CheapNursingCEUs.com

Telehealth: Enhancing Care Through Technology

Introduction

The healthcare system is becoming more reliant on telehealth. Thus, healthcare professionals should be familiar with telehealth. This course reviews the application of telehealth to patient care in order to build awareness among healthcare professionals.

Section 1: Telehealth

The use of telehealth within the healthcare system has steadily increased over the past few years. Evidence suggests that the utilization of telehealth will continue to expand as the healthcare system progress towards the future. Evidence also suggests that telehealth offers benefits as well as new opportunities to both healthcare professionals and patients. Therefore, healthcare professionals should possess insight into telehealth. With that in mind, this section of the course will provide insight into telehealth. The information found in this section of the course was derived from materials provided by Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) as well as the state of California, the state of Nevada, and the federal government of the United States.[1,2,3,4,5,6]

What is Telehealth?

Telehealth may refer to the use of electronic information and telecommunication technologies to support and promote long-distance clinical healthcare, patient and professional health-related education, public health and health administration.

What is Telemedicine?

A term that is often associated with telehealth is telemedicine. Telemedicine may refer to the practice of medicine using electronic communication, information technology, or other means between a physician in one location, and a patient in another location, with or without an intervening healthcare provider.

Healthcare professionals should note that telemedicine is a subset of telehealth, which specifically involves a clinician providing medical services via telehealth technology.

What is eHealth?

Another term that is often associated with telehealth is eHealth. The term eHealth may refer to the use of information and communication technologies (ICT) for health and healthcare.

Healthcare professionals should note that eHealth is also a subset of telehealth.

What technologies may be used to support the delivery of telehealth?

A range of technologies may be used to support the delivery of telehealth including the following: text messaging, smartphone apps for mobile phones, websites and computers, standard and wireless telephones, live and asynchronous video, virtual reality, and/or artificial intelligence (AI).

What are the different categories of telehealth?

The different categories or types of telehealth include the following:

- ***Live video*** - live video, in the context of telehealth services, may refer to a live stream, two-way interaction between a patient and a healthcare professional(s) where both parties are communicating from different locations. Healthcare professionals should note that live video telehealth services, typically, occur in real-time (real-time may refer to the actual time during which a meeting, interaction, process, or event occurs; live).
- ***Store-and-forward*** - store-and-forward may refer to a type of telehealth which involves the transmission of recorded health information (e.g., an x-ray or prerecorded video) through electronic communication systems to a healthcare professional who evaluates the information and provides a healthcare-related service to a patient(s). Healthcare professionals should note that store-and-forward telehealth services do not, typically, occur in real time.
- ***Remote patient monitoring*** - remote patient monitoring may refer to the use of telehealth-related technologies to collect individuals' healthcare-related data in one location and electronically transmit it to healthcare professionals in a different location for assessment and recommendations.
- ***Mobile health*** - mobile health may refer to the use of mobile communication devices (e.g., smart phones and tablets) to support healthcare, public health, and education. Healthcare professionals should note that mobile health applications can help individuals manage chronic conditions, track sleep patterns or fitness, schedule healthcare appointments, and/or send public health alerts via text message.

What are the potential benefits of telehealth?

There are many potential benefits of telehealth including the ones found below.

- ***Telehealth has the potential to reach more individuals compared to the traditional in-person programs*** - telehealth is less restricted by distance, geography, and time barriers - potentially creating greater accessibility to individuals seeking healthcare.

- ***Patient convenience*** - as previously alluded to, telehealth may be more convenient for patients. Essentially, telehealth can help patients avoid traveling to healthcare facilities, transportation costs associated with traditional in-person healthcare, any anxiety typically associated with traditional in-person healthcare, and long wait times. Additionally, telehealth offers patients the option to receive access to healthcare in locations where they are most comfortable.

- ***May be used to help prevent patient exposure to infectious diseases*** - telehealth possesses the potential to help prevent patient exposure to infectious diseases (the term infections disease may refer to an illness caused by bacteria, viruses, and/or fungi, which enters the human body, multiplies, and leