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Les soins virtuels, une méthode émergente d'offre de soins de santé, permet aux patients de rester dans le confort de leur maison pour une visite avec leur médecin. Les patients peuvent ainsi rencontrer leur médecin en visioconférence, à travers leur propre téléphone intelligent, appareil portable ou tablette. Les soins virtuels sont devenus omniprésents aux États-Unis et au Canada, en particulier en réponse à la COVID-19. Dans ce commentaire, nous discutons des avantages et des limites des soins virtuels et explorons comment ceux-ci peuvent s'aligner avec ou enfreindre certains principes de bioéthique à travers des études de cas. Ainsi, nous soutenons que les soins virtuels permettent une plus grande accessibilité et disponibilité des soins de santé. Cependant, certains scénarios cliniques peuvent ne pas convenir aux soins virtuels, en particulier lorsqu'un examen physique approfondi est nécessaire. Bien qu'il ne soit pas toujours clair quand utiliser les technologies virtuelles en santé, il est prudent d'avoir une conversation honnête et ouverte avec le patient lorsque l'on offre cette option.

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COMMENTAIRE CRITIQUE / CRITICAL COMMENTARY (ÉVALUÉ PAR LES PAIRS / PEER-REVIEWED)

Bioethical Principles in Home-Based Virtual Care

Nathaniel Bendahan[a], Sophy Chan[a], Ramana Appireddy[a]

Résumé
Les soins virtuels, une méthode émergente d'offre de soins de santé, permet aux patients de rester dans le confort de leur maison pour une visite avec leur médecin. Les patients peuvent ainsi rencontrer leur médecin en visioconférence, à travers leur propre téléphone intelligent, appareil portable ou tablette. Les soins virtuels sont devenus omniprésents aux États-Unis et au Canada, en particulier en réponse à la COVID-19. Dans ce commentaire, nous discutons des avantages et des limites des soins virtuels et explorons comment ceux-ci peuvent s'aligner avec ou enfreindre certains principes de bioéthique à travers des études de cas. Ainsi, nous soutenons que les soins virtuels permettent une plus grande accessibilité et disponibilité des soins de santé. Cependant, certains scénarios cliniques peuvent ne pas convenir aux soins virtuels, en particulier lorsqu'un examen physique approfondi est nécessaire. Bien qu'il ne soit pas toujours clair quand utiliser les technologies virtuelles en santé, il est prudent d'avoir une conversation honnête et ouverte avec le patient lorsque l'on offre cette option.

Mots-clés
soins virtuels, télémédecine, bioéthique, éthique, covid-19, santé numérique

Abstract
Virtual care (VC), a novel method of healthcare delivery, allows patients to stay home or at their preferred location and use personal internet-enabled devices to video-conference with their healthcare provider. VC is becoming ubiquitous across the US and Canada, particularly in response to COVID-19. In this paper, we discuss the benefits and limitations of VC and explore how it may align with or detract from the four principles of bioethics through case studies. Overall, we argue that it allows for greater accessibility, availability, and affordability of healthcare. However, certain clinical scenarios may not be suitable for VC, particularly when a thorough physical examination is required. While it may not always be clear when to use digital health technologies, it is prudent to have an honest and open conversation with the patient when offering this option.

Keywords
virtual care, telemedicine, bioethics, ethics, covid-19, digital health

Affiliations
[a] Department of Medicine, Division of Neurology, Kingston Health Sciences Centre, Kingston, Canada

Correspondance / Correspondence: Ramana Appireddy, mrra@queensu.ca

INTRODUCTION

Virtual care (VC) broadly describes any form of healthcare occurring remotely between patients and members of their circle of care to facilitate or maximize the quality and effectiveness of patient care (1). VC has expanded to include telephone, secure messaging, secure email, and secure audio-video conferencing. Through these modalities, patients can conduct virtual visits at home and use personal internet-enabled devices like smartphones and tablets to video conference with their health care provider. This is distinct from "traditional" telemedicine which is usually performed between two remote hospitals with dedicated videoconferencing equipment and personnel to assist with the visit (2,3). As personal video conferencing is becoming ubiquitous across the US and Canada, particularly in response to COVID-19, providers, regulatory bodies, insurers, policymakers and governments are beginning to realize the value of virtual care in achieving the goals of the Institute of Healthcare Improvement (IHI) Triple Aim: improving the patient experience of care; improving the health of populations, and reducing the per capita cost of health care (4-8).

While digital technology offers expanded access to healthcare, particularly for those living in rural areas or with disability, several limitations remain. Although the ethical implications of "traditional" telemedicine have been explored (9,10), discussions are missing around the bioethics of VC and how its implications should crucially inform policy and practice moving forward. The purpose of this paper is to explore the benefits for both patients and physicians, as well as some of the ethical implications and concerns raised by the use of these technologies. As a specialist physician and researcher of VC, a medical resident, and a health promotion scholar, we bring our clinical insights into a broader discussion about bioethical conduct around innovative ways to carry out healthcare. We conclude with a call for more research and sensitivity to be paid to this area.

PRINCIPLES OF BIOETHICS IN VIRTUAL CARE

Bioethics is a multidisciplinary field that examines the multi-faceted implications and consequences of biology and medicine, ensuring that medical practices and procedures benefit society as a whole. The four commonly accepted principles of health care ethics include the principles of respect for justice, autonomy, non-maleficence and beneficence, and justice (11). In what follows, we discuss the benefits and limitations of VC and explore how it may align with or detract from the principles of bioethics through three case studies.

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Justice

Justice refers to an equal and fair distribution of society's benefits and burdens. This is the principle most often referred to in the rationing of healthcare resources. VC fulfills the principle of justice as it increases the potential reach of medical care beyond traditional modalities. Many patients, particularly those with disabilities, chronic and complex diseases, and the ageing, are unable to leave their homes without great effort. VC has the potential to improve these patients' interactions with the healthcare system. For instance, virtual visits will likely prove more convenient for patients with reduced mobility or those whose driver's licenses have been revoked, which is commonly seen in patients with medical conditions like epilepsy, cardiac conditions, vision impairment and stroke. Similarly, VC has the potential to make general and specialty medicine more accessible to patients living in rural areas, allowing patients all over the country to access services that were previously unavailable.

Case Illustration 1
Patient A is an 81-year-old woman who recently suffered a minor stroke and now requires a walker to ambulate. She lives alone in her house in a rural community, a 2-hour drive from the regional stroke clinic. She has to attend the stroke clinic for a follow-up visit to review her test results – echocardiogram and heart monitor. As she does not drive, she had to request her son to drive her to the follow-up. This scenario highlights some of the challenges many patients face in visitng their physicians. Virtual care offers a patient-centred solution to these challenges.

However, we must consider that access to VC is not universal. Patients with cognitive impairment may require additional assistance in setting up physician consultations, while patients with limited dexterity may find physically operating these devices challenging. In our research, we have found that around 30% of our elderly patients that have conducted VC visits did not have an Internet-enabled device or required a caregiver to set up the program for them (12). Patients of a lower socioeconomic status or from developing nations may not have access to Internet-enabled devices. Patients living in rural or remote areas may also struggle to connect virtually as Internet access may be less reliable.

To ensure that the principle of justice is met in both clinical and systematic contexts, healthcare providers should be sensitive to the social contexts in which their patients are embedded. Adherence to the principle of justice should also inform more significant structural changes in healthcare to equalize the reach and accessibility of VC to the entire population regardless of location, socioeconomic status, and ability.

Autonomy

Autonomy is defined as freedom from the controlling influence of others and having an adequate understanding of a chosen action. VC modalities increase the capacity of patients be autonomous as they have multiple modalities of care through which they can choose to receive medical advice. For instance, patients have a variety of care options (e.g., in-person visit, phone call, texting, video conferencing) from which they can choose. Patients with dexterity issues may find a phone call preferrable to texting due to the dexterous nature involved with typing. Other patients may choose an in-person visit over a video chat if they feel their medical issue merits a physician's touch. Thus, in addition to in-person care, VC increases opportunities for patients to participate in autonomous decision-making around their care.

However, patient autonomy can also be mis-identified or wrongfully attributed. VC is a relatively new modality of healthcare with few best practice guidelines, and thus physicians may not always present this information clearly or in full. Physicians may simply not be aware of the limitations of VC. Further, a focus on decision making can be problematic, particularly as it can obscure other factors that infringe upon a patient's autonomy, such as traditional practices, assumptions of competence, and power relations between physician and patient (13). Given many patients' unfamiliarity with this technology, they may be susceptible to making uninformed choices about the use of VC. In our ongoing research with senior stroke patients, we found that some of the patients had difficulty using the technology and were entirely reliant on the assistance of their caregivers. Such challenges could reduce the ability of patients to use VC autonomously or to make autonomous decisions.

In order to ensure the patient can make an autonomous decision to use VC, healthcare providers must present a full picture of the technology, the ideal clinical problem for a visit, and limitations of a virtual visit for delivering optimal care for their medical condition(s). More time should be spent explaining the limitations and broader implications of participating in VC. Enriched relationships and a strong understanding between physicians and patients could serve to increase patient autonomy as well. These actions will help patients make fully informed decisions and contribute to their overall well-being.

Non-Maleficence

Non-maleficence is captured by the Latin phrase *primum non-nocere,* which means "above all do no harm." The ongoing COVID-19 pandemic has brought to light potential harm with in-person visits: patients and physicians potentially expose themselves to infectious risks with in-person interaction. For this reason, videoconferencing has been valuable for screening patients during the pandemic, notably those with respiratory symptoms and other presenting symptoms of COVID-19 (14). Patients may then be triaged appropriately, i.e., to testing centre, the emergency department or self-isolation at home. VC has also increased ambulatory care capacity during the pandemic. Furthermore, there is fear that staffing will be greatly reduced during the pandemic. With VC, however, physicians who are feeling well may continue to provide care, even while being under

quarantine. Patients are being told avoid leaving the house and going to urgent care unless absolutely necessary. This may have unintended consequences on patients with medical conditions other than COVID-19 who are underserved during this time of crisis. Fortunately, clinics are being rapidly transitioned to VC to limit the spread of the virus and provide a safer alternative for patients to receive ongoing care. This transformative change will likely have long-lasting effects – beyond the current pandemic – on the way we offer medical care to patients with a compromised immune system or with those with communicable diseases such as influenza.

While the applications of telemedicine are continually expanding, specific clinical scenarios remain best addressed through face-to-face encounters. There is potential that healthcare providers may offer an inferior service through virtual visits. While new research suggests some tests can be adequately performed through videoconferencing – such as general observation, gait examination, cranial nerve testing, and coordination testing (15) – home-based telemedicine is not appropriate when the physical examination is necessary for decision-making and cannot easily be replaced by ancillary testing. In order to adhere to the principle of non-maleficence, it is essential for physicians to carefully select the medical issues they address virtually and those that necessitate a thorough in-person assessment to avoid causing harm to patients.

Case Illustration 2
Patient B is a 74-year-old man who has had Parkinson's disease for more than 15 years. His mobility is declining, and he now requires a 4-wheel walker. His physician titrates his medication every four months based on physical examination findings, including rigidity testing and gait examination. Unfortunately, virtual care is not ideal when a complex physical examination is required for diagnosis or management purposes.

Concerns over patient expectations of care or establishing a strong patient-physician relationship may also be exacerbated through VC. Teleconferencing may feel impersonal compared to in-person visits. It may be especially difficult or even unsuitable for physicians to break bad news virtually and have an appropriate empathic response. Lastly, sharing information online brings additional privacy concerns. If physicians opt to provide care virtually, they must exercise the same discretion that is expected in traditional clinical encounters in order to adhere to the principle of non-maleficence. Digital health technologies must ensure enough security and encryption in order to prevent unauthorized access or security breaches (10). Furthermore, patient information should be strictly limited to benefit patients and, with patient consent, used for research or educational purposes. Information should not be used or shared with third parties for profit.

Beneficence

Beneficence entails efforts to promote well-being or 'doing good.' Virtual visits may offer a superior service to patients as a convenient, cost-effective option, and occasionally provide additional meaningful clinical information. In a recent study, it was estimated that patients saved a median of 137 miles of travelling to access specialty neurology clinics (16). Virtual visits may also lessen the economic burden of attending medical appointments. Particularly in follow-up situations where test results are explained, or medications are adjusted, it is not necessary for patients to be seen in-person.

