AgeTech **D**iscussions: **E**xploring **P**erspectives on **T**echnology

Care2Talk | Workshop Report
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Executive Summary

Canada's population is aging faster than ever before and this has many implications in terms of healthcare, social services, and the economy. In response, AgeTech, or Age Technology, a subset of the health technology industry, has emerged in recent years and uses technology to support healthy aging by enhancing and adapting alternative care approaches. Yet, for many older adults, especially those living in northern and rural communities, there exists a disconnect preventing the emerging AgeTech from getting to those that need it the most. The Centre for Technology Adoption for Aging in the North (CTAAN) focuses on bridging that technology adoption gap by testing, piloting, adapting, and implementing new and existing technology solutions tailored to address the challenges experienced by older adults and care partners in northern and rural communities. One of CTAANs' key service is AgeTech Discussions: Exploring Perspectives on Technology, heretofore referred to as ADEPT. ADEPT workshops focus on emerging AgeTech to describe the applicability, usability, and feasibility of a featured AgeTech from end users' perspectives in northern and rural British Columbia.

This report shares the results from ADEPT Workshops featuring Care2Talk. Data collection occurred over two ADEPT Workshops with a total of 7 participants. Each workshop included pre- and post- online surveys, a tech demonstration, and a facilitated discussion period where participants discussed the usability, feasibility, and accessibility of using the Care2Talk technology in a northern and rural hospice palliative home-based care setting.

Participant discussions from the workshops were analysed and 7 themes emerged which are described in this report. These themes include:

1. Enhancing end-of-life care for clients and their families through meaningful connection
2. Providing clients and their families an alternate and accessible support platform
3. Optimizing Care2Talk uptake for Home Hospice Program success
4. Facilitating connectivity through design of Care2Talk
5. Enabling volunteer/client boundaries through a secure connectivity platform
6. Tailoring Care2Talk platform changeover process and data collection
7. Exploring challenges to delivering home-based end-of-life care in northern and rural settings

Theme one outlines how Care2Talk can enhance hospice palliative care for clients and families by empowering end-of -life decision-making autonomy, and facilitating meaningful connection with their families, healthcare providers, and grief supports. Theme two illustrates how Care2Talk can provide hospice palliative clients and their families peace of mind with an alternate and reliable way to contact healthcare services through the Home Hospice Program. Theme three discusses how best to introduce the Care2Talk platform to staff, clients, and families for optimal uptake and confidence to use the platform. Theme four describes how the simple design of Care2Talk will benefit clients, family, and Home Hospice Program providers, and details ways to enhance the platform. Theme five reports how Care2Talk equips Home Hospice Program volunteers to maintain privacy boundaries with clients and families. Theme six predicts the need for a standardized Care2Talk changeover process, and the type of data

that will need to be collected. Theme seven explores barriers and solutions to implementing Care2Talk in a northern and rural setting. Primary recommendations include co-developing Care2Talk introductory materials with Home Hospice Program relevant to home-based hospice palliative care to secure client, family, and staff buy-in, extending Care2Talk support for families in the bereavement period, and exploring ways to lower or remove Wi-Fi/cellular data coverage barriers for northern and rural clients.

This report demonstrates the Care2Talk platform as an essential and invaluable addition to the Home Hospice Program pilot, and underscores the significance of providing alternate, accessible, and reliable support to hospice palliative care clients and families in northern and rural British Columbia.

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Background

Although Canadians are living longer, they are also more likely to develop a chronic or life-limiting illness. An estimated 270,000 Canadians die each year, 90% of which is due to chronic illness.[1] Research has shown that between 62%-89% of those that died could have benefited from end-of-life care[2], yet only 16%-30% received or had access to.[3] Hospice palliative care is a philosophy of care that emphasizes relief from suffering and improving the quality of living and dying for individuals and their families.[4] This is realized through end-of-life care, which is a type of supportive, compassionate care that focusses on comfort, quality of life, respecting end-of-life decisions, family, and well-being.[5] In Canada, end-of-life care services are offered in a variety of locations, including hospitals, long-term care facilities, and hospice care facilities, however, an estimated 75% of Canadians wish to receive hospice palliative care at home and die at home.[6] In British Columbia, 53% of deaths still occur in hospital every year[7] and while many hospice programs offer their services to patients in their homes, barriers exist that may prevent or negatively affect end-of-life experiences of a planned at-home death - particularly in northern and rural communities where individuals face distinct challenges.

In Canada, the term 'northern' is commonly used in a provincial context to identify the northern and more sparsely populated (e.g., rural, remote) areas, which may experience arctic/subarctic climates, political marginalisation, economic dependency on natural resource development, and larger proportions of Indigenous populations.[8] There is much diversity across northern and rural communities based on sociospatial characteristics (e.g., population size, population density), social representation, population demographics and resource availability.

In recent years, innovative solutions and technologies have begun to emerge from the AgeTech sector. AgeTech, or Age Technology, a subset of the health technology industry, uses technology to support healthy aging, and to support care partners and health professionals to improve quality of life for aging adults. By developing and adapting alternative care approaches through emerging technologies, it may be possible to enhance the availability and accessibility of home-based end-of-life care and provide more opportunity for Canadians to safely choose at-home deaths.

The Centre for Technology Adoption for Aging in the North (CTAAN) supports aging in northern and rural communities by making Age Technologies more available to older adults, care partners, and the health care systems that support them. CTAAN's programs focus on testing, piloting, adapting, and implementing new and existing technology solutions tailored to address the challenges experienced by older adults and care partners in northern and rural communities.

CTAAN is built on a partnership with UNBC, the Northern Health Authority, and AGE-WELL. CTAAN has an extensive network of partners and "Living Lab" sites that allow for evaluation, testing, and validation in real-world settings. CTAAN leads testing, research projects, and evaluation to validate technology and works collaboratively with our partners to support implementation for at home settings and in care settings across the continuum of care.

This information provides companies with important third-party validation that will not only provide key product insights but will allow the company to achieve a first sale or further reinforce a value proposition that will help the company scale in the region and far beyond. These services are provided by CTAAN staff including researchers, students, older adults, community partners, and healthcare providers as required.

The first step to introducing AgeTech to the region is one of CTAANs' key services, AgeTech Discussions: Exploring Perspectives on Technology, heretofore referred to as ADEPT, which focuses on emerging AgeTech in northern and rural BC to describe the applicability, usability, and feasibility of a featured AgeTech from end users' perspectives. Through workshops, end users participate in facilitated discussions and provide important insights and recommendations to inform design and adjustments of featured AgeTech. This process provides technology developers and companies with evidence that helps form the next steps to scale their products and services to northern and rural areas.

The focus of this report is on the video technology platform – Care2Talk. Care2Talk (www.care2talk.io) was founded in 2021 with the goal of providing straightforward video communication to aging populations to allow families to stay connected to their loved ones. With an office in Victoria, BC, the Care2Talk team has developed a portfolio of proprietary technology solutions to provide innovative digital solutions that deliver better patient outcomes, increase efficiency, and support broader access to quality healthcare.
Care2Talk uses a locked-down tablet which facilitates an easy and secure way for older adults to connect with family, friends, and healthcare professionals. This generational care application has 3 parts – the locked-down tablet for the client, a linked mobile app for family members or friends, and a Care Community Admin Portal Web App for healthcare administrators. Care2Talk is a unique connectivity tool providing unlimited secure video calling, closed captioning for the hearing impaired, is purpose built for aging adults, unlimited contacts and group calling, and is a closed system – no risk of fraud or spam.

Persons living in northern and rural communities face increased barriers in accessing healthcare, including end-of-life care, due to limited hospice/homecare capacity, communication gaps, and unreliable Wi-Fi/cellular data coverage. These elements may directly and/or indirectly impact an individual's opportunity to choose a planned home death. Identifying the need to develop strategies to address these context-specific barriers, hospice care providers and decision-makers were engaged to provide feedback on the feasibility and perceived challenges of integrating Care2Talk technologies to enhance access to on-demand hospice palliative care services and enhanced communication among family and care providers in northern and rural settings.

Methods

This report features Care2Talk, a secure, purpose-built video technology platform for older adults and their family, friends, and healthcare providers to connect. In Spring 2022, CTAAN partnered with the Prince George Hospice Palliative Care Society and Northern Health to evaluate a new Home Hospice Program pilot. This program will provide end-of-life care to clients in their homes both in-person and via video technology. Through program development consultations, it was established that a connectivity tool would be needed to provide the virtual element to connect the client with their family and healthcare providers on demand. CTAAN sought out Care2Talk to discuss and explore the potential for the Care2Talk platform to be incorporated into the Home Hospice Program. To assess the usability and feasibility of Care2Talk for the Home Hospice Program, CTAAN invited all parties to take part in one of its key services: ADEPT (supported by NRC-IRAP funding through CTAAN, and contributions from Care2Talk).

Collaboratively, research goals were set to assess the feasibility and usability of the Care2Talk video platform in the Home Hospice Program in northern and rural communities. To gain deeper insight into the communication needs of a home-based hospice palliative care program, the ADEPT workshops aimed to gather user perceptions, workload/human resources, understand implementation feasibility, specific needs, and understand back-end challenges.

Planning for the ADEPT workshop began through consultations with Care2Talk, where Care2Talk presented the Care2Talk platform to the UNBC research team. Through discussions, Care2Talk and CTAAN identified a need to better understand the communication and connectivity needs of the Home Hospice Program, as well as how the Care2Talk platform may work within the program. A key objective was set to explore the "Feasibility and Usability of the Care2Talk platform to Support the Home Hospice Program pilot in Northern and Rural British Columbia." Consultation was completed with hospice staff to inform the development of the discussion guide and facilitate recruitment.

We applied maximum variation sampling techniques to ensure diversity, equity, and inclusion in our recruitment. Data collection occurred in August and September 2022 over two workshops and the target number of participants was reached. Consent was obtained from all participants prior to the workshops.

Each workshop followed the same format: 1) a pre-workshop survey for participants to complete in the first 20 minutes; 2) the Care2Talk presentation with product demonstration; 3) a question and answer session with a company representative: 4) a facilitated group discussion; and finally, 5) a post-workshop survey to be completed at the end of the discussion. In the pre-survey, participants provided demographic information and answered questions about their experience with, and attitudes toward, AgeTech. In the post-survey, participants shared further insight relating to the Care2Talk platform and their satisfaction with the presentation and demonstration, general workshop facilitation, and organization.

Care2Talk presented and detailed the Care2Talk platform from various user perspectives, including the client, a family member, and a healthcare administrator. Video call demo, dashboard, and capabilities were discussed.

The facilitated group discussions were led by trained CTAAN staff. A discussion guide was used to direct the conversations and focused on soliciting information around home-based palliative care needs, Home Hospice Program considerations for communication technology, the Care2Talk platform, northern and rural contexts, workload/human resources needed, and required supports. Prompts were used to elicit participant views and experiences used both open-ended opinion/experienced-based questions. A back casting exercise was also conducted to gather further in-depth insights from participants.

Workshops lasted 2 hours each and were digitally recorded. Audio was transcribed verbatim and checked for accuracy. All identifying information was removed to ensure confidentiality. Qualitative data was analyzed using a thematic approach guided by Braun and Clarke (2006). This involved following the six-phase process outlined using an inductive approach to code and generate themes:

1) Familiarisation with the data: Each transcript was read several times and initial thoughts noted to establish familiarity.
2) Coding: Concise initial descriptive codes were generated in a systematic manner and data relevant to each code was collated.
3) Searching for themes: A coding framework was developed by adding, removing, and organizing the initial codes into potential themes and sub-themes.
4) Reviewing themes: To maximize internal homogeneity and external heterogeneity, each theme was examined and refined in relation to the codes and in relation to the entire data set. A thematic map was used to help ensure the themes fits together meaningfully and the distinctions between them were clear.
5) Defining themes: The ‘‘essence’’ of each theme was identified and described clearly to determine the aspect of the data which each theme captured.
6) Producing the report: Extracts were knit together an analytical narrative with interview quotes integrated to contextualize the analysis in relation to the objectives of the research and to existing literature.

Quantitative survey data was summarized using descriptive statistics in Excel, while qualitative data was analyzed using NVivo 12. A consensus approach was applied to ensure the findings and illustrative quotes used in this report best represented the prevailing patterns across participants to provide thorough recommendations for the implementation of the Care2Talk platform into the Home Hospice Program pilot.

Ethics approval for the ADEPT workshops was provided by the University of Northern British Columbia ethics board (H22-00499), the Northern Health Operations Board (RRC-2022-004) and the National Research Council (2022-56).

Workshop Findings

PARTICIPANTS

Seven Home Hospice Program providers took part in 2 group workshops held in August and September 2022. Participants were experienced professionally supporting hospice palliative care clients in their daily practice and worked in various roles within the Hospice program, including working with volunteers, staff, grief support, direct client, and family care, and in information technology.

Participants were motivated by a range of factors to attend the ADEPT workshop including learning what Care2Talk is, assessment of Care2Talk usability within Home Hospice Program, and work-related interest in the Care2Talk software. Most participants wanted to understand the usability of Care2Talk within the program, as well as identify potential end-users. With regards to regular technology use, most participants reported using Lifestyle Technologies [e.g., smartphone, tablet] in their daily life, as well as Health Technologies [e.g., Fitbit, Apple Watch] and Smart Home Technologies [e.g., smart fridge, alarm systems]. Most participants indicated an increased use of technology during the COVID 19 pandemic and agreed that the need for support technology has increased for older adults since the beginning of the COVID-19 pandemic, indicating technology's role in connecting with family, helping with decreasing isolation, accessing medical services, and being needed universally. All participants indicated that they had not used Care2Talk, or a similar technology, before.

FACILITATED DISCUSSION: KEY THEMES

During the ADEPT workshops, participants shared their perspective of the Care2Talk platform, relative to the specific need of hospice palliative care. Seven key themes evolved through analysis and include: 1) how Care2Talk can enhance end-of-life care for clients and their families through meaningful connection; 2) the importance of providing clients and their families an alternate and accessible platform for support during a planned home death; 3) the best way to optimize the uptake of Care2Talk for the success of the Home Hospice Program; 4) how the design of the Care2Talk system facilitates connectivity with clients, their families, and healthcare providers; 5) how Care2Talk can improve volunteer-client/family boundaries; 6) the opportunity to tailor the Care2Talk platform changeover process, as well as identifying the necessary data to collect; and 7) understanding the challenges to delivering home-based end-of-life care in northern and rural settings. The themes, shown in Figure 1, are presented as follows:

