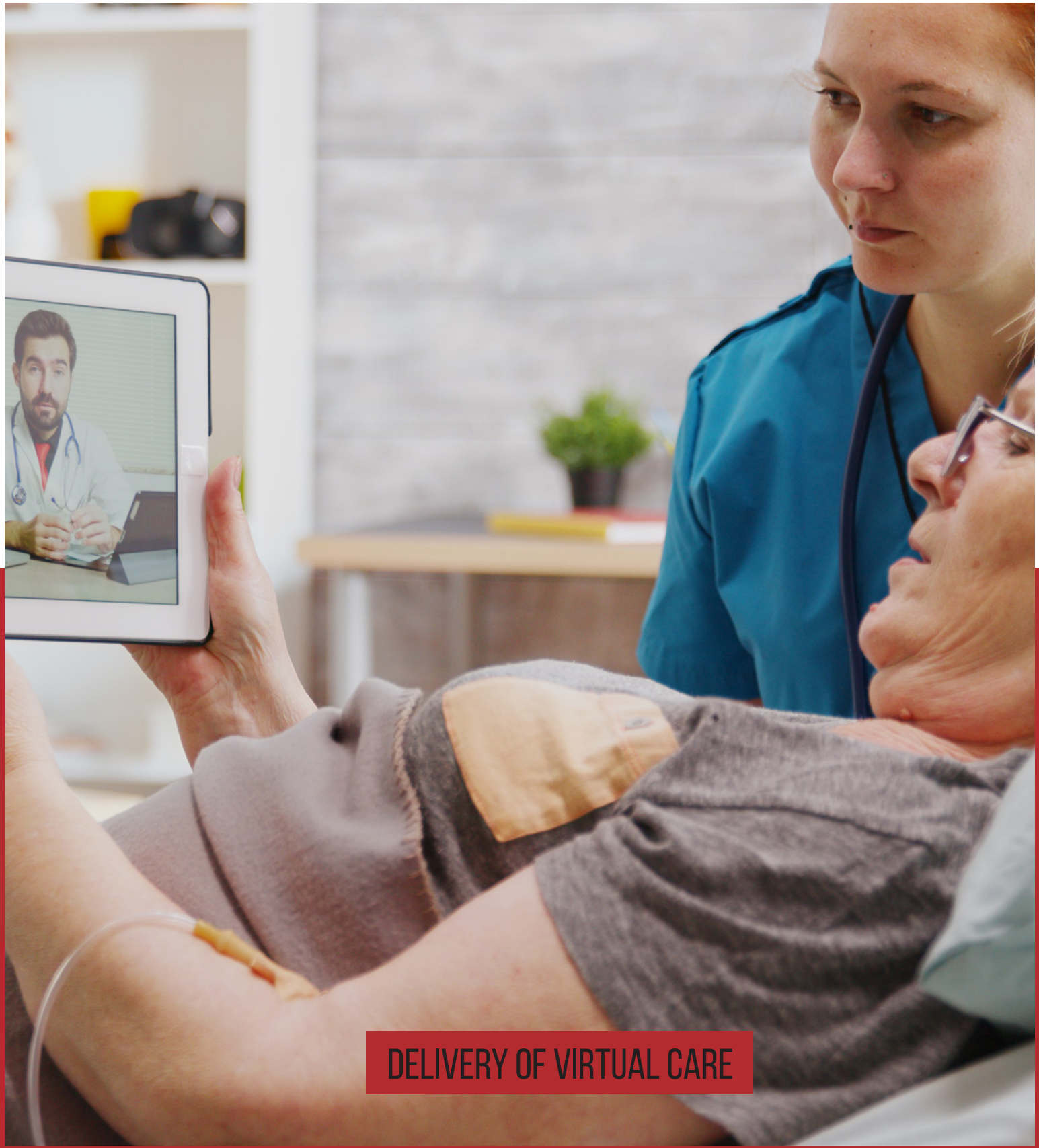


DELIVERY OF VIRTUAL CARE

DELIVERY OF VIRTUAL CARE

INCLUSION CRITERIA

There exist important criteria when considering the applicability for virtual service use for client care. These criteria can vary based on the health care setting, client location, and in-person availability of NSWOCs. Those who are eligible or ineligible to receive virtual care should be clearly outlined by each health care organization / employer offering this type of care. Eligibility and ineligibility are determined by what type of wound, ostomy, and continence care are permitted; psychosocial factors; technology requirements; and physical capacities.[29] Some examples of ineligibility for virtual care are shown in Table 4.

Table 4 *Considerations for Ineligibility of Virtual Care*

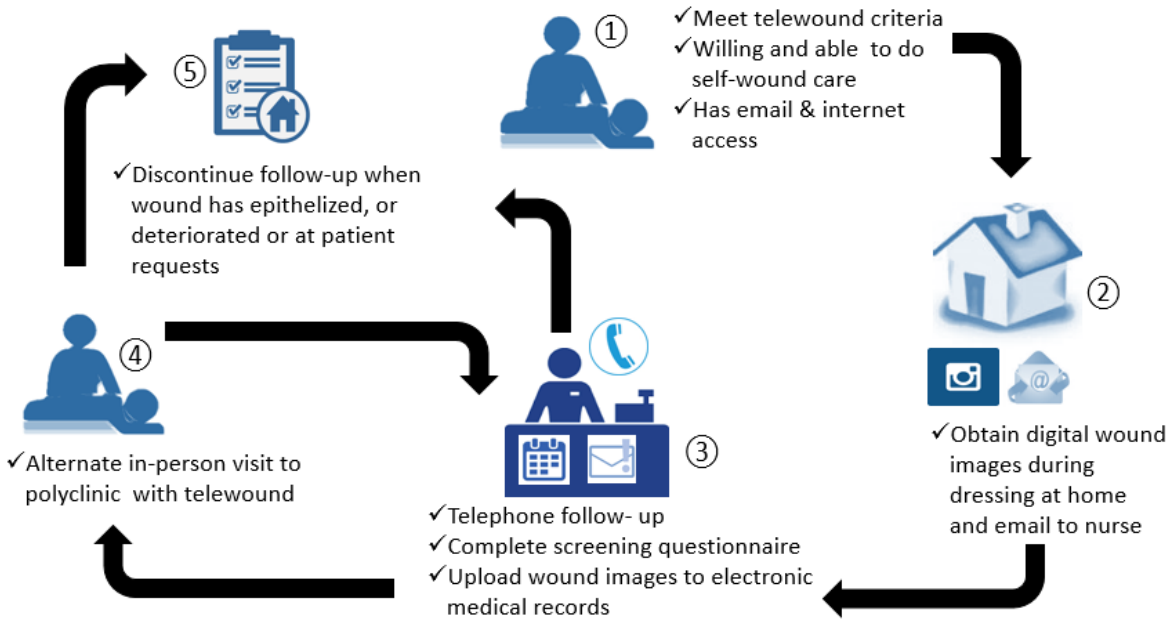
CRITERIA	EXAMPLE
Wound specific	• Infected or deteriorating wounds, negative pressure wound therapy, complex wounds, ischemic wounds, or maximum total body surface area for burns.[15,30,31] • Undermining, tunneling, temperature difference, and odours can be difficult to assess via virtual care.[15,30,31] • Inability of client to visualize the wound and unavailability of caregiver.
Ostomy specific	• Complex peristomal wounds, skin breakdown, and fistulas.
Continence specific	• A physical assessment of the perineal region is required. • Photographs would be too intimate to share.
Psychosocial factors	• A physical assessment of the perineal region is required. • Photographs would be too intimate to share.
Technology requirements	• No stable internet connection. • Client uncomfortable using technology. • No laptop or desktop computer, tablet, or smartphone.
Physical capacities	• Physical limitations to performing care. • Hearing impaired or visually impaired. • Intellectual deficiencies. • Mental health issues. • Dementia.

Elements of the inclusion criteria should take into consideration whether the client will participate in virtual care by video by themself, with a caregiver, or with another health care professional like a home care nurse. For some clients, the only access to health care is virtual.

PROCESS

The modality by which virtual care is delivered should be clear and concise for both NSWOCs and clients/caregivers. A monitoring-service process is depicted in Figure 1.

Figure 1 *Example of a Telewound Monitoring-Service Process*



Note. Reproduced under CC BY-NC-ND 4.0 DEED.[15]

There are several options in which to integrate virtual care:

- clients may be given a virtual care toolkit while still in the hospital that can include all manuals, instructions, and consent forms to be signed before discharge[32];
- thorough initial assessment can be completed in the clinic with a referral to virtual care if inclusion guidelines are met. Instructions and consent forms can be provided at this time[29];
- a virtual care consultation can be scheduled prior to the initial in-person evaluation to do a preliminary data collection and teaching to reduce the time spent during the initial evaluation and increase client acceptance to treatment.[33] Data collection prior to the initial in-person visit may be particularly valuable for continence related issues, allowing for additional data (e.g., voiding diary) to be completed prior to the in-person visit. It can be helpful to receive some information prior to an ostomy client's in-person visit (e.g., current pouching system and accessories as well as surgical and health histories);
- information, photographs, and evaluations can be sent via email (from the client or home care nurse) before the appointment. Detailed treatment plans may be sent to the client or home care nurse after the appointment, so nothing is forgotten.[34] Photographs can be particularly useful to the home care nurse when virtual care is being provided by phone; and
- a virtual care client guideline should be provided to all clients receiving this type of care to outline responsibilities and expectations including:

- written or verbal informed consent obtained and documented according to the health care organization's / employer's policies;
- what to do in case of technical difficulties, including an emergency contingency plan;
- process to be transferred to another modality of care;
- whether call is recorded (usually not permitted);
- name, title, role, and licensure of the NSWOC providing virtual care; and
- how and when follow-up appointments are given.

CLIENT IDENTIFICATION

As with in-person visits, clients should be identified before beginning every virtual care consultation according to health care organization's / employer's policy. Clients should be asked to state their full name along with a second appropriate identifier such as birth date, health insurance number, or file number.[2] Presenting a valid piece of identification such as a provincial health insurance card, especially at the first visit, may also be appropriate.

Various methods of virtual care exist for the NSWOC to utilize in their practice, such as video, phone (audio only), and secure messaging. Table 5 provides a comparison of the distinguishing features of these modalities to assist with informed decision making regarding virtual care preferences.[35]

Table 5 *Comparison of Virtual Care Provided by Video, Phone (Audio Only), and Secure Messaging*

METHOD OF VIRTUAL CARE	PROS	CONS
Video	1. Visual interaction occurring in real time between the NSWOC and client. 2. Visual assessment in real time of the area (i.e., wound or ostomy) and ability to identify issues or concerns. 3. Can monitor/coach client or caregiver on using or applying a product or technique. 4. Allows the NSWOC to demonstrate the steps, technique, or product. 5. Facilitates client/caregiver learning. 6. Allows the involvement another health care professional who is with the client.	1. Client may not have access to the software, hardware, or internet. 2. Client may not have the financial means to afford the above. 3. Client may not have proficiency/ competence to use the above and does not have access to a caregiver who can assist with the technology. 4. Can have glitches in using hardware and software (computer freezes or internet goes out). 5. Environment (i.e., lighting and sound) may not allow for proper visualization. 6. Client may feel uncomfortable being visualized. 7. Client may have privacy concerns.

METHOD OF VIRTUAL CARE	PROS	CONS
Phone (audio only)	1. Client may feel more comfortable and familiar using a phone. 2. Conversations may be easier. Helpful if it does not require a visual assessment. 3. More private. 4. Often does not require special hardware. 5. Not as much of a financial barrier compared to smartphones (if using a land line) or laptop and desktop computers. 6. Does not require internet except if using VoIP.	1. NSWOC reliant on the client to describe an issue (i.e., infection or wound deterioration). Client may not know how to describe or have the necessary vocabulary. 2. NSWOC can't see the area if there is a concern. 3. NSWOC and client/caregiver can't demonstrate technique or steps for a procedure. 4. NSWOC may have to ask many questions regarding client's issue or concerns. 5. May affect NSWOC's advice and recommendation if they can't see the client. 6. Potential for NSWOC to miss important cues for client's health.
Secure messaging	1. Allows for asynchronous communication. 2. Quick and efficient delivery of information. 3. Useful for reminders.	1. Requires access to WiFi/data. 2. Not suitable when prompt response is required. 3. Difficult to verify identity. 4. Boundary challenges (expectations

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ENVIRONMENT

The space that is used during virtual care by NSWOCs, clients, and caregivers should be thoroughly considered. The NSWOC's space should be private to limit background disturbances. The NSWOC must announce to the client anyone else who may be in the room and should use virtual backgrounds, if possible. The client should also be questioned about their environment to ensure that it is quiet and private and that anyone else who is present is acceptable to the client.[2] Also consider what area of the client's body may need to be uncovered during the virtual care. If it is an intimate area, undressing in the public space like a living room may make the client uncomfortable.[36]

Other aspects to consider:

- for video consultations:
  - place lighting in front of the face, not behind;
  - establish a solid background in light or neutral tones;
  - position the camera to angle slightly downwards, at the hairline towards the eyes; and
  - focus eyes on the camera, not the image on the screen[34]; and

- for phone consultations:
  - use a microphone head set or ear buds rather than the phone speaker;
  - ensure phone is charged or plugged in; and
  - consider having client email photographs prior to scheduled phone call (see Appendix 2 – Stoma Photos Client Guide). If a client is emailing multiple photos, the resolution should be under 2 megapixels. Email messages typically limit to less than 20 megabytes.

FAMILY AND HOME CARE NURSE INVOLVEMENT

Virtual care can be a good way to promote independence for clients who may be reliant on caregivers for transportation to and from in-person visits. This, in turn, can reduce depression and burnout symptoms among caregivers.[32,37] With the client's consent, virtual care consultations can also allow caregivers to be present during appointments when they may otherwise not be able to, such as during infectious outbreaks.[32] Caregivers can also be an excellent resource during virtual care, helping with changing dressings, photographing, or videoconferencing.[31]

Local home care nurses can also be an important resource during virtual care. They may assist with aspects of wound assessment that are more difficult to evaluate over video conferencing such as odour, exudate, and wound measurements. Virtual care should be planned at a time that is mutually convenient for all parties.[38] These types of joint visits can help to teach new concepts to home care nurses and save the time of specialty trained nurses (such as NSWOC's), allowing them to see more clients.[34]

ASSESSMENT

Accurate and thorough wound, ostomy, and continence assessment remains as integral a part of virtual care as face-to-face consults. Assessments should be documented in accordance with the health care organization's / employer's protocol, using a validated wound, ostomy, and continence assessment tool. Standardized interview tools, computer-based protocols, algorithms, and other decision-support tools could also be considered.[35]

The assessment criteria used for virtual care varies depending on the technology used and the client's/caregiver's ability to use technology. Not all clients/caregivers will be able to provide thorough and complete assessment data. The assessment criteria summarized in Table 6 should be evaluated at each virtual care visit.

