

Health Services Provider Series



# HSO

# Virtual Health



Standards Council of Canada  
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People  
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## Virtual Health Standard

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It is important to note that the views of the Technical Committee members are representative of their expertise and not their respective organizations.

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# Contents

Technical committee **II**

Preface **IV**

Disclaimer **VI**

## **0 Introduction VI**

### **1 Scope VII**

1.1 Purpose

1.2 Applicability

### **2 Referenced Publication VII**

### **3 Terms and Definitions VIII**

3.1 Definitions

### **4 Virtual Health Service Design 1**

### **5 Role of the Patient in the Virtual Health Service 3**

### **6 Ethical and Safe Virtual Health Service 9**

### **7 Patient Records used in the Virtual Health Service 12**

### **Bibliography 15**

# Preface

This is the first edition of HSO 83001:2018 (E), Virtual Health Standard. This standard will be undergoing a periodic maintenance. HSO will review and publish this standard on a schedule not to exceed five years from the date of publication. It is intended to align with other HSO health service provider standards that apply to organizations that receive and/or deliver Virtual Health services.

The standards, criteria, and guidelines are grouped into five sections based on these functions:

- Virtual Health service design
- Role of the patient in the Virtual Health service
- Ethical and safe Virtual Health service
- Patient records used in the Virtual Health service

The standard specifies requirements for organizations receiving and/or delivering quality health care via Virtual Health services. The standard was prepared by the HSO Technical Committee on Technology-Enabled Health under the authority of HSO Standards Steering Committee.

**Standard Type:** This standard is intended to be used as part of a conformity assessment.

The technical content of the standard consists of clauses, criteria and guidelines.

- **Clause:** Introductory statement for a set of criteria. It is not a goal statement.
- **Criterion:** A requirement that is to be evaluated. May be referred to as a sub-clause.
- **Guideline:** Additional information to help understand the criterion. It does not contain new information of evaluation content.

# Disclaimer

The intended primary application of this Standard is stated in the scope. However, it is the responsibility of the users to judge its suitability for their particular purposes.

Cette norme nationale du Canada est disponible en versions française et anglaise.

# Virtual Health Standard

## 0 Introduction

*HSO's Virtual Health Standard* enables an assessment of the safety, quality, and efficacy of Virtual Health services.

During recent years, Virtual Health (also sometimes referred to as telehealth, telemedicine or virtual care) has become an increasingly valuable and viable method of health service delivery, communication, information transfer, and education. Virtual Health services aims to support patient care and provide second opinions and consultation to individuals living in remote and isolated areas where access to health care was limited, as well as in urban settings (COACH, 2015). Virtual Health service delivery was initially developed as a site or room-based system but is now moving to more of a mobile response. Virtual Health allows patients to connect with specialists to whom they would not usually have access. Additionally, with a growing and aging population, Virtual Health is also being used to fill the gap between demand and system capacity (COACH, 2015).

These factors make Virtual Health more appealing to patients and their caregivers (Greenspun & Elsner, 2016). The use of Virtual Health has increased dramatically in the last few years (COACH, 2015), with a noticeable increase in the number of clinical Virtual Health sessions, defined as consultations and appointments with clinicians that took place with the use of telehealth. Another aspect of Virtual Health that is becoming more widespread is the integration of mobile applications into patient care plans.

Virtual Health not only facilitates follow-up care and helps patients manage chronic disease (United States Government Accountability Office, 2017), but also:

- Increases access to specialized and timely urgent care
- Increases the capacity and efficiency of specialists
- Reduces wait times for appointments and follow-up visits
- Reduces emergency department visits and the time patients spend in hospitals
- Reduces the discomfort and anxiety associated with patients travelling to receive services
- Reduces the costs and carbon emissions associated with patient travel
- Connects care teams to provide greater continuity of care
- Connects remote family members with long-stay patients
- Connects health care professionals for knowledge sharing
- Integrates with conventional care delivery models
- Keeps patients in their homes and communities longer (Provincial Health Services Authority, 2017)

Despite the benefits that Virtual Health brings to patients, clinicians, and the health care system, there are several barriers that are impeding the expansion of Virtual Health services. These include a lack of shared funding and a single management and governance structure, inconsistent privacy and security regulations, variations in qualifications and privileges among programs and networks, and cumbersome scheduling and booking processes (COACH, 2015). At their core, these barriers are caused by a lack of standardization in the development and provision of Virtual Health services.

It is clear that the use of Virtual Health services will continue to grow. This standard is designed to ensure that all patients who could benefit from Virtual Health services have access to them and that the services they receive will be of high quality, efficient and will protect their safety. The standard encompasses all Virtual Health services - existing and future – as complementary care seamlessly integrated within the broader context of overall healthcare delivery. The standard is inclusive of mobile applications and secure texting as part of the Virtual Health service delivered by the care team.



# 1 Scope

## 1.1 Purpose

The standard specifies the requirements for organizations that receive and/or deliver Virtual Health services, ensuring they address quality and safety and put patients at the centre of what they do.

The standard provides:

- **Organizations that receive and/or deliver Virtual Health services** with guidance on how to ensure quality and safety in their institutional and virtual contexts
- **Policy makers** with a blueprint for the requirements to designate organizations that receive and/or deliver Virtual Health services in their jurisdictions
- **External assessment bodies** with measurable requirements to include in assessment programs

This standard is intended to be used in conjunction with other related standards that apply to hospitals and specialized hospitals. It is not intended to be used in isolation.

## 1.2 Applicability

This standard applies to all health service organizations that receive and/or deliver Virtual Health, regardless of the model (i.e., centralized/decentralized; hospital, regional, provincial/territorial).

# 2 Normative References

There are no normative references available for this standard.

# 3 Terms and Definitions

## 3.1 Definitions

***Please follow the link to obtain a full list of our standards glossary:*** <https://healthstandards.org/files/HSO-MasterGlossaryList-2018E.pdf>

**Care Team:** Individuals who work, volunteer, or learn together in an organization to meet the needs of patients, families, and the community, including leaders, management, staff, social work and clinicians who hold privileges, contracted providers, volunteers, and students. The composition of a team is based on the type of care or services provided.

**Clinician:** A health care provider (e.g., physician, midwife, dentist, pharmacist, nurse practitioner, nurse) who is permitted by law and by the organization through the granting of privileges to provide care in that organization.

**Governance:** The system by which authority, decision-making ability, and accountability is exercised in an organization.

**Interoperability:** The ability of two or more systems (e.g., computers, communication devices, networks, software, and other information technology components) to interact and exchange data to achieve predictable results.

**Medical device:** An article, instrument, mobile application, apparatus or machine used to prevent, diagnose, treat, or alleviate illness or disease; support or sustain life; or disinfect other medical devices. Examples include blood pressure cuffs, glucose meters, breath analysers, thermometers, defibrillators, scales, foot care instruments, patient lifts, wheelchairs, syringes, and single-use items such as blood glucose test strips.

**Medical equipment:** A subset of medical devices. Medical equipment is any medical device that requires calibration, maintenance, repair, and user training.

**Organization:** For the purpose of this standard, the organization is a physical and non-physical establishment that provides direct patient health care on site and/or virtually off-site through Virtual Health services. Its primary function is to provide patient diagnostic and therapeutic services for a variety of surgical and nonsurgical medical conditions. The organization delivers its own Virtual Health services or integrates the Virtual Health services of another organization into its service portfolio.

**Patient:** A patient is the recipient of care. May also be called a client, consumer, community member, individual, or resident. When the organization does not provide health services directly to individuals, patient refers to the community or population served by the organization.

**Patient record:** An aggregate and confidential record of a patient's health information that is created and gathered cumulatively from all the patient's health care providers. The patient record aggregates an account of each episode where a patient sought treatment and received care or a referral for care from a health care facility.

**Patient representative:** People who work with the organization and often individual care teams to help with planning and service design, recruitment and orientation, working with patients directly, and gathering feedback from patients and care team members. Patient representatives enable the organization to integrate the patient perspective into the system and adopt a patient- and family-centred approach.

**Strategy:** A plan of action or policy designed to achieve a major or overall aim. The strategy should include a change management plan, a readiness plan, and a Virtual Health care plan. Virtual Health considerations should be integral to the overall organizational strategy.

**Team leader:** Individual in a leadership position at all levels, including directors, managers, supervisors, clinical leaders, and others who have leadership responsibilities in an organization. A team leader is the person or persons responsible for the operational management of a team. Duties include identifying needs, staffing, and reporting to senior management. Team leaders are usually formally appointed, but the term can include informal leaders who naturally take on a leadership role within the team.

**Virtual Health:** The use of information and communication technologies to provide health care services and health education to patients when the clinician and patient are not at the same location (ISO, 2014; University Health Network, n.d.; Totten, Womack, Eden, McDonagh, Griffin, Grusing, & Hersh, 2016). These technologies are not treatments or

interventions in and of themselves, but rather tools that can be used to increase accessibility and access to care, person-centred care, information exchange, and efficiency of care (ISO, 2004c; Totten et al., 2016). The foundational aspect of Virtual Health is the transmission of voice, data, images and clinical information rather than physically moving patients or clinicians (COACH, 2015). Also sometimes referred to among others as telehealth, telemedicine, virtual care or telehomecare.

**Virtual Health service:** Clinical and related services delivered through technology, including communication via telephone or video conferencing, counselling, training and education, remote patient monitoring, web portals, and electronic scheduling (COACH, 2015; ISO, 2004a). The most common Virtual Health services include consultation for mental health, neurology, oncology, pediatrics, and rehabilitation (COACH, 2015). Virtual Health services can also be used for discharge planning, dialysis, pain management, diabetes, plastic and transplant survey, and wound management (COACH, 2015).

**Timely/regularly:** Carried out in consistent time intervals. The organization receiving and/or delivering Virtual Health services defines appropriate time intervals for various activities based on best available knowledge and adheres to those schedules.

**Transition in care:** Actions designed to ensure the safe and effective coordination and continuity of care as patients experience a change in health status, care needs, clinicians, or location (within, between, or across settings).

## 3.2 Abbreviations

HSO – Health Standards Organization

## 3.3 Quality Dimensions

**HSO Quality Framework:** Health and social services stakeholders around the world are committed to delivering the best quality possible. However, given the rapidly changing environment and the numerous challenges facing all health and social service sectors, quality can sometimes be perceived as complicated and difficult to achieve. Using a quality framework – also known as a structure underlying quality – provides common language as to what it means, and brings focus on its key elements.

HSO Standards are based on the HSO Quality Framework. The framework consists of eight quality dimensions that all play a part in providing safe, high quality care in all health and social services sectors. These dimensions are the basis for the standards, whereby each requirement (criterion) is linked to one of the eight quality dimensions. In this way, the underlying focus of each criterion is clear, and users of the standards understand the intent of the criterion.

These are the quality dimensions that underlie HSO's quality framework:



**Population Focus:** Work with my community to anticipate and meet our needs



**Accessibility:** Give me timely and equitable services



**Safety:** Keep me safe



**Worklife:** Take care of those who take care of me



**Patient-centred Services:** Partner with me and my family in our care



**Continuity of Services:** Coordinate my care across the continuum



**Appropriateness:** Do the right thing to achieve the best results



**Efficiency:** Make the best use of resources

These dimensions provide a common language about health care quality. The quality dimensions are strongly related to each other, can be mutually supporting, and help ensure balance within the framework. At the same time, there may be a stronger emphasis on a particular dimension if the case/situation requires it.

HSO encourages health and social services professionals and policymakers to explore this framework and use the dimensions of quality for strategic planning, program and service delivery, and evaluation and quality improvement activities. Ultimately, the quality framework will help health care providers assess and improve the health services they deliver to patients and patients.

# Requirements for Virtual Health Service

## 4 Virtual Health Service Design

### 4.1 The Virtual Health service design is defined and documented.

#### 4.1.1 The organization has a Virtual Health service design document.

**Guidelines:**

The Virtual Health service must have a document that describes the Virtual Health service and delivery process in the context of the health care program. The Virtual Health service design document includes at minimum the following information:

- The goals of the Virtual Health service
- To whom the Virtual Health service is available
- When the Virtual Health service is available – hours of availability for remote monitoring
- Service-level agreements
- Appropriate clinical objectives and model(s) of care or shared care
- Patients may choose which health care service they consider appropriate to access, whether delivered through Virtual Health or not
- The expected duration of service outages, when they occur
- Patient inclusion and exclusion selection criteria, such as:
  - Patient's physical and cognitive abilities
  - Economic considerations
  - The ability of a patient to travel
  - The patient's family, work, and cultural situation when determining the Virtual Health service to be offered
  - Potential barriers (such as access to computers or telecommunications) to the inclusion of the patient
  - The availability of specialists, local clinical staff, and facilities required to provide service continuity when determining the Virtual Health service to be offered

#### 4.1.2 Policies, procedures, and security measures are developed when setting up the Virtual Health service.

#### 4.1.3 A governance structure is established to provide oversight and direction for the Virtual Health service.

**Guidelines:**

The governance structure may include an Executive Steering Committee, a project team, and an experienced change management team that engage clinicians, patients, and family members to manage the people and process side of change.

#### 4.1.4 The organization has a quality management program to define and monitor the required quality characteristics of the Virtual Health service and to monitor outcomes.



- 4.1.5 The Virtual Health service is only offered to appropriately selected patients who meet eligibility criteria.

**Guidelines:**

Inclusion and exclusion criteria, as outlined in criterion 4.1.1, are developed to inform the clinician's provision of Virtual Health service. Patient eligibility criteria may involve risk, assessment of the patient's cognitive ability, financial circumstances, jurisdictional considerations, patient choice, ability to access the network, and the ability to verify patient identity virtually.

The needs of the potential patient are assessed in relation to the capacity of the care team to meet those needs.



- 4.1.6 There is a procedure to request the Virtual Health service in a timely way.



- 4.1.7 There is a procedure to respond to requests for the Virtual Health service in a timely way, as appropriate.

**Guidelines:**

Requests for service may come from clinicians, patients, families, other teams, or referring organizations. There may be different processes to respond to a request based on who is requesting the service and what is being requested.

Requests for service, the procedure to respond to requests, and the definition of timely will vary by type of service offered and by those who are requesting it. Responsiveness to a request for the Virtual Health service is monitored by setting and tracking response times as well as by gathering feedback from patients and families, referring organizations, and other teams about their experiences. Expectations of when the patient should participate in the Virtual Health service should be communicated to the patient at the outset of the consultation.



- 4.1.8 An organizational process to manage Virtual Health system downtime is developed.

**Guidelines:**

The organizational procedure includes schedules, how and when to communicate with stakeholders and takes into consideration unscheduled downtime.



- 4.1.9 The Virtual Health service strives to ensure the continuity of the patient's individualized care plan.



- 4.1.10 The organization promotes and enables the use of Virtual Health by the care team and management.



- 4.1.11 Organization procurement policies and procedures governing the Virtual Health service are developed in collaboration with patients and clinicians, as appropriate.

**Guidelines:**

Policies and procedures may relate to gathering feedback from patients, assessing the equipment's ability to meet patient needs, following set purchasing criteria, determining the impact on the delivery of the Virtual Health service, clinician workflow, and assessing

the equipment's ability to adapt to future growth and changes in the Virtual Health service.

The following criteria may be used when purchasing Virtual Health equipment:

- Upgrade path for equipment
- Two-way interfacing with peripherals
- Financial stability of the vendor
- Performance of equipment
- Acceptability to patients
- Ease of use for the patient and clinicians
- Price
- Speed
- Portability
- Interoperability
- Service/support
- Jurisdictional requirements for medical devices (i.e., scheduling downtime for maintenance)
- Clinical practice guidelines
- Whether the equipment conforms to national and/or provincial or territorial standards and requirements
- Means of communication (e.g., Internet Protocol, Integrated Services Digital Network, plain old telephone service).

The organization may not have control over all purchasing criteria.

## 5 Role of the Patient in the Virtual Health Service

### 5.1 Patients and family member representatives are involved in all aspects of the development of the Virtual Health service as required.



- 5.1.1 The design, delivery, and implementation of the Virtual Health service involves patients as appropriate.

#### Guidelines:

The Virtual Health service should meet the needs of patients, families, clinicians, and the Virtual Health system developers. Patients are informed and, if appropriate, should be given the option to be included. At least one patient representative should be involved in the design, delivery, and implementation of the Virtual Health service. The development of the Virtual Health service is based on demand and appropriateness rather than on supply and advances in technology.



- 5.1.2 The organization's strategy is developed in collaboration with patients as appropriate.

#### Guidelines:

The organization receiving or delivering the Virtual Health service should ensure that its Virtual Health service is fully defined in its overall strategy. The Virtual Health service should be an integral part of the organization's strategy and not be a separate, isolated component. The organization's strategy should at a minimum include a change management plan, a readiness plan, and assessment for Virtual Health services.

The organization's strategy with respect to its responsibility for the Virtual Health service must be clearly defined and aligned with overall patient-driven goals. Patient

representatives should be involved in the development of the organization's strategy, including the definition of Virtual Health services. Continuous improvement feedback from all patients should be captured at significant stages of the growth and development of the service.



- 5.1.3 The Virtual Health service assessment procedure is designed in collaboration with patients as required.

**Guidelines:**

The assessment procedure continuously addresses Virtual Health design, procurement, and operation. The assessment procedure engages all stakeholders, including patient representatives and clinicians, prior to the procurement of technology and includes a continuous feedback loop for ongoing input. Where applicable, an interdisciplinary or collaborative assessment may be completed with the patient, family, and appropriate care team members.



- 5.1.4 The organization offers resources to facilitate the orientation of new care team members, patients, and family representatives.

**Guidelines:**

Those creating the resources consider health literacy and involve patients in the development.

- 5.2 All aspects of the Virtual Health service are monitored to ensure that the service meets the needs of the patients and the families.**



- 5.2.1 There are policies and procedures that govern the delivery of the Virtual Health service.

**Guidelines:**

Virtual Health policies should be integrated into existing organizational policies and designed with input from the care team, patients, and families. The policies and procedures support the sustainability of the Virtual Health service and guide the delivery of the service between jurisdictions. Policies include establishing contingency plans; managing physical and human resources; liability, licensure, and credentialing; ownership of patient records; protecting network security; using Virtual Health equipment; protecting patient rights and privacy; maintaining appropriate documentation, and carrying out research protocols.



- 5.2.2 A procedure to report when a patient's rights are violated is developed and implemented in collaboration with patients as required.



- 5.2.3 A procedure to investigate, respond and follow up to claims that a patient's rights have been violated is developed and implemented in collaboration with patients as required.

**Guidelines:**

An environment where patients, families, and care team members feel comfortable raising concerns or issues is promoted. The organization may provide access to a neutral, objective person from whom patients and families can seek advice or consultation. Where electronic health records are used, there is a process to receive, respond and follow up to patient complaints and questions regarding the privacy of the



record. Claims brought forward by care team members or members of other teams are also addressed.



- 5.2.4 Incidents involving a breach in the safety of any user are reported and managed in accordance with the organization's policies, procedures, and processes.

**Guidelines:**

Reporting and recording is done in a timely way. Patient safety incidents include harmful incidents, no harm incidents, and near misses, as per the World Health Organization's International Classification for Patient Safety. The Canadian Patient Safety Institute provides direction to organizations about establishing policies and procedures to manage patient safety incidents, and processes to proactively mitigate clinical and operational risk.



- 5.2.5 Patient safety incidents are analyzed to help prevent recurrence and make improvements in collaboration with patients as required.

**Guidelines:**

Reviewing patient safety incidents includes determining the contributing factors, taking action to prevent the same situation from recurring, and monitoring the effectiveness of those actions. The organization uses this information when developing strategies to proactively anticipate and address risks to patient and care team safety.



- 5.2.6 A mechanism to prevent a breach in patient safety is developed in collaboration with patients as required.



- 5.2.7 Quality improvement opportunities are identified in collaboration with patients.

**Guidelines:**

Feedback and other forms of information, observation, and experience are used to identify and prioritize areas for quality improvement initiatives. This is done using a standardized process based on criteria such as the expressed needs of patients and families, patient-reported outcomes, clinicians, risk, volume, or cost.



- 5.2.8 Guidelines and protocols are regularly reviewed in collaboration with patients as required.

**Guidelines:**

The review process includes accessing the most up-to-date research and information and determining its relevance (e.g., through literature reviews, content experts, or national organizations or associations). Research information may include intervention research, program evaluations, or clinical trials.

The review process is used to inform the procedure to select evidence-informed guidelines. Although patients and families may not be involved in a technical or scientific review, their perspectives on the patient's experience in receiving care that is driven by guidelines and protocols are valuable to the review process. The review process may be reviewed by patient representatives.

**5.3 Patients and family members are informed about the Virtual Health service.**



- 5.3.1 Information on the Virtual Health service is available to patient representatives.

**Guidelines:**

Information provided to patient representatives about the Virtual Health services addresses, at a minimum:

- Scope of the organization's services
- Costs to the patients, if any
- How to access services
- Who has access to patient information
- Who is monitoring patient information
- How patient information is used
- What safeguards are in place to protect patient information
- Who may edit the data collection process
- Ownership of patient information
- Contact points specified in the care plan
- The effectiveness and outcomes of service
- Other services available to address patient needs
- Consideration of how the data might be used in the future
- Partner organizations involved in the Virtual Health service
- How Virtual Health appointments are conducted and what to expect

For patients who have trouble understanding, information on the Virtual Health service is provided via a designated advocate or advocacy group. Advocacy involves speaking on behalf of someone else, where the designated advocate works in partnership with the patient to help the patient reach an appropriate level of understanding.

Patient representatives and partner organizations are engaged to determine what information is required or desired, and to evaluate whether the information provided meets patient needs.



### 5.3.2 The patient is informed about options for care delivery.

**Guidelines:**

Alternative options to Virtual Health could include an in-person visit with a clinician. Patients should expect the same quality of care to be provided regardless of the type of appointment.



### 5.3.3 Patients and families are provided with information about their rights and responsibilities when using the Virtual Health service.

**Guidelines:**

Delivery of the Virtual Health service is held to same standards of care as other health services. Patient's accessing the Virtual Health service have the following rights, but not limited to the right to:

- Receive care
- Have privacy and confidentiality protected
- Be aware of how patient information is used
- Have access to their personal health information
- Be treated with respect and care
- Maintain cultural practices
- Respect spiritual beliefs
- Live at risk
- Be free from abuse, exploitation, and discrimination

- Refuse service or refuse to have certain people involved in their service
- Participate in all aspects of their service and make personal choices
- Have a support person or advocate involved in their service
- Take part in or refuse to take part in research or clinical trials
- Receive safe, competent service
- Raise concerns about the quality of service.
- Receive care in a language they understand or have access to an interpreter

The information is provided at intake or admission to service, designed with patient representatives, and adapted to meet diverse needs such as language, culture, level of education, lifestyle, and physical or mental disability. When the information cannot be provided to the patient and family on intake, it is provided at the earliest opportunity.



- 5.3.4 Patients must be made aware of their right to opt out of the Virtual Health service at any time.

**Guidelines:**

Patients understand that they have the right to opt out of the Virtual Health service and choose an alternative care plan, such as an in-person visit with a clinician.



- 5.3.5 There is a process in place to support continuity of care if the patient opts out of the Virtual Health service.



- 5.3.6 Information about the Virtual Health service quality improvement activities, results, and learnings is shared with patients, care teams, organization leaders, and other organizations, as appropriate.

**Guidelines:**

The information shared about the quality improvement activities is tailored to the audience and uses appropriate language.

Sharing the results of evaluations and improvements helps create familiarity with the philosophy and benefits of quality improvement and engagement in the process. It is also a way for the organization to spread successful quality improvement activities and demonstrate its commitment to ongoing quality improvement.

Among other benefits, sharing performance indicator data externally allows for comparisons with organizations offering a similar service.



- 5.3.7 Patients are informed that their health information will be recorded in a patient record.

**Guidelines:**

If possible, patients should be informed of how they can access the information. Conventions on how personal health information should be documented and recorded should be made explicit to the patient at the onset of the consultation. Where appropriate, patient information should be shared with the care team. Patients are informed about what is being done with their information.

- 5.4 The Virtual Health service is delivered using a patient-centred approach that emphasizes patient engagement, the patient/clinician relationship, and the quality of care.**



- 5.4.1 The patient's informed consent is obtained and documented before providing the Virtual Health service as required.

**Guidelines:**

Informed consent consists of reviewing service information with the patient, family, or substitute decision maker; informing the patient about available options and providing time for reflection and questions before asking for consent; respecting the patient's rights, culture, and values including the right to refuse consent at any time; and recording the patient's decision in the patient record. The patient is informed where their data stored, as per jurisdictional law.

There is a process to obtain consent in a timely manner. Consent complies with the standard of practice for the Virtual Health service. Consent is informed and ongoing throughout the provision of the Virtual Health service. As part of informed consent, the patient must be willing to accept the identified risk associated with virtual care.



- 5.4.2 When virtual care is unable to meet the needs of a potential patient, the care team facilitates access to other services.

**Guidelines:**

When the organization is unable to meet the patient's needs, the rationale is explained and access to other services is facilitated. The information is documented, for use in service planning.

- 5.4.3 The organization includes the pertinent information from the Virtual Health interaction in the patient record.

**Guidelines:**

The information is stored securely as a part of the patient record as per jurisdictional requirements. The information should be easily accessible for continuity of care.



- 5.4.4 Relevant patient information is gathered as required during the Virtual Health service intake process.

**Guidelines:**

This process may be called admission, intake, pre-admission, screening, or the start of service. The information is validated and reviewed. It is used to determine if the organization's services fit with the patient's needs and preferences, identify the patient's immediate needs, and decide on service priorities.

The intake process is adjusted as required for patients and families to address diverse needs such as language, culture, level of education, lifestyle, and physical or mental disability.

- 5.5 Patients and families are actively engaged in planning and preparing for transitions in care where appropriate.**



- 5.5.1 Transition planning is identified in the patient care plan where appropriate.

**Guidelines:**

Including information in the care plan about transition planning enhances coordination among teams or partner organizations and helps prepare patients for the end of service.

Discussions about the patient's transition and post-care following Virtual Health care includes the needs and preferences of the patient and informs the development of the patient care plan. Discussions between the care team and the patient may include post-care follow up, ability to perform self-care, referrals to community supports, or other anticipated needs or challenges.



- 5.5.2 Appropriate follow-up services for the patient, where applicable, are coordinated in collaboration with the patient, other teams, and organizations.

**Guidelines:**

Where a need for follow-up is identified by the Virtual Health service, the appropriate type and method is determined. This includes the responsibilities of the care team such as following up on testing, providing a referral to a partner organization, setting timelines for patient contact, or reminding the patient of an appointment. It also includes patient responsibilities such as following up with other clinicians, reporting worsening or changing symptoms, and taking medications as prescribed. Responsibility for the patient's care continues until service has ended or the patient has been transferred to another team, service, or organization.

Follow-up services for the Virtual Health service may include primary care, home and community services, community-based rehabilitation, psychological counselling services, and recommendations for ongoing care. Working together to establish proper placement for the patient helps ensure they receive the most appropriate services in the most appropriate setting, and minimizes temporary solutions or unnecessary transfers.

To ensure that the patients receive seamless and continuous care, the placement and follow-up includes a process for when transitions do not go as planned.



- 5.5.3 Patients are actively engaged in planning and preparing for transition.

**Guidelines:**

Patients are involved in transition planning. The care team, the patient, and the family when appropriate discuss the patient's care plan, goals, and preferences; the care provided; outstanding issues, clinical or otherwise; what to expect during transition; follow-up appointments; exercise and nutrition plans, where applicable; contact information for the care team members and details on when they should be contacted.

Examples of key transition moments include rounds, shift changes, handoffs, moving in or out of an organization to another community provider, or end of service.

## 6 Ethical and Safe Virtual Health Service

- 6.1 **The Virtual Health service is developed with a goal of providing quality and safe care for patients.**



- 6.1.1 The Virtual Health service ensures that all relevant safety laws, privacy legislation, regulations, and international standards and codes for the service are met.

**Guidelines:**

The Virtual Health service must meet privacy standards and protocols pertaining to the exchange of health information (e.g., International Organization for Standardization Standards 62304, 82304, and 80001 that specifically target health data security).



- 6.1.2 When possible, the Virtual Health service should incorporate available evidence and best practice in the design and delivery of the service.

**Guidelines:**

Evidence should guide the way the Virtual Health service is used in a care plan. Evidence must be balanced with innovation based on the needs of the population. The organization should determine the evaluation plan at the outset of the consultation and refine the program based on the evaluation after an established period.



- 6.1.3 A formal and comprehensive orientation to the Virtual Health service is provided to new care team members, patients, and family members, where appropriate.

**Guidelines:**

The orientation or further training or education is provided when there are changes to legislation or after a set period of time as defined by the organization. Attendance at orientation and training is documented and stored centrally. The orientation covers, at a minimum, the following information:

- The organization's mission, vision, and values
- The care team's mandate, goals, and objectives
- The philosophy of patient-centred care and how it is implemented in the organization, as well as roles, responsibilities, and performance expectations
- Privacy legislation
- Appropriate use of patient information
- Competencies using the technology to practice effectively in a digital environment
- Accessing patient information virtually
- The risks related to the use of technology in the delivery of the Virtual Health service
- Policies and procedures, including confidentiality
- Work-life balance initiatives
- Processes to manage system downtime
- The organization's approach to integrated quality management (e.g., quality improvement, risk management, utilization management, efficient use of resources).



- 6.1.4 Organizational readiness to use Virtual Health equipment is determined before a consultation.

**Guidelines:**

Organizational readiness for use may include:

- Human resources
- Verifying that data can be sent reliably and securely
- Ensuring availability of technical support

- Developing procedures to check equipment regularly
- Securing sufficient bandwidth
- Assessing the technical applicability of the equipment and the software
- Determining whether local and network sites are technically ready and compatible
- Following existing policies, procedures, standards, and guidelines for networked services (e.g., shared central services, bridges).



- 6.1.5 The Virtual Health service is developed in a way that promotes and enables interoperability.

**Guidelines:**

Virtual Health resources are designed with the goal of interoperability in and outside the organization.

Examples of how interoperability may be ensured in an organization include testing equipment prior to buying it, buying equipment from only approved suppliers, buying equipment that complies with standards, and performing conformance and interoperability testing.

- 6.2 Where the stakeholders involved in the Virtual Health service are separate organizations, the Virtual Health service requires written agreements between the site that is delivering the Virtual Health service off-site and the site that is receiving direct patient care from the Virtual Health service.**



- 6.2.1 There is a written agreement with the site delivering the Virtual Health service off-site and the site of direct patient care receiving the Virtual Health service.

**Guidelines:**

The site delivering the Virtual Health service off-site has a written agreement with the site of direct patient care receiving the Virtual Health service. The consultant and local clinician must reach an agreement regarding roles and responsibilities before Virtual Health service is provided.

The agreement addresses the following:

- Reimbursing clinicians
- Securing and protecting health information
- Obtaining appropriate informed consent
- Documenting and storing patient health records
- Protecting patient rights to privacy, confidentiality, and quality care
- Liabilities and responsibilities of each organization
- Dispute resolution
- How to prepare, transmit, and receive data

Guidelines for written agreements may be based on relevant provincial/territorial legislation or regulations.



- 6.2.2 Service-level agreements with all stakeholders are established and documented.

**Guidelines:**

Service-level agreements outline the expectations, rights, and remedies regarding the performance of the Virtual Health equipment and telecommunication networks. The

service-level agreement must be developed to take into consideration patient perspectives on use, accountability, cultural sensitivity, language preference, the context of patient priorities, and expectations of the Virtual Health service.

The service-level agreement should use clear, patient-friendly language on what is allowed, how it is secured, and who can access it. Stakeholders include Virtual Health equipment vendors and telecommunication providers.



- 6.2.3 Reporting relationships to support the delivery of the Virtual Health service are defined and documented.

**Guidelines:**

Having clear reporting relationships helps clarify the organization's structure and decision-making hierarchy. Clinicians providing the Virtual Health service understand who is accountable.



- 6.2.4 Accountability for the Virtual Health service is understood by all clinicians providing the Virtual Health service.

**Guidelines:**

For clinicians providing the Virtual Health service, the responsibility may fall in either the patient's or the clinician's jurisdiction (i.e., as per the clinician's license to practice in the location where the patient is receiving care).

When providing clinical follow-up for a patient, the responsibilities of all clinicians involved must be clear to ensure continuity of patient care.

## 7 Patient Records used in the Virtual Health Service

### 7.1 Organizations work toward interoperability and security of the patient record.



- 7.1.1 Patient information is integrated into the patient record.

**Guidelines:**

Patient records should be integrated with existing documentation processes. Patients are included in the process of documenting information in their record and can provide feedback on the information being documented. Patients are given the right to read and comment on information that is recorded. The charting or documentation process may be conducted in partnership with the patient as part of their care, or access to their records may be provided electronically.



- 7.1.2 The Virtual Health services received by the patient are communicated to the care team.

**Guidelines:**

Changes and adjustments to the care plan should be communicated to the care team in a timely manner.



- 7.1.3 The organization's interoperability plan is developed with comprehensive stakeholder engagement.



**Guidelines:**

Interoperability, developing a minimum data set, and building a patient record involve collaboration among multiple stakeholders (e.g. clinicians, patients, wellness vendors).



- 7.1.4 The organization, patients, and clinicians determine the elements of the consultation that should be documented.

**Guidelines:**

The Virtual Health service design document details how a consultation using Virtual Health is documented, and by which clinician. The Virtual Health consultation and consent is documented in the patient record.



- 7.1.5 There is a process in place where the patient must be informed about and give consent to audio and/or visual recordings and images.

**7.2 Patients and members of the care team are informed about the Virtual Health service the patient underwent.**



- 7.2.1 The patient's health status is reassessed, as appropriate, in partnership with the patient and updates are documented in the patient record.

**Guidelines:**

Delays or failures to report a change in health status, in particular deterioration in a patient's condition, are significant barriers to safe and effective care and services. Changes in the patient's health status are documented accurately, in a timely manner, and communicated to all care team members.



- 7.2.2 Documentation timelines for Virtual Health consultations are consistent with, or better than, existing clinical processes for the organization's face-to-face consultations.



- 7.2.3 There is a process to give patients and authorized family members access to the patient's record.

**Guidelines:**

Patients and families, if appropriate, may access all information in the patient record through traditional channels (i.e., by going to the organization to get the records rather than through continuous, digital access). The process follows jurisdictionally relevant privacy governing documents.

Patient access to their records is facilitated in a proactive way, according to the organization's policy and applicable legislation. The processes to access records are patient-centred and help patients access their information. Patients and families have opportunities to discuss the information, ask questions, and provide feedback. Access can occur via an online patient portal.



- 7.2.4 There is a process to give clinicians access to the patient record.

**Guidelines:**

Clinicians can access a patient record by logging into a protected account from any computer or mobile device. This can include, for example, access to patient information for a remote appointment. Digital access to personal health information must comply with

jurisdictional laws and organizational policies governing the privacy of access to personal information.

### 7.3 Policies and procedures to securely collect, document, access, and use information in the patient record are followed.



#### 7.3.1 Policies and procedures to ensure privacy, confidentiality, and safety of patient information are followed

##### **Guidelines:**

When collecting, documenting and accessing patient information related to the Virtual Health service, the organization adheres to best practices for security and privacy. For example, the Virtual Health service must adhere to Threat Risk Assessments and Privacy Impact Assessments.

Policies outlining authorized access to patient information are available to the care team, including what information they may access, and how and when. The policy specifies that only care team members who are actively involved in a patient's care have access to the patient's record.

The care team is aware of and knows how to comply with applicable legislation to protect the privacy and confidentiality of patient information. Applicable legislation may be provincial or territorial, or federal.



#### 7.3.2 The organization ensures the confidentiality and privacy of patient information in rest and in transit.

##### **Guidelines:**

The organization must endeavor to prevent data theft and protect the patient's confidential health information.

# Bibliography

- Agboola, S., & Kvedar, J. (2016). Telemedicine and Patient Safety. Agency for Healthcare Research and Quality. Retrieved from <https://psnet.ahrq.gov/perspectives/perspective/206/telemedicine-and-patient-safety>
- ACCESS River East. (2014). Optimizing Integration and Continuity of Care through the Hospital Team. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/optimizing-integration-and-continuity-of-care-through-the-hospital-team/>
- Bashshur, R. L., Shannon, G. W., Smith, B. R., Alverson, D. C., Antoniotti, N., Barsan, W. G., ... Yellowlees, P. (2014). The empirical foundations of telemedicine interventions for chronic disease management. *Telemedicine Journal and E-Health*, 20(9), 769-800. <https://doi.org/10.1089/tmj.2014.9981>
- Boudreaux, E. D., Waring, M. E., Hayes, R. B., Sadasivam, R. S., Mullen, S., & Pagoto, S. (2014). *Translational Behavioural Medicine*, 4(4), 363-371. <https://doi.org/10.1007/s13142-014-0293-9>
- California Hospital Patient Safety Organization. (2009). Errors Involving Drug-Related Clinical Monitoring. Canadian Patient Safety Institute. Retrieved from <http://www.patientsafetyinstitute.ca/en/NewsAlerts/Alerts/Pages/AlertDetail.aspx?AlertID=CPSO03>
- Canada Health Infoway. (2017). Better Health Together Workshop: A Citizens' Vision for Better Health Through Digital Solutions. (Workshop). Available from <https://www.infoway-inforoute.ca/en/component/edocman/resources/reports/3326-better-health-together-workshop-the-citizens-vision-for-better-health-through-digital-solutions>
- Canadian Institute for Health Information. (2017). Acute and Ambulatory Care Data Content Standard. Retrieved from [https://secure.cihi.ca/free\\_products/acute-ambulatory-care-data-content-standard-june-2017-en.pdf](https://secure.cihi.ca/free_products/acute-ambulatory-care-data-content-standard-june-2017-en.pdf)
- COACH - Canada's Health Informatics Association. (2015). Canadian Virtual Health Report: Public Version. Canadian Virtual Health Forum. Retrieved from <https://livecare.ca/sites/default/files/2015%20TeleHealth-Public-eBook-Final-10-9-15-secured.pdf>
- Commission de L'Éthique en Science et en Technology. (2015). Clinical Virtual Health in Quebec: An Ethical Perspective - Summary and Recommendations. Retrieved from [http://www.ethique.gouv.qc.ca/en/assets/documents/Telesante/Telehealth\\_summary\\_EN.PDF](http://www.ethique.gouv.qc.ca/en/assets/documents/Telesante/Telehealth_summary_EN.PDF)
- Conference Board of Canada. (2012). Valuing Time Saved: Assessing the Impact of Patient Time Saved from the Adoption of Consumer Health Solutions. Canada Health Infoway. Retrieved from <https://www.infoway-inforoute.ca/en/component/edocman/resources/other/504-valuing-time-saved>
- Gerdes, M., & Fensil, R. (2015). End-to-end Security and Privacy Protection for Co-operative Access to Health and Care Data in a Virtual Health Trial System for Remote Supervision of COPD-Patients. Proceedings of the 13th Scandinavian Conference on Health Informatics. Retrieved from <http://www.ep.liu.se/ecp/115/005/ecp115115005.pdf>
- Global Net Neutrality Coalition. (n.d.). Status of Net Neutrality Around the World. Retrieved from <https://www.thisisnetneutrality.org/>
- Greenspun, H., & Elsner, N. (2016). Technology-enabled home health: Are consumers ready?. Deloitte Center for Health Solutions. Retrieved from

<https://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/technology-enabled-health.html>

- Guise, V., Anderson, J., & Wiig, S. (2014). Patient safety risks associated with telecare: A systematic review and narrative synthesis of the literature. *BMC Health Services Research*, 14(588). Retrieved from <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-014-0588-z>
- Health Canada. (2017). Evaluation of the eHealth Infostructure Program 2011-2012 to 2015-2016. Retrieved from <https://www.canada.ca/content/dam/hc-sc/documents/corporate/about-health-canada/accountability-performance-financial-reporting/evaluation-reports/first-nations-inuit-e-health-infostructure-program-2011-2012-2016-2016/pub1-eng.pdf>
- Health Science North. (2014). Improving the Patient Experience. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/improving-the-patient-experience/>
- Health Standards Organization. (2013). Virtual Health Services Standard. Retrieved from <https://www3.accreditation.ca/StandardsOnline/stdQmentum.aspx?Std=pLbZml90egNo3j/80/v9I2kjWOOmN+uNr9g8v1oGS5uFerH4pazh4FqMv9Rmpj0p9IIxzJwAag=>
- Holland Bloorview Kids Rehabilitation Hospital. (2014). Ambulatory Care-Electronic Health Record Implementation. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/ambulatory-care-electronic-health-record-implementation/>
- International Organization for Standardization. (2004a). Health informatics – Interoperability of Virtual Health systems and networks – Part 1: Introduction and definitions. (ISO/TR 16056-1:2004). Available from <https://www.iso.org/standard/37351.html>
- International Organization for Standardization. (2004b). Health informatics – Interoperability of Virtual Health systems and networks – Part 2: Real-time systems (ISO/TR 16065-2:2004). Available from <https://www.iso.org/standard/37352.html>
- International Organization for Standardization. (2004c). Health informatics – Interoperability of telelearning systems. (ISO/TS 16058:2004). Available from <https://www.iso.org/standard/37353.html>
- International Organization for Standardization. (2006). Standardization IOF. IEC 62304:2006. Medical device software—Software life cycle processes. Available from <https://www.iso.org/standard/38421.html>
- International Organization for Standardization. (2010). Standardization IOF. IEC 80001-1:2010 – Application of risk management for IT-networks incorporating medical devices – Part 1: Roles, responsibilities and activities. Available from <https://www.iso.org/standard/44863.html>
- International Organization for Standardization. (2014). Health Informatics – Virtual Health Services – Quality planning guidelines. (ISO/TS 13131:2014). Available from <https://www.iso.org/standard/53052.html>
- International Organization for Standardization. (2016). Standardization IOF. IEC 82304-1:2016 – Health software – Part 1: General requirements for product safety. Available from <https://www.iso.org/standard/59543.html>
- Kao, D. P., Lindenfeld, J., Macaulay, D., Birnbaum, H. G., Jarvis, J. L., Desai, U. S., & Page, R. L. (2016). Impact of a Virtual Health and care management program on all-cause mortality

- and healthcare utilization in patients with heart failure. *Telemedicine Journal and E-Health*, 22(1), 2-11. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4739127/>
- Kitsiou, S., Pare, G., Jaana, M., & Gerber, B. (2017). Effectiveness of mHealth interventions for patients with diabetes: An overview of systematic reviews. *PLOS ONE*, 12(3). doi:10.1371/journal.pone.0173160
- Koulayev, S., & Simeonova, E. (2010). Do Electronic Medical Records Improve Quality of Care? American Economic Association. Retrieved from <https://www.aeaweb.org/conference/2011/retrieve.php?pdfid=528>
- Krawiec, R., Nadler, J., Kinchley, P., Tye, E., & Jarboe, J. (2015). No appointment necessary: How the IoT and patient-generated data can unlock health care value. Deloitte University Press. Retrieved from [https://dupress.deloitte.com/content/dam/dup-us-en/articles/iot-in-health-care-industry/DUP-885\\_IoT\\_PatientGeneratedData\\_MASTER\\_082715.pdf](https://dupress.deloitte.com/content/dam/dup-us-en/articles/iot-in-health-care-industry/DUP-885_IoT_PatientGeneratedData_MASTER_082715.pdf)
- Kuehner-Herbert, K. (2017). Net neutrality repeal would bog down Virtual Health services. Benefits Pro. Retrieved [http://www.benefitspro.com/2017/11/28/net-neutrality-repeal-would-bog-down-telehealth-se?kw=Net%20neutrality%20repeal%20would%20bog%20down%20telehealth%20services&et=editorial&bu=BenefitsPRO&cn=20171129&src=EMC-Email\\_editorial&pt=Daily](http://www.benefitspro.com/2017/11/28/net-neutrality-repeal-would-bog-down-telehealth-se?kw=Net%20neutrality%20repeal%20would%20bog%20down%20telehealth%20services&et=editorial&bu=BenefitsPRO&cn=20171129&src=EMC-Email_editorial&pt=Daily)
- Mackert, M., Mabry-Flynn, A., Champlin, S., Donovan, E. E., & Pounders, K. (2016). Health literacy and health information technology adoption: The potential for a new digital divide. *Journal of Medical Internet Research*, 18(10). Retrieved from <http://www.jmir.org/2016/10/e264#Body>
- McCarthy, K. (2016). The role of EHR in telemedicine. NueMD. Retrieved from <https://www.nuemd.com/news/2016/07/28/role-ehr-telemedicine>
- Newton, C. (2017). What is net neutrality and why it matters. News Grid. Retrieved from <http://www.aljazeera.com/news/2017/12/net-neutrality-matters-171212133031187.html>
- Ontario Shores Centre for Mental Health Sciences. (2015). Advancing Patient Recovery through an Integrated Electronic Medical Record. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/advancing-patient-recovery-through-an-integrated-electronic-medical-record/>
- Pennsylvania Patient Safety Authority. (2009). Connecting Remote Cardiac Monitoring Issues with Care Areas. Canadian Patient Safety Institute. Retrieved from <http://www.patientsafetyinstitute.ca/en/NewsAlerts/Alerts/Pages/AlertDetail.aspx?AlertID=PA037>
- Province of BC Health Authorities. (2014). Virtual Health Clinical Guidelines. Retrieved from [http://www.phsa.ca/Documents/Telehealth/TH\\_Clinical\\_Guidelines\\_Sept2015.pdf](http://www.phsa.ca/Documents/Telehealth/TH_Clinical_Guidelines_Sept2015.pdf)
- Provincial Health Services Authority. (2017). Telehealth: Telehealth bridges the distance between you and your patients. Retrieved from <http://www.phsa.ca/health-professionals/professional-resources/telehealth/what-is-telehealth>
- QEII Health Sciences Centre. (2014). Development of an Electronic Chronic Disease Management System for Inflammatory Bowel Disease. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/development-of-an-electronic-chronic-disease-management-system-for-inflammatory-bowel-disease/>
- Saif, I., Peasley, S., & Perinkolam, A. (2015). Safeguarding the Internet of Things: Being secure, vigilant, and resilient in the connected age. *Deloitte Review*, 17. Retrieved from <https://dupress.deloitte.com/dup-us-en/deloitte-review/issue-17/internet-of-things-data-security-and-privacy.html>

- Schenker, M. (2017). The Future of Healthcare: How Mobile Medical Apps Give Control Back to Us. Y Insights. Retrieved from <https://ymedialabs.com/future-of-healthcare/>
- Schlachta-Fairchild, L., Elfrink, V., & Deickman, A. (2008). Patient safety, telenursing, and telehealth. In R. G. Hughes (Ed.), *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville, MD: Agency for Healthcare Research and Quality. Retrieved from <http://linguistics.byu.edu/faculty/henrichsen/APA/APA07.html>
- The Scarborough Hospital. (2016). Moving Beyond Bricks and Mortar: Using Technology to Deliver More Patient-Focused Care in an Adult Outpatient Setting. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/moving-beyond-bricks-and-mortar-using-technology-to-deliver-more-patient-focused-care-in-an-adult-outpatient-setting/>
- Thompson, D. (2017a). Addressing Health Literacy Challenges in Virtual Health Settings. Medical Call Center News. Retrieved from <https://www.medicalcallcenternews.com/issue/january-2017/>
- Thompson, D. (2017b). Translation and Health Literacy in Telemedicine: Are we speaking the same language? How Virtual Health can help. AnswerStat: Healthcare Contact Center Information Hub. Retrieved from <https://www.answerstat.com/article/translation-and-health-literacy/>
- Totten, A. M., Womack, D. M., Eden, B. K., McDonagh, M. S., Griffin, J. C., Grusing, S., & Hersh, W. R. (2016). Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews. Pacific Northwest Evidence-based Practice Center. Technical Brief for Agency for Healthcare Research and Quality. Retrieved from [https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0091626/pdf/PubMedHealth\\_PMH0091626.pdf](https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0091626/pdf/PubMedHealth_PMH0091626.pdf)
- United States Government Accountability Office. (2017). Health Care: Telehealth and Remote Patient Monitoring Use in Medicare and Selected Federal Programs. Report to Congressional Committees. Retrieved from <https://www.gao.gov/products/GAO-17-365>
- University Health Network. (2016). Connecting Clinicians to Transform Patient Care Delivery. Health Standards Organization: Leading Practices. Retrieved from <https://healthstandards.org/leading-practice/connecting-clinicians-to-transform-patient-care-delivery/>
- University Health Network. (n.d.). Telehealth. Retrieved from [http://www.uhn.ca/PatientsFamilies/Patient\\_Services/Telehealth/Pages/default.aspx](http://www.uhn.ca/PatientsFamilies/Patient_Services/Telehealth/Pages/default.aspx)
- Ward, M. M., Jaana, M., Natafji, N. (2015). Systematic review of telemedicine applications in emergency rooms. *International Journal of Medical Informatics*, 84(9). 601-616. <https://dx.doi.org/10.1016/j.ijmedinf.2015.05.009>
- World Health Organization. (2005). Global Observatory for eHealth: Resolution. 58th World Health Assembly. Geneva, Switzerland. Retrieved from <http://www.who.int/goe/en/>
- World Health Organization. (2013). eHealth Standardization and interoperability. 66th World Health Assembly. Geneva, Switzerland. Retrieved from [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R24-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R24-en.pdf)
- Wicklund, E. (2017). Telemedicine advocates cry foul over FCC's net neutrality plan. *mHealth Intelligence*. Retrieved from <https://mhealthintelligence.com/news/telemedicine-advocates-cry-foul-over-fccs-net-neutrality-plan>
- Zelmer, J., & Hagens, S. (2014). Understanding the gap between desire for and use of consumer health solutions. *HealthcarePapers*, 13(4) January 2014: 9-21. doi:10.12927/hcpap.2014.23871

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