## INTRODUCTION

BC has the highest proportion of medically assisted deaths in Canada (1). In rural areas, access to MAiD is inadequate (2-4); even in larger cities, access to a MAiD assessor can be difficult if a request is time-sensitive. To qualify for MAiD, patients must be "in an advanced state of decline in capacity" and their "natural death has become reasonably foreseeable"; they are rarely in a condition to travel for health care (5). Since November 2018, The Medical Assistance in Dying Travel and Training Assistance Program (MAiDTAP) compensates MAiD assessors and providers requiring travelling for MAID for rural communities (6), but not for urban or suburban areas. In BC, 'one of the medical assessors, but not both, may provide their assessment by telemedicine (TM) provided that, during the TM assessment, another regulated health professional is in physical attendance with the patient to act as a witness to the assessment' (7). TM use is expanding in BC (8); it has been used in many other areas of medicine effectively to help provide access to care (9-10). To our knowledge, the specific impacts of using TM for MAiD eligibility assessments on quality of care has not yet been assessed. This research explored these impacts from the perspective of patients, support persons, assessors and administrators involved in the MAiD process in BC.

## METHODS

This study consisted of quantitative information from three health authorities and semi-structured interviews with patients, support persons, assessors, MAiD coordinators and

administrators who were involved with the use of TM for MAiD eligibility assessments in BC. Research approval was obtained by the UBC Behavioural Research Ethics board (UBC #H15-03198). All interviews were conducted by one researcher (S.D.) by telephone or video meeting (using GoToMeeting) and lasted approximately 30 minutes. SD was a Master's student at the time and identifies as female. Participants wishing to answer questions via email were also provided with that option. The interviews were audio recorded and transcribed, removing any identifying features. To recruit participants, an invitation letter and a written consent form were sent via email to relevant contacts of a medical clinic providing MAiD services in Vancouver, BC. Participants were told that this project was part of a Master's degree project and provided verbal (audio-recorded) and/or written consent.

We used the BC Health Quality Matrix (11), a framework providing a common language for defining the quality of care, comprised of seven dimensions of quality (Table 1). Participants were asked to provide insight about these dimensions according to their specific role and perspective. Two researchers from the field reviewed the interview guide and provided feedback to ensure content validity. An iterative process was used for the interview; questions evolved with time and new perspectives and the interview guide was modified accordingly. We used Dedoose to facilitate interview content analysis (12). Quantitative data were analyzed using descriptive statistics and qualitative data were processed using principles of a phenomenology theoretical framework (13). Qualitative data were categorized using the seven dimensions of the BC Health Quality Matrix (14), and then analyzed with inductive coding (by SD). Identified themes were compiled and evaluated in the context of what is already known

about the topic, based on current literature. Three researchers, including the interviewer, were involved in multiple meetings to discuss coding and to reach consensus.

## RESULTS

Out of 24 invitations, 21 participants consented to participate in the research. Eighteen participants agreed to be interviewed while three preferred to provide their answers via email. The interviews were conducted between June and November 2018 and consisted of one interview per participant. Interviewees included:

- Eight MAiD assessors (seven physicians and one nurse practitioner) who used TM for at least one of their MAiD eligibility assessment,
- Seven support persons of patients who had requested MAiD and participated in one eligibility assessments via TM,
- One patient who participated in an eligibility assessment via TM and,
- Five MAiD administrators, who were either involved in coordinating a MAiD eligibility assessment with TM or in charge of the MAiD program for a health authority.

Table 2 presents proportion information for TM eligibility assessments in MAiD since legalization for the three health authorities. Tables 3 to 5 provide demographic data of the participants, while Table 6 provides an overview of the TM perception, expertise and satisfaction and Table 7 presents the types of devices, software and location used.

### Acceptability

Support persons and the one patient unanimously thought that MAiD eligibility assessment via TM was acceptable. Qualifiers included *'easier', 'convenient', 'natural', 'patient centered'*, *'adequate', 'personal', 'helpful', 'fantastic'* and *'positive'*. MAiD assessors also expressed positive comments on TM acceptability, despite conveying overall more reservation. For example: *'the ability to touch or the ability to move or see how they are moving is more difficult and limited, so empathy is reduced'* (Assessor F). Similarly, another one reported: '*it's not as warm and fuzzy as in person but all the in person are not necessarily warm and fuzzy either'* (Assessor G). Several interviewees thought that the context inherent to TM assessments was not as rich or complete: '*with telemedicine, I really just focus in on what their experience is with their illness or with their disease and less about them as a person, so I lose that aspect of knowing them'* (Assessor F). The administrators who had acted as witnesses felt that their presence added a human touch to the consultation: '*sometimes I have been able to interpret what a physician has said on the phone…or also follow up with the patient about some of the conversations that happened on the phone'* (Administrator A).

> *I usually sit fairly close to the patient so maybe there's a little bit of a…maybe I'm sort of doing that usual piece on behalf of the assessor in regard to sort of, you know, touching the patient, especially if they've expressed something really difficult for them or are in tears' (Administrator A).*

**Appropriateness**

The support persons and the one patient all thought that using TM for MAiD eligibility assessment was appropriate in their case. For most assessors and administrators, the main

theme regarding the appropriateness of TM related to specific patient characteristics. '*The patient needs to be able to use the technology appropriately, to be seen, to be visualized, to be heard, to make themselves understood*' (Assessor D). '*In somebody who is alert and able to…very quickly and clearly provide consent, then I think TM is fine*' (Assessor E).

> *Particularly when people are old and frail, the difficulty that they had was not being able to hear me well on the other end. Whereas when I'm in front of the other person, I can lean over to the correct ear that they can hear best out of, or be more expressive in the body language way, but that's not possible on telemedicine (Assessor F).*

**Accessibility**

Most interviewees thought that TM facilitated access to MAiD assessments for their loved ones because of their limited physical capacity: '*I couldn't have gotten him in the car, gotten him into the ferry and…but that would have been really, really sad to have to do that*' (Support Person C). In two instances, support persons believed that having the TM option allowed access to MAiD, as their loved ones were not able to travel to obtain an in-person MAiD eligibility assessment: '*it was her only way to find a doctor to do this, it was a miracle that Skype was available, it was wonderful*' (Support Person A). Most assessors described TM as a facilitator for MAiD eligibility assessments due to factors such as distance or under-serviced areas:

> *I will often, though not always, do the assessment through telemedicine because it means I spend 2 hours doing the assessment rather than the whole day, which is how long it would take me to actually go and see the patient (Assessor C).*

Two coordinators thought that TM increased access in a timely manner for the patients, highlighting that even in larger population settings, access to in-person MAiD eligibility assessment was challenging at times.

**Effectiveness**

The support persons and the one patient all thought that TM was an effective way to conduct MAiD eligibility assessment, given their circumstances, expressing statements such as: '*in that situation its whatever works…and it worked'* (Support Person C) and *'it served the purposed that we were trying to achieve'* (Support Person B). Most providers had similar thoughts, concluding that they were able to reach their goals despite limitations inherent to TM. '*It gets the job done...and...at the end it is what it is right'* (Assessor G) and '*it's less than as good as it can be in person, but still good enough for me to do this work'* (Assessor D). '*I find it's shorter than with the face-to-face contacts because there aren't as many cues to me to ask about further life issues or questions about knowing that person, so I find it restrictive in that sense'* (Assessor F). The administrators did not report tracking specific metrics regarding TM assessments for further evaluation purposes other than identifying that the consultation was conducted via TM on the assessment record.

**Safety**

Support persons and the one patient did not express comments or concerns about privacy during the TM assessment. For the assessors, the recurring themes related to safety in the context of TM were about privacy and confidentiality, especially when using their own device

and software. Three administrators confirmed that their health authority recommended the use of a consent form for a telemedicine assessment using a software that is not considered secure.