Table 6 *Assessment Criteria for Wound, Ostomy, and Continence Virtual Care*

WOUND	OSTOMY	CONTINENCE
History of current issue / challenge onset / duration. Nursing visit frequency. Current/previous treatments / dressings / pouching systems / BWAP used		
Wound appearance, including shape, colour, wound bed tissue, presence of other tissues (e.g., tendon or bone), odour, wound measurements, presence and size of undermining/tunnels, and presence of foreign bodies. Wound edge is attached, unattached, rolled (epibole), well defined, or thickened/ fibrotic. Getting measurements may be a challenge if the client is on their own. Virtual care may be more effective if conducted with a home care nurse present with the client.	Urinary/fecal stoma appearance: • colour, profile (protruding or flat), retraction, prolapse, MCJ, or ostomy orientation; and • stoma size.	Continence assessment: • completion of continence assessment tool; and • use of a voiding diary / stool diary (like the Bristol stool chart) to allow for consistent description and communication of stool. **Bristol Stool Chart**
Periwound skin, including the presence of redness erythema, rashes or skin breakdown, callous formation (hyperkeratosis), induration, maceration, denudement, and MARSI.	Peristomal skin, including the presence of redness erythema, rashes, dermatitis, skin breakdown erosion or wounds, MASD, MARSI, eczema, psoriasis, and infection.	Perineal skin, including the presence of redness erythema, inflammation, maceration, rashes, skin breakdown, erosion, denuded skin, and wounds.
Wound exudate: • colour and amount; • exudate on dressing (include photo of dressing); • frequency of dressing change; and • presence/absence of malodour.	Stoma effluent: • colour, consistency, and amount; • how frequently pouch is emptied in a typical day and night; and • presence/absence of urine malodour.	Urinary/fecal output: • frequency, colour, consistency, and amount; and • presence/absence of urine malodour.

WOUND	OSTOMY	CONTINENCE
General and wound-related pain.	Presence/absence of pain/ discomfort.	Presence/absence of pain/ discomfort.
	Abdominal contours, including protruding or flat and soft or firm, presence of creases/folds, and presence of parastomal hernia	Mobility/toileting assistance and management.
	Nutritional/hydration status.	
	Client's personal perspective/experience/feelings on their situation. Establish goals of treatment.	
	Client conditions, including hygiene, economic status, support available from caregiver/family, and financial support for supplies/equipment	
	Client's ability to carry out the current plan of care.	

BWAP = body-worn absorptive products; MARSI = medical adhesive-related skin injury; MASD = moisture-associated skin dermatitis; MCJ = mucocutaneous junction.

WOUND, OSTOMY, AND CONTINENCE MEASUREMENTS

Wound measurements are generally obtained by measuring length at the longest possible point on the wound and then using the perpendicular to that measurement as the width. Area is then determined by multiplying those results. This practice has been shown to have up to a 44% error rate, even among health care providers.[39] In the clinic, using acetate paper and tracing the wound is the gold standard for obtaining wound area.[40]

During virtual care, clients can be provided with disposable paper rulers to get a good estimate of wound size and cotton-tipped probes to determine wound depth and undermining. However, this method has been shown be to significantly less accurate than using mobile apps to obtain wound measurements.[39,41] These apps can give an accurate wound surface area by using a photograph taken by the client, can be even more accurate than acetate tracing, and require less skill on the part of the client. However, they are less accurate on curved body surfaces and are unable to calculate wound depth or determine the presence of undermining.[40] Furthermore, many of these apps have not been clinically validated.[42] Shamoul and colleagues provide a detailed list of wound care apps.[39]

Ensure that clients have a stoma measuring guide, and provide them with guidance on how to use it. Measurements should be obtained with the client in both a seated and standing position as well as while pulling the skin above the stoma taut. If a stoma measuring guide is not available, an item with standard sizes (e.g., quarter, loonie, or toonie) can be placed near the stoma and a photo taken. The client/caregiver is to be advised to avoid contaminating the wound, if present.

Photographs are an important component of virtual care. Wound evaluations based on photographs can be comparable to in-person assessments, but they can make certain characteristics more difficult to evaluate, such drainage, edema, and undermining.[31] Photographs are useful to determine appropriate ostomy pouching systems and peristomal care when providing virtual care. Poor-quality photographs can negatively influence diagnosis and treatment plans, so it is important to ensure good-quality images.[38,42] See Table 7 for photography tips when providing virtual care for wounds, ostomies, and continence.

Table 7 *Tips for Wound, Ostomy, and Continence Photography*

WOUND	OSTOMY	CONTINENCE
Ensure adequate lighting.		
Ensure that the image is clear and sharp and that the colour is correct.		
Store photographs in the medical record in accordance with the health care organization's / employer's protocol with the date and a description of the anatomical location. Do not write client identifier information on the photo for compliance with applicable legislation such as FIPPA, PHIPA, or PIPEDA. Cleansing of all areas is required prior to photography. Capture photos from the same position/angle.		
Consider using an app dedicated to producing high-quality wound images.		
Photos might include: • dressing after removal; • wound; • periwound skin; • anatomical location; • products being used; and • a single-use measuring device (ruler).	Photos might include: • back of flange after removal; • stoma and periwound skin; • abdominal contours (both sitting and standing, and include side view); • pulling the skin above the stoma taut • anatomical location; • products currently being used; • stoma photos (See Appendix 2 – Stoma Photos Client Guide); and • stoma measuring guide. *Note.* Consider using loose change (quarter, loonie, or toonie) as a size reference. Ensure that the wound is not contaminated.	Photos might include: • areas of skin breakdown; and • products being used. *Note.* Use caution when requesting photos of private/ sensitive areas. Photos may not be appropriate for continence issues/challenges.

Much of the available literature discussing the delivery of virtual care pertains to wounds. The task force noted that many of the tips highlighted would be applicable to managing ostomy and continence issues.

ADDITIONAL RESOURCES WORTH EXPLORING

British Columbia's Provincial Health Service Authority has some good examples of how clients can prepare for virtual care. See for example:

Client Notification Form

How to Prepare for a Good Zoom Virtual Health Visit

Your Virtual Health Visit with Zoom

Virtual Health Visit Checklist for Clinicians

Accreditation Canada COVID-19 Virtual Toolkit v2. includes a virtual care checklist for patients (see page 4).

Healthcare Excellence Canada and Canada Health Infoway provide an excellent guide for health care professionals on providing safe and high-quality virtual care.[14]

NURSES SPECIALIZED IN
WOUND, OSTOMY AND CONTINEN
CANADA

INFIRMIÈRES SPÉCIALISÉES EN
PLAIES, STOMIES ET CONTINENCE
CANADA

VIRTUAL CARE TOOLKIT

KNOWLEDGE TRANSFER

KNOWLEDGE TRANSFER

CLIENT EDUCATION

When considering virtual wound and ostomy assessments, the client must be an appropriate candidate for virtual care. When virtual care will be provided via the internet, it is important to ensure access to an internet service of sufficient quality. The client and caregiver must also be capable of using the internet. Special considerations must be taken for language barriers and sensory impairments to ensure safe and appropriate use of technology by the NSWOC, client, and caregiver. Clients with impaired vision, decreased dexterity, or hearing loss may have challenges using virtual care services independently.[34,43] Clients and caregivers must be educated on how to obtain and send photos and videos of the wound, as it helps to provide objective visual cues to the NSWOC to complement the subjective dialogue.[44] See Table 7 for tips on photography. Other considerations will apply when the virtual care is provided by telephone.

The client and caregiver must be educated on medical terminology used to provide the NSWOC with necessary information for the assessment. Relying on clients to provide a verbal report of medications and wound assessments can present challenges in obtaining accurate information.[34] Teaching the client and caregiver basic terminology for wound and ostomy assessments with visual aids using simple terms helps to provide clear communication between the NSWOC and client/caregiver (i.e., words like *redness* to describe erythema or *swelling* to describe edema).[36] To support the client during this process, education materials can be provided in a variety of forms, including hard copy or online. Examples of these are pamphlets and videos to describe the process of conducting a virtual assessment, how to perform a wound assessment, and expectations of the client during the assessment. These resources and additional resources applicable to the visit can be used to reinforce points covered during the visit.[45] Other forms of education can include tailored videos, support and education over the phone, or in real time with a video call.[45]

When possible, send client/caregiver information/resources. Mailing a physical resource like a terminology guide, troubleshooting instructions, or care plan may be the only option for a person without access to electronic devices. Mailing a physical resource does cost more money, and there is a time delay to allow for delivery. Otherwise, emailing resources in a pdf format or hyperlinks is immediate and cost effective, provided that the client has the means to receive the email and access the content.

HEALTH CARE PROFESSIONAL EDUCATION

When a health care professional can assist in the virtual assessment, whether synchronous or asynchronous, it's important to ensure the health care professional collecting the data has strong assessment and communication skills, experience, and proficient computer skills.[34] Clear steps and expectations must be in place for the health care professional with support of policies, edocumentation, and a map of steps to support flow in conducting an assessment during virtual care.[45] Training in image capture, safe storage of information, and use of video technology must be prioritized to optimize successful virtual assessments.

Table 8 provides guidance when conducting virtual care by video or telephone with the aim of optimizing communication and transfer of information to clients and caregivers.[33]

Table 8 *Quick Reference Guide on Virtual Care Delivery*

VIDEO CONSULTS	PHONE CONSULTS
Be respectful of the individual's time. Have the client's information prepared for the virtual care. End every virtual care by video or phone by providing time for the client/caregiver to review of the information and for the NSWOC to answer questions. Limit background (ambient) noise disturbances. Ensure a private environment.	
• Dress professionally. • Use virtual waiting room to protect client's privacy. • Lighting should light in front of the face, not from behind. • Background should be solid with neutral light tones. • Position the camera height to angle slightly down, right at the hairline, toward the eyes. • Focus eyes on the camera, not an image on the screen. • Make sure that you can see and hear each other clearly. Headphones may help. • Additional client instruction may be needed to ensure a successful consult. • Stay seated, still, and focused. Avoid fidgeting. • Avoid using your hardware for anything outside of the virtual care you are conducting. • Perform weekly tests to confirm hardware and software are functioning properly.	• make sure that you can hear each other clearly. Headphones may help.

Much of the available literature discussing the knowledge transfer pertains to wounds. The task force noted that many of the tips highlighted would be applicable to managing ostomy and continence issues. Ostomy and continence issues may be in more intimate areas of the body. NSWOCs need to exercise increased cultural sensitivity and consider the appropriate use of technology to deliver virtual care.

APPENDIX 1 – METHODOLOGY

In the fall of 2022, the task force developed and agreed on a topic statement: *"What do NSWOCs need to do in order to deliver safe and effective virtual wound, ostomy, and continence care?"* The topic statement was used to frame the literature search. A literature search was carried out by Dr. Kevin Woo and his students at Queen's University, using agreed upon search terms: *virtual care / virtual consult AND privacy, virtual health assessment, remote video consultation, technology supported care, technology-enhanced consultation, digital technology AND consultation, OTN consult / Skype consult / Zoom consult / clinical image, virtual consult, virtual care, remote consult, remote care, video consult, telehealth, AND equity, AND technology, AND healthcare, AND wound, AND ostomy, AND continence, AND education, AND teaching, AND knowledge transfer, AND competency, AND patient satisfaction, AND patient outcomes, AND patient response, AND patient acceptance.*

Due to the large amount of available literature the search was limited to 3 years. The titles were reviewed; irrelevant and duplicates were removed, resulting in 257 articles. The task force was divided into eight teams of two, with each team reviewing 32–33 articles. As the articles were reviewed, a data collection table was completed. At this stage, several articles were identified as irrelevant to the project, leaving a total of 214 articles used to inform the document.

A plethora of grey literature guidelines and process documents continued to be developed by organizations and governments. Many of these documents were reviewed and referenced in the development of this document as they became available. Further updated literature should be expected.

This toolkit was peer reviewed by 14 NSWOCs in January 2024. After further refinements the toolkit was approved by the NSWOCC Board.

APPENDIX 2 – STOMA PHOTOS CLIENT GUIDE

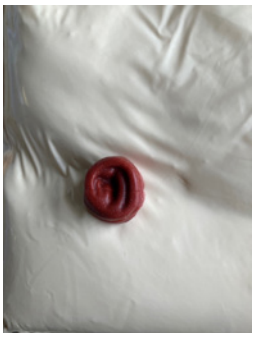
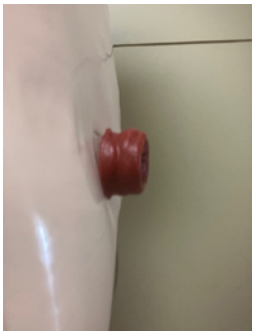
HOW TO TAKE PHOTOS OF YOUR STOMA TO SEND TO YOUR NSWOC

If you are not able to see your NSWOC in person, it can be helpful to send them some photos of the stoma and the surrounding skin. This may aid in troubleshooting if you are experiencing issues or had questions regarding the stoma, skin, or your products. If you do not have phone or internet access, contact your NSWOC to explore an alternative option. You should only send photos if you feel comfortable doing so. Your NSWOC may suggest sharing the photos with other health care providers like your doctor, nurse practitioner, or someone who may provide additional support. Your NSWOC will ask your consent to share information with other health care professionals. Your information is not shared with anyone else. Photos should be taken in a private area such as your bathroom in your home. The area should be well lit and free of distractions. If you have difficulty positioning the camera or phone and need assistance, ask if a family member or friend can assist you.

TO GET READY

We suggest choosing a time of day when your stoma is least likely to be active such as first thing in the morning before you drink or eat anything.

1. Gather your supplies and lay them out as you would for a regular change.
2. Prepare your pouching product items.
3. Remove your pouching system and clean the skin around your stoma and pat dry. Note. If your stoma is still less than 8 weeks old, you may still need to measure the stoma if it has not stopped decreasing in size.
4. Take photos of the stoma. Ideally, you should be sitting and standing, if possible, as this helps with seeing creasing or folds in the tummy around the stoma. We suggest at least two taken from the front and the side of the tummy closest to the stoma. The camera should be 20 to 40 cm away from the stoma to include the surrounding skin and features.

FRONT PHOTO VIEW	SIDE PHOTO VIEW
	
• Shows shape and size of stoma for reference. • Shows creases, folds, hernia, irritated skin, and relation to incisions/wounds and belly button. • Consider using a loonie, or toonie as a size reference, ensuring that the wound is not contaminated.	• Shows stoma height, profile, and shape. • Shows hernias, creases, and folds.

Note. Reproduced with permission from Neal Dunwoody.

ABBREVIATIONS

AI–artificial intelligence
AWS–Amazon Web Services
CNPS–Canadian Nurses Protective Society
FIPPA–Freedom of Information and Protection of Privacy Act
LTE–long term evolution
NSWOC–Nurse Specialized in Wound, Ostomy, and Continence
NSWOCC–Nurses Specialized in Wound, Ostomy and Continence Canada
PHIPA–Personal Health Information Protection Act
PIPEDA–Personal Information Protection and Electronic Documents Act
PLP–professional liability protection
QR–quick response
RN–registered nurse
SWAN–Skin Wellness Associate Nurse
VoIP–voice over internet protocol

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