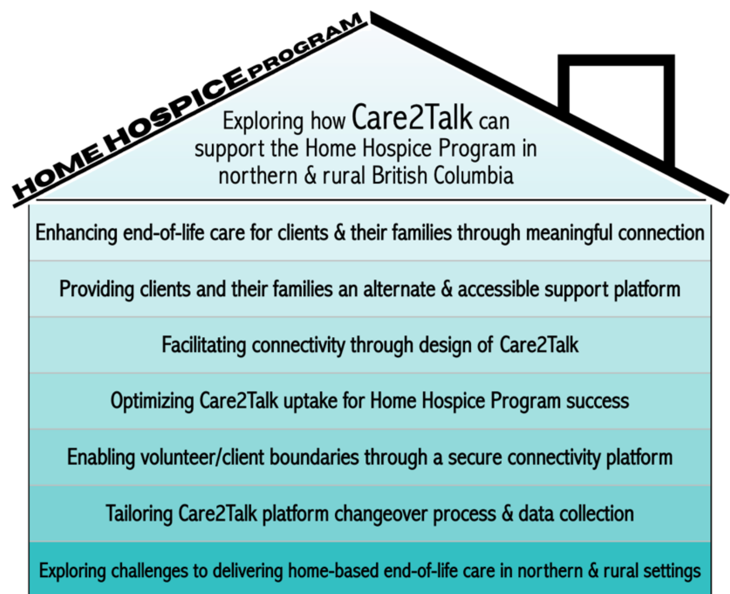

Figure 1. Seven key themes were developed through analysis of ADEPT Workshop facilitated discussions.

THEME 1: Enhancing end-of-life care for clients and their families through meaningful connection

Participants highlighted Care2Talk as a multifaceted client- and family-centered connectivity platform that can facilitate meaningful connection central to the success of the Home Hospice Program. In simplifying how clients can connect confidentially and securely with family members, volunteers providing end-of-life and grief support, and healthcare providers, such as a dedicated hospice LPN, into one platform, participants envisioned Care2Talk empowering clients to have more autonomy over their end-of-life decisions.

> *"People who choose to die at home are getting to do that [with the integration of Care2Talk with Home Hospice Program], and it's not traumatizing, like they're just getting to do it the way they want to."*

For a quality of end-of-life experience, participants explained that remaining connected to loved ones is crucial during the hospice palliative care process, and how these connections could be enhanced through utilizing Care2Talk. Participants also indicated that clients may not have support or the opportunity to connect with the hospice staff in a significant way prior to entering hospice palliative care. With Care2Talk, participants described how the connectivity aspect of the platform may help to navigate this process and enhance client-staff relationships through on-demand access.

Table 1. Connecting with family, staff, and health supports

Illustrative Quotes
"It does give the opportunity for connection for multiple family members, because…there's no limit, if you think of it that way, it bodes the opportunity for the person who is dying to have increased connection with their people, which I think is quite nice"
"A lot of times, big decisions, short time frame, it's like, bang, bang, bang, they come from the hospital, they're dying, they come to hospice, and they die, and there's been no real support a lot of times along the way."
"A lot of the times when our patients come to hospice house to die, they don't know any of us, they've never met us before. Whereas like this situation, [Home Hospice Program] what the goal would be is to know that before they're dying, their Care2Talk will help us be connected long before…like a few weeks before they actually die, so they'll feel even more supported."

Further, with Care2Talk in clients' homes, participants felt that the physical tablet, itself, could provide a visual reminder to clients and their families that Home Hospice Program is there to support them.

> *"Just to see it and physically have something, I think really adds a lot of comfort for people, and just to know that there's continuous support via hospice, because of that one little device that's on their counter or wherever it is."*

In sum, participants agreed that by integrating Care2Talk into the Home Hospice Program clients and families would be empowered to choose to have a planned home death and be meaningfully connected to family and hospice palliative care staff through the process.

THEME 2: Providing clients and their families an alternate and accessible support platform

In discussing quality end-of-life care, participants said a top priority was the ability to provide the option of at-home hospice palliative care, where clients and their families feel safe and supported. Participants agreed that in integrating Care2Talk in the Home Hospice Program, clients and families would benefit from the provision of direct and timely access to hospice staff. Hospice palliative care was described as a complex process that can be overwhelming for family, whose members are commonly the main caregivers of clients. With the integration of Care2Talk in the Home Hospice Program, participants felt that there would be improved capacity to provide more fulsome support to families.

Table 2. End-of-life support for clients and family

Key Points	Illustrative Quotes
Direct Access	*"Yeah, quality end-of-life care in the home, except just hospice house…the client is cared for clinically, they're cared for emotionally, and the fear factor is less, because of our involvement with them [through Care2Talk]."*
	"All these big decisions are being made in a very short period of time and to have access to resources [through Care2Talk] that they don't have right now to die at home or support their family member . . . would be my thoughts on success."
Family Solace	*"Often when people come here, they come like a week or two before they're dead. So, there's this ability [with Care2Talk], we can…provide the space for everybody to really just relax a little bit and move back into that family member role instead of caregiver role."*

When describing the current process of a planned home death, participants explained how adverse events, or uncertainties around medical care, tended to occur at night when homecare support was not available, commonly resulting in death away from home.

> "*We hear people in the middle of the night that have a planned home [death], you know, death progresses as it should but it's scary to see and family members often panic… they panic at the last minute, because it's the middle of the night, homecare hours don't go overnight, so they have nobody to call. They're usually provided with either 811 or a palliative support line or something like that, but they almost 100% of the time call 911, and they either wind up dying enroute to the hospital or in the hallway of the emergency room...*"

In picturing how these experiences may differ with the addition of Care2Talk, participants emphasized the value of providing an alternate, reliable way for hospice clients and families to access support and medical guidance at home. Participants also suggested that the Care2Talk platform could alleviate instances of repeated home visits, by providing on-demand video-based support for clients. Through this platform, emergency room admissions/deaths of palliative clients could be decreased, or even prevented, by providing the option of Care2Talk in the Home Hospice Program to clients and their families.

Table 3. Care2Talk as an alternative method to access support

Key Points	Illustrative Quotes
Alternative access to support	*"I think in a crisis situation when people are in their homes, sometimes the wrong number gets called…like 'what do we do, do we call 911?', 'do we call this?', 'do we call our doctor?', so I think [Care2Talk] will really help in, especially in the middle of the night for some crises, there's an LPN, this is my contact person, I'm going to call them, we're in a crisis"*
	"For people, when they're dying in their home, I think it'd be nice for them to be able to just push a button if they need support to be able to contact us right away, versus like, potentially panicking, searching for a phone number, possibly calling the wrong number, getting the voicemail, and it'll be really direct and like we'll know if you see who it is calling you'll know that it's like an urgent matter, pick up the phone."
Decreased home visits	*"Like it could potentially take the place of repeated home visits, and you know, potentially help a person with a problem just by face-to-face conversations . . . rather than this person's driving to their house for something that's actually really quite small, and didn't require you to be there."*
Decreased ambulance/ hospital deaths	*"It'll be like a routine for them to know that if something happens, they don't have to call an ambulance and potentially die en route to the hospital, stay, we will come to you whether it's over [Care2Talk] or in person."*
	"I think that a lot of times in crisis situations when people are dying or at the end of their life, that a big part of the impulsive or scary phone calls could really be helped out with just support, and kind of mitigate a lot of going to the hospital…so I think that [with Care2Talk] – just having easier access will help – really help people die at home and support their families."

After the death of a client, participants described how family members may feel a range of emotions about the choices made with respect to hospice palliative care. Participants suggested that by extending the Home Hospice Program for families through the bereavement period via Care2Talk, members could have a direct way to contact a trusted healthcare provider to support and comfort through the process.

> *"When people are making those calls, going to the hospital, very often in a grief conversation [after death], there's a lot of guilt and a lot of regret when we're making that call to go to the hospital . . . or you have questions about medication, 'I shouldn't have given him that last morphine' so those kinds of things show up in grief support calls, so [Care2Talk] will mitigate that as well."*

> *"Support may continue through grief and bereavement, maybe integrate into process once [client] has passed – need a process to…help the family."*

Overall, participants expressed that Care2Talk was a viable, alternative way for clients and their families to access on-demand support from hospice palliative care staff, particularly for family members during emergencies when homecare is not available. Participants noted that with Care2Talk utilization, the need for repeat home visits may decrease, and ambulance or emergency room deaths of clients could be prevented. Participants also suggested extending the use of Care2Talk for families to contact healthcare providers directly during the bereavement period.

THEME 3: Optimizing Care2Talk uptake for Home Hospice Program success

When discussing the uptake of Care2Talk in the Home Hospice Program, participants considered both the staff, and the clients and their families, as key to a successful launch of the Home Hospice Program.

Securing staff buy-in by emphasizing simplicity and client safety

Participants were apprehensive about introducing a new technology to hospice staff. While participants saw value in integrating a secure connectivity platform into the Home Hospice Program, some stressed the numerous platforms and software already being used by hospice staff. Despite this, participants also spoke about the multitasking potential of having Care2Talk to connect with clients and their families at home while on shift in hospice house.

Table 4. Staff perceptions of Care2Talk

Key Points	Illustrative Quotes
Additional software	*"They'll think it's cool, but they're going to be like, oh, I have to learn how to use another thing, I don't know."*
	"I mean, there's going to be different nurses using it, and the ones that work here in the house, this would be outside of their current nursing role, [they] would feel like it was adding to their workload, it's just one more thing to think about, worry about."
Multitasking potential	*"In actuality . . . I would sooner have a mobile device that you can walk around on video chat versus staying strapped to a phone with a cord on it that you can't walk around and still do your work."*
	"And even if it was the RN in here giving advice you can still walk around and do what you're doing versus sitting at the desk stuck on the phone for who knows how long trying to give support."

In recalling past technology implementation activities as part of patient care in the hospice context, one participant described marked improvement in participants confidence using technology after they were supported to overcome the initial learning curve.

"*Yeah, [the staff is] freaking out over this [brand name tablet] cause none of them know how to use it and now every time it glitches, they're like, 'The [brand name tablet] not working, we need the [brand name tablet]!'…they love it!*"

Participants highlighted that how Care2Talk is presented to staff will have a big impact on appeal and uptake, which will be crucial to a successful implementation of the Home Hospice Program. Emphasizing the simplicity and accessibility of the platform was proffered by participants as the key to staff uptake.

"*You just have to pitch it that it's awesome and that they'll love it and that it's super easy, and it's gonna make their patients feel safe, and . . . yah, you just have to pitch it in a positive note.*"

Encouraging uptake with clients, and their family, by highlighting the utility, simplicity, and familiarity of Care2Talk

Participants stressed that not only the client would have to be willing to embrace Care2Talk for the success of the Home Hospice Program, but also the family. Participants were divided as to how Care2Talk may be perceived by the family, with some suggesting that they may not see the value added over prevailing video platforms, while others felt that the familiarity of a conventional video platform would facilitate an easier transition.

Table 5. Family uptake of Care2Talk

Key Points	Illustrative Quotes
Family importance	*"I see it as like if it fits the client's needs as an individual person…if it fits a client's needs, because most of the time I think of my grandparents or something, and they would love the idea, but it's not necessarily… they're not the whole user, right? It's getting the families, it's a big thing..."*
Familiarity facilitates or hinders	*"Like, 'Oh, I've heard you use something similar', I can use this. It's like that makes it go from here to here in scariness [points from high to low], [it] is like a big thing."*
	"[The family], they know how to FaceTime, they already have plans in their head of like, this is how we will communicate...they have a smartphone, they have FaceTime, this is how we'll connect. They already have that kind of predisposed understanding, so then going into this environment is stressful, then when that plan is shifted…what kinda of happens?"

In describing the Home Hospice Program, participants explained that Care2Talk will be introduced to the client and their family in the initial home meeting. During that discussion, the utility and familiarity, along with the simplicity, was highlighted as the most important aspects to present for uptake.

> “*Introducing technology in a stressful time is, like people already have a lot of stuff going on, so, if it's not an immediate catch on, an immediate usefulness upfront, like if they can't see the utility for them, then I don't see it like the uptake so quickly, I think that might be like a gap.*”

> “*Yeah. I think the big thing is, just to me, it's very simple. And just conveying how easy to use that is…and making sure that it's easy to set up. We just lowering the barrier of entry.*”

In summary, participants showed hesitation around introducing a new technology to staff but saw the value in implementing Care2Talk as part of the Home Hospice Program. Employing an introduction emphasizing the simplicity of and improved patient care through Care2Talk was indicated as way to garner staff approval and uptake. Participants highlighted that uptake of Care2Talk by both the client – and their family – was important to the success of Home Hospice Program and that demonstrating the familiarity, usability, and simplicity of Care2Talk would be key.

THEME 4: Care2Talk: facilitating connectivity through design

> *I think hands down it will make things easier.*

In reflecting on the physical design of the Care2Talk tablet interface, participants discussed the platform's functions, system/layout, usability, and technology experience needed to manage. Participants agreed that one of the key advantages was its simplicity – in layout, use, and connectivity functions for clients and their families, as well as staff.

Table 6. Simplicity of the Care2Talk connectivity platform

Illustrative Quotes
"I think this is a simpler solution than an [name brand tablet] or something like that that people find sometimes really hard to navigate."
"Sure, I like the idea of having something really simplified, that's very easy for the clients to use."
"From a nursing point of view, [Care2Talk] sounds really easy. I don't think there will be any problems with that at all. They can just contact their [client] just with the click of a button, I think that will be awesome."

Additionally, participants spoke positively of the ability to limit when clients can call others, as well as who they can call. This feature was deemed to be particularly useful for clients who may have autism, dementia, or are in cognitive decline. The addition of automatic closed captioning was met with enthusiasm by participants, as was the streamlined display, though participants felt the text and buttons could be enlarged and bolded and had a few suggestions in terms of the visual design.

Table 7. Care2Talk features relevant for home-based hospice palliative care

Key Points	Illustrative Quotes
Time limits	*"I think it's just that – this is so simple for a loved one to use, it's not like a TV remote with 100 buttons. It's just so simple for them to reach out to you, and you can set it, so they don't call you at 2:00AM."*
	"So I can see some guests who have confusion and dementia, I could see family members being like, 'Yeah, they can't call me all day and all night'. I could see them being super interested in the time limits of this because sometimes when people are [at hospice], it's because their family probably just needs that break, for whatever reason."
Proposed display updates	*"Even just having it written, like you have buttons – icons, when I look at an icon, or you guys look at an icon, you know what that icon means, but having it written out: 'mute', like 'you muted the call', having that actually displayed with a closed caption underneath of it, the "word", like having imagery that has a descriptive underneath of it because people don't know what icons mean or emojis mean or things like that."*
	"I think maybe you have a swipe bar so you can see that you can swipe because to me, that's not as apparent, right? It just looks like a page and to know that you can swipe, people are now more accustomed to that, like with a web screen, right? Like they have the [swipe motion]."

While participants expressed their endorsement of the Care2Talk platform, there were some aspects, such as having a camera and microphone in a client's personal space, that had participants apprehensive with concerns around security. Yet, in discussing the accessibility of and safety provided by the tablet versus the potential privacy concerns, participants did not have a workable solution.

Table 8. Care2Talk privacy concerns

Illustrative Quotes
"Do people know what's happening with their information? Or what's going on there? Like how do you explain that in a way that is reflective of the values of hospice, but also, reflective of trust and people wanting to use it, so I think [with the camera]… like people just having this Big Brother watching in the corner over there?"
"Yeah. Anytime you're putting a camera and a microphone in someone's room you bring in that trust issue."
"Like the only thing I can think of would be a screen cover, but now you're working against the purpose of it being available."

In terms of the user experience, participants liked that the Care2Talk system was divided into three parts with one unique platform for each intended end-user – client, family, and staff – and that each was designed to be used with relative ease. Participants also spoke of how the administrative portal for staff looked easy to use and efficient.

Table 9. Care2Talk usability

Illustrative Quotes
"[The Care2Talk platform] seems like it's kind of laid out in three tiers...we hand out the tablet that needs almost no experience, that's the point of it, and then the family, they have the app that requires just general smartphone experience and then there's the admin side where it requires the most, you're setting everything up…and even that doesn't seem so much to me. Like it might take some time but it's not like overly extensive."
"One thing, I was really impressed what I was hoping it would have this, and I assumed it wouldn't, was back in the admin account where you're administrating all the tablets in the group, I assumed that each one would have its own account, that would be kind of cumbersome for us to deal with. Having that admin account is exactly what I wanted to see."

Altogether, participants were impressed with the design, usability, and technology literacy level of the Care2Talk system, including the client tablet, family mobile app, and the admin portal. However, some apprehensions were expressed about privacy via the tablet's camera and microphone.

THEME 5: Enabling volunteer/client boundaries through a secure connectivity platform

In describing the diverse range of support that will be offered through the Home Hospice Program, participants highlighted the dedicated volunteers that provide guidance to clients and their families through hospice palliative care and the bereavement process. Participants

outlined how volunteers share their personal contact information to connect with clients and their families, which may lead to boundary and privacy issues. In discussing the applicability of Care2Talk, participants viewed the platform as a connectivity solution for volunteers to counsel, chat, and connect with clients/families in a compassionate, yet regulated, way.

Table 10. Maintaining volunteer boundaries

Illustrative Quotes
"I always am very cognizant of keeping private the volunteers' numbers, and I know they like to give them out and share them, so this is an opportunity for them to be available on their own time – they can set their own boundaries up without having to give out their own phone number."
"It's just to kind of give our volunteers boundaries with the person that they're supporting, cause they kind of want to be all in all the time and that can be really tricky."
"It's a boundary thing, I think, most specifically just from our perspectives. So I think when you have people in the community that volunteers have a close – they establish these connections together - is that the volunteer not feel obligated, but really wants to be there for their person, and . . . if the client calls all the time in a crisis, or I guess – my goodness, having the ability for the volunteer to be able to kind of step back after they do their volunteer role I think is important. So, it's strictly the volunteer that can contact their client – their person – and not the other way around."

In sum, participants deemed the Care2Talk platform as a useful way to facilitate volunteer/client relationships while maintaining the privacy and boundaries of the volunteer.

THEME 6: Tailoring Care2Talk platform changeover process and data collection

When considering real-world application of Care2Talk in the Home Hospice Program pilot program, participants contemplated the changeover of the Care2Talk platform from one client to the next. Participants underscored the need to develop a standard Care2Talk set-up and close-out process to ensure smooth transfers between clients. Participants suggested that while there should be an overall administrator overseeing all client accounts and changeovers, the addition of sub-administrative portals for coordinators/LPNs to manage specific Care2Talk platform transfers would be important – especially where there is limited staff capacity.

Table 11. Care2Talk changeover process considerations

Illustrative Quotes
"Well, what I saw was this really succinct way to erase everything and start fresh, I thought that was really slick and you can't do that with a phone because there's so much inner workings and all your pictures stay on there forever."
"The question is like when it comes back… is it coming to [IT] to wipe? So that's kind of a process thing on our side, but it looks pretty simple for us to set up, yeah."
"So then, if they have the cell phone app – I forgot about that part – like after the person dies, the tablet gets deleted and goes to a new person, what about that family member that still has the app on their phone from the person that died. Like does it automatically get deleted off their [phone]?"
"That was the big concern… like this set-up, but then, he described it as putting it in the 'garbage', but like how long does that take for doing that over and over again…cause it's a daily thing, what if [colleague] was on vacation?"

Participants conveyed the need to track and store data while the Care2Talk platform is being utilized in the Home Hospice Program. Collecting data on usage or 'screen time', call frequency, time of use, and connectivity behaviour, over time, on the Care2Talk system was described as central to understanding the needs of Home Hospice Program clients and their families.

> *"I think, the big weight is really for…management to be able to track when calls are happening. If people use this, if they use it to call the LPN, then we have this beautiful data about times of day that the LPNs are needed the most."*

> *"We also want to know if they're calling family members, and…how that changes over time, like maybe they were calling us more or family members less over time? Like, just trends…because these are people in the last few weeks of their lives. Just how that changes… and then you can meet people depending where they are at."*

Overall, participants articulated the need to develop a standard process for transitioning the Care2Talk platform between clients and suggested multiple levels of administrative access to account for limited staff capacity. Participants also discussed data tracking to improve and tailor client and family end-of-life care at home.

THEME 7: Exploring challenges to delivering home-based end-of-life care in northern and rural settings

In discussing the challenges of delivering quality home-based end-of-life care through Home Hospice Program to clients and families, participants highlighted some of the barriers related to the utilization of Care2Talk. Examples included were generational technology literacy gaps, accessible and affordable connectivity tools, and unreliable Wi-Fi and cellular data coverage in northern and rural locations.

Table 12. Care2Talk barriers in northern and rural communities

Key Points	Illustrative Quotes
Tech literacy gaps	*"No, I think training would be a challenge – it's just, I'm thinking about families that are two elderly . . . elderly husband and wife may need help [with technology like Care2Talk], right? They would need help."*
	"…that conversation around communicating ideas with people – often seniors don't have super high health…tech literacy."
Affordability and Wi-Fi/cellular data coverage	*"And if people don't have [brand name smartphone] … it's things like that, right? Where it's a higher barrier to accessing and phones that are not [brand name smartphone] are cheaper."*
	"I don't think there's Wi-Fi, right? If it's all strictly [cellular] data, so, I'm not rural, [but] when I come home from my kids school and they want to use my phone and there's like a dead spot, even if I'm on my data, I can't do anything…so, just with just Wi-Fi, I don't think you can just assume that we'll always just have access."

To reduce these barriers, participants suggested providing relevant technology training, partnering with cellular companies to lower Wi-Fi/cellular data costs and integrating additional technologies to improve connection in lower Wi-Fi/cellular data coverage areas.

Table 13. Reflections on improving Care2Talk accessibility

Illustrative Quotes
"So I think any one of us could potentially have to teach a family member, for example, how to input all of the family members that you want in there. . . like nurse, friend, whatever, so they know exactly who it is, and making sure the button is big enough that they're not going to accidentally hit the wrong one, some people don't have very good dexterity."
"I think for [Care2Talk] to be guaranteed to work, I think we would have to have [a cellular mobility company], and we would have to look again at Care2Talk, the providers, the project, the pilot, to see what their investment in that may be."
"Yeah, there might be need for compression tech on the video stream, so that it can work on low signal data connection. Like, when we first started up [this presentation], it was a little bit choppy there, and that was on Wi-Fi."

Participants highlighted key challenges with home-based end-of-life care in northern and rural communities, including generational technology literacy gaps, connectivity tool affordability, and limited Wi-Fi/cellular data coverage. To lower barriers, participants recommended education and technology training be provided for clients and their families, strategies to lower or remove the Wi-Fi/cellular data cost associated with Care2Talk and incorporating ways to improve connection in limited areas of Wi-Fi/cellular data coverage.

POST-SURVEY

Altogether, participants described the workshop as very collaborative, interactive, and engaging with ample opportunity for questions. All participants could see themselves using or overseeing the use of Care2Talk within the Home Hospice Program, citing the platforms simplicity, accessibility, and availability as key benefits for utilization and uptake. All participants reported that they would recommend Care2Talk to a colleague, while a majority would recommend the platform to care partners during hospice palliative care.

NEXT STEPS

- In collaboration with key stakeholders, the Home Hospice Program pilot plan is currently under development
- Report findings will inform integration and evaluation of the Care2Talk platform within the Home Hospice Program pilot anticipated to launch in January 2023
- During the pilot, user feedback from clients, care partners, and care providers regarding use of Care2Talk will provide key insights on the technology from a northern and rural perspective, as well as the staff/operations needs to support this system
- Investigate user feedback on Care2Talk management interface
- Results from the program pilot will form the basis of the full Home Hospice Program plan

Recommendations

The following are a list of recommendations based on the findings of this report to support the integration of Care2Talk within the Home Hospice Program pilot:

- Consider co-development of a Care2Talk introductory presentation with Home Hospice Program that is relevant/applicable to home-based hospice palliative care to garner buy-in from staff and clients and their families (e.g., emphasizing simplicity and patient safety)
- Explore development of Home Hospice Program specific Care2Talk orientation and education sessions for staff, clients, and families to improve confidence with the platform
- Consider adaptations needed for the Care2Talk system to be extended to family for bereavement support with healthcare professional after client has passed (extension of Care2Talk mobile app account, but not client tablet account)
- Collaborate with Home Hospice Program to tailor data tracking (including collection, storage, and analyse) of Care2Talk
- Consider adapting display buttons (text rather than icons), adding a swipe bar, enlarging/bolding text on client tablet, and providing an optional camera cover for when tablet is stored in a personal setting (e.g., bedroom)
- Pursue sustainable northern partnerships to lower or remove Wi-Fi/cellular data costs of utilizing Care2Talk for clients and their families
- Investigate strategies to maintain video quality and connectivity in areas of low Wi-Fi/cellular data coverage common to northern and rural regions

Conclusion

This report presented the perspectives of Home Hospice Program providers that participated in ADEPT Workshops in August and September 2022 that featured the Care2Talk platform. Through qualitative analysis of the facilitated workshop discussions, seven themes were developed and included: 1) how Care2Talk can enhance end-of-life care for clients and their families through meaningful connection; 2) the importance of providing clients and their families an alternate and accessible platform for support during a planned home death; 3) the best way to optimize the uptake of Care2Talk for the success of the Home Hospice Program; 4) how the design of the Care2Talk system facilitates connectivity with clients, their families, and healthcare providers; 5) how Care2Talk can improve volunteer-client/family boundaries; 6) the opportunity to tailor the Care2Talk platform changeover process, as well as refining data tracking needs; and 7) understanding the challenges to delivering home-based end-of-life care in northern and rural settings.

Collectively, the findings drawn from this report describe the Care2Talk platform as essential and invaluable to the Home Hospice Program, and underscores the significance of providing accessible, on-demand hospice palliative care support 24/7, empowering clients and families with the option of safe at-home end-of-life care in northern and rural British Columbia.

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