Three assessors doubted that the witness requirement had a meaningful impact at preventing coercion and felt that having a stranger in the room during the assessment was at times intrusive.

> *I see why it needs to be there so that we can ensure that someone is not under duress, but I do find it a bit of an invasion of their privacy, so I'm mixed about that requirement. I'm not sure that it actually helps us decide that there is no duress. I think that if there's duress, that witness could be part of the whole thing, so I don't know that it actually is protective. I find it more of an invasion than a protection (Assessor D).*

**Efficiency**

All support persons were adamant that TM saved significant travel time. One reported that TM was also cost saving, due to travel cost involved with an in-person assessment. All assessors agreed that TM assessments overall required less time, preventing long distance travel to assess a patient: *'it allows the process in a timely fashion with an efficient utilization of physician and patient resources in the sense that it takes the travel away'* (Assessor G). Two administrators and one assessor thought that planning for TM took longer than planning for an in-person assessment due to the need to find/organize a witness. Several interviewees acknowledged that using TM was cost saving from a system's perspective, as the health

authority did not have to reimburse traveling fees for in-person assessments. Technological issues rarely impeded the TM consultations, but several assessors mentioned difficulty with conducting a TM assessment when the patient had to be lying flat in bed: '*the most important thing, to be honest, is that I can see the patient and sometimes it's difficult if they're lying flat or – it's quite difficult for them to see me, but I'm able to see them*' (Assessor C). Most interviewees thought that MAiD coordinators were instrumental in providing assistance and support for TM.

**Equity**

Several interviewees pointed out that TM allowed equitable access to MAiD eligibility assessment.

## INTERPRETATION

Findings from this research demonstrated that quality of care can be met through the use of TM for MAiD eligibility assessments for specific situations and patients. We found that the BC Health Quality Matrix was a useful framework to analyse quality of care in this situation. Overall, participants expressed satisfaction with this modality; satisfaction was higher for support persons/patients and administrators than for assessors. Acceptability was very high amongst support persons and the one patient and this is an essential finding given the importance of a patient-centered practice. Patient characteristics emerged as the main theme for appropriateness for all interviewees. The accessibility dimension obtained most unanimity, participants expressing that TM facilitated access to the assessment and even allowed access

for some patients. Overall, interviewees agreed that using TM was effective. The patient and the support persons had no concerns about safety; only assessors and administrators voiced concerns and some discussed getting consent. Most interviewees agreed that TM was efficient, however, organizing a witness was reported as a barrier to efficiency. The importance of the MAiD coordinators in providing operational support for the TM consultation was highlighted.

Findings from this research are consistent with previous research on TM and abortion (15-17) and TM and palliative care (18-20), showing high acceptability amongst patients with increased efficiency and access to healthcare services when TM was available.

The limitations of this study include the small sample, so the opinions of support persons/patients, assessors and administrators who were involved in TM for MAiD eligibility assessments in BC may not be representative. The interview guide developed for this study had not been validated with a wide sample of respondents. The perspective of support persons/patients regarding the witness requirement was not obtained for this research. This research did not include perspectives of First Nations.

This study showed that the use of TM for MAiD eligibility assessments remains relatively low in BC. Assessing and promoting the integration of a patient-centered Virtual Health model of service for the MAiD program in BC would be useful in harmonizing TM practices and facilitating access to the service. Clear mechanisms, such as consent forms, and communication between assessors and administrators to implement those mechanisms are recommended to enforce informed consent and protect the patients. Future research should include the First Nations Health Authority, given the remote or rural nature of some First Nations communities.

We need to know more about how patients and support persons feel about the witness requirement for TM assessments. Another important area of research is specific outcomes related to TM assessments. Methodological challenges with evaluating effectiveness, particularly with quantitative methods, are inherent to the peculiarities of palliative care (17); similar challenges apply to a MAiD setting.

## Conclusions

This research demonstrated that TM can be used for this type of consultation in a manner that is acceptable and effective for patients and assessors, while overall improving efficiency for the program. TM is an important tool that has potential to expand access to MAiD; this is of particular relevance given BC's geographic context, assessor shortage and limited physical capacities for patients to travel. A careful consideration of the risks and benefits of a MAiD eligibility assessment via TM, on a case-by-case basis, is recommended to promote quality of care; specific considerations where highlighted in this research.

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Table 1 - The BC Health Quality Matrix (10)

| Quality Dimensions | Definitions |
|---|---|
| Acceptability | Care that is respectful of patient and family preferences, needs and values. This dimension takes into consideration patient and family preferences, such as respecting cultural values and encouraging family involvement in decision making. Acceptability includes health care providers being empathetic to patients and families, following the wishes and expectations of patients and families and empowering them to be active in their own care |
| Appropriateness | Care provided is evidence based and specific to individual clinical needs. This dimension reflects care that is grounded in best practices and is provided to optimize an individual's health outcome. Appropriate care weighs the benefits and risks of care – aiming to provide maximum benefit (supporting best outcomes). |
| Accessibility | Ease with which health services are reached. Accessibility is the extent to which individuals can easily obtain the care when and where they need. Accessibility aims to ensure there are not physical, financial or psychological barriers to receiving information, care and treatment. |
| Safety | Avoiding harm resulting from care. Safety is the extent to which health care services do not harm patients. Safety involves designing and implementing processes to prevent and minimize those adverse outcomes or injuries that could unintentionally result from the delivery of care. |
| Effectiveness | Care that is known to achieve intended outcomes. Effectiveness is care that achieves the best possible outcomes for patients by developing and carrying out care plans that are based on clinical evidence and best practices. A commitment to effectiveness is demonstrated by continuously studying the results of care to find ways to improve care for all patients. |
| Equity | Distribution of health care and its benefits fairly according to population need. Equity defines the extent to which BC's health system allocates health services fairly across the province's population. Equity does not mean the same health care for everyone because British Columbians have different needs. Equity is demonstrated when British Columbians have equal access to the health services they need, regardless of gender, ethnicity, socioeconomic status, or where they live. |
| Efficiency | Optimal use of resources to yield maximum benefits and results. Efficiency is about delivering services to improve the health of more British Columbians by maximizing capacity and eliminating/avoiding waste in the health system. Health care services are considered in light of value for money or providing the maximum amount of positive impact on the health of British Columbians. |

Table 2 – Proportion of TM eligibility assessments for 3 BC Health Authorities (as of April 2019)

| Health Authority | Number of MAiD eligibility assessment for MAiD | Total number of MAiD requests | Proportion TM |
|---|---|---|---|
| **1** | 2 | 621 | **0.32%** |
| **2** | 51 | 901 | **5.7%** |
| **3** | 52 | n/a (839 MAiD deaths for this period) | **n/a (6.2%)** |

Table 3 - Support Persons/Patients Profiles[1]

| Support Person/Patient | Age | Sex | Health Authority | Diagnosis |
|---|---|---|---|---|
| **A** | n/a | F | Out of province | Conversion Disorder |
| **B** | [71-80] | M | Urban | Parkinson |
| **C** | [61-70] | F | Rural | Cancer |
| **D** | [61-70] | F | Urban | n/a |
| **E** | [61-70] | F | Urban | Pulmonary Fibrosis |
| **F** | [41-50] | F | Rural | Cancer |
| **G** | [71-80] | M | Urban | Multiple Sclerosis |
| **H** | [61-70] | M | Rural | Borderline personality disorder, chronic asthma |

Table 4 - MAiD Assessors Profiles [1]

| Assessor | Age Group | Sex | Health Authority | # of MAiD eligibility assessment performed with TM |
|---|---|---|---|---|
| **A** | [61-70] | F | Urban | 5 |
| **B** | [21-30] | M | Urban | 3 |
| **C** | [51-60] | M | Rural | ~10 |
| **D** | [41-50] | F | Urban | ~6 |
| **E** | [41-50] | F | Rural | 5 |
| **F** | [51-60] | F | Urban | 10 to 15 |
| **G** | [61-70] | M | Rural | 4 or 5 |
| **E** | [31-40] | F | Urban | 1 |

[1] Ages are displayed by group and locations are identified by urban or rural to protect participant's confidentiality.

Table 5 - Administrators Profiles[2]

| MAiD Care Coordinator/Administrator | Age | Sex |
|---|---|---|
| **A** | [41-50] | F |
| **B** | [51-60 | F |
| **C** | [41-50] | F |
| **D** | [31-40] | F |
| **E** | **n/a** | M |

Table 6 - Telemedicine Experience, Perception and Satisfaction

| Support Persons/Patients | Computer Experience (1-5) | Internet Experience (1-5) | TM experience (1-5) | Perception TM pre use for MAiD | Level of satisfaction with TM (1-5) |
|---|---|---|---|---|---|
| **A** | n/a | n/a | n/a | n/a | 5 |
| **B** | 1 3/4 | 2 | 1 | n/a | 5 |
| **C** | 5 | 5 | 1 | n/a | 5 |
| **D** | 3 | 3 | 1 | Neutral | 5 |
| **E** | 3 | 3 | 3 | Great | 4 |
| **F** | 5 | 5 | 5 | High | 5 |
| **G** | 4.5 | 4.5 | 1 | Neutral | 5 |
| **H** | 2.5 | 3 | 1 | Never heard of it | 5 |
| **Assessors** | | | | | |
| **A** | 4 | 5 | 2 | Negative | 1 |
| **B** | 4 | 4.5 | 3 | Good | 4 |
| **C** | 4 | 4 | 3 | Neutral | 4 |
| **D** | 4 | 4 | 3.8 | Neutral | 4.5 |
| **E** | 3 | 4 | 2 | Positive | 3 |
| **F** | 5 | 5 | 3 | Very useful | 3 |
| **G** | 4 | 4 | 3 | n/a | 4 |
| **E** | 4 | 4 | 3 | Neutral | 5 |
| **Administrators** | | | | | |
| **A** | 4 | 5 | 4.5 | Good | 4 |
| **B** | 5 | 5 | 3.75 | Great for telehealth | 4.5 |
| **C** | 5 | 5 | 2 | Great | 4 |

[2] Ages are displayed by group and locations were not provided to protect participant's confidentiality

| | | | | | |
|---|---|---|---|---|---|
| **D** | 4 | 4 | 5 | Useful | 5 |
| **E** | n/a | n/a | n/a | Supported | n/a |

Table 7 – Device, Software and Location

| **Assessors** | **Device** | **Software** | **Location TM** |
|---|---|---|---|
| **A** | iphone | Facetime | Home |
| **B** | iphone | Facetime | Home or Hospital |
| **C** | iphone | Facetime | Home |
| **D** | Laptop, telehealth, phone | Mainly Skype | Home |
| **E** | Computer, phone, telehealth | Telehealth, Facetime, Skype | Home or Telehealth |
| **F** | Various | Various | Home or Telehealth |
| **G** | Telehealth | Telehealth | Telehealth |
| **E** | iphone | Facetime | Home |
| **Support Persons/Patients** | | | |
| **A** | computer | Skype or Facetime | Home |
| **B** | ipad | Facetime | Home |
| **C** | computer | Facetime | Home |
| **D** | iphone | Facetime or Skype | Home |
| **E** | ipad | Skype | Home |
| **F** | iphone | Facetime | Home |
| **G** | Computer | Skype | Home |
| **E** | Computer | Skype | Home |