Case Illustration 3
Patient C is a 33-year-old mother with gestational diabetes. She gave birth a few weeks ago and has to see her doctor regarding her blood-sugar control. She would rather stay home with her newborn than see her doctor for a simple follow-up visit. Virtual care is particularly well suited for going over test results.

VC patients with full-time employment are often grateful they do not need to miss an entire day of work for a follow-up visit of this nature and can see their physicians directly from work. Family and/or friends may participate in the virtual visit remotely, thus playing a more active role in the care of their loved ones. Furthermore, VC allows healthcare providers to obtain context-specific information unavailable at a clinic. For instance, healthcare providers can observe patients in their own home environment, which may shed light on the patient's living conditions. In this instance, VC echoes the long-standing and humanistic practice of conducting house calls as had been done in the mid-20th century. However, as noted, healthcare professionals must exercise cautious judgment before deciding if the patient and their clinical condition are suitable for treatment through a virtual visit.

CONCLUSIONS

Given the widespread availability of the technology and increasing popularity and preference by patients, healthcare professionals, administrators and policymakers, VC is here to stay. We believe the recent rapid adoption of VC will continue to rise even after the pandemic because VC allows for greater accessibility, availability, and affordability of healthcare. Still, all players involved must ensure that this transformative change does not violate bioethical principles, both in a clinical and systemic sense. While it may not always be clear when to use digital health technologies, it is prudent to have an honest and open conversation with the patient to explain the benefits and limitations of VC. Further inquiry and research into a bioethical framework for VC will serve to inform healthcare professionals in providing safe and optimal care using digital health technologies.

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Conflicts of Interest

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REFERENCES

1. Shaw J, Jamieson T, Agarwal P, et al. Virtual care policy recommendations for patient-centred primary care: findings of a consensus policy dialogue using a nominal group technique. Journal of Telemedicine and Telecare. 2018;24(9):608-15.
2. El Morr C. Chapter 7: Telemedicine. In: Introduction to Health Informatics: A Canadian Perspective. Toronto, ON: Canadian Scholars Press; 2018.
3. El Morr C. Chapter 8: Consumer health informatics. In: Introduction to Health Informatics: A Canadian Perspective. Toronto, ON: Canadian Scholars Press; 2018.
4. Verma A, Bhatia S. A policy framework for health systems to promote triple aim innovation. Healthcare Papers. 2016;15(3):9-23.
5. Accenture Consulting. Virtual health: the untapped opportunity to get the most out of healthcare. Accenture; 2015.
6. Dare F. Virtual Care: Just what the consumer ordered. Accenture; 2017.
7. Ontario Ministry of Health and Long Term Care. Ontario Health Teams: Digital Health Playbook. Toronto: Ontario Ministry of Health and Long Term Care; 2019.
8. Lougheed T. Time to embrace the promise of virtual health care. CMAJ. 2019;191(11):E320-E1.
9. Mehta SJ. Telemedicine's potential ethical pitfalls. The Virtual Mentor. 2014;16(12):1014-7.
10. Chaet D, Clearfield R, Sabin JE, Skimming K. Ethical practice in telehealth and telemedicine. Journal of General Internal Medicine. 2017;32(10):1136-40.
11. Beauchamp TL, Childress JE. Principles of Biomedical Ethics, 7th Ed. Oxford: Oxford University Press; 2013.
12. Chan O, O'Riordan A, Appireddy R. Exploring the determinants and experiences of senior stroke patients with virtual care. Canadian Journal of Neurological Sciences. 2020 Jul 27;1-23.
13. Entwistle VA, Carter SM, Cribb A, McCaffery K. Supporting patient autonomy: the importance of clinician-patient relationships. Journal of General Internal Medicine. 2010;25(7):741-5.
14. Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. NEJM. 2020;382(18):1679-81.
15. Awadallah M, Janssen F, Körber B, et al. Telemedicine in general neurology: interrater reliability of clinical neurological examination via audio-visual telemedicine. European Neurology. 2018;80(5-6): 289-94.
16. Ross L, Bena J, Bermel R, et al. Implementation and patient experience with outpatient subspecialty teleneurology visits at a single academic institution over four years (plen01.004). Neurology. 2019;92(15 suppl): Plen01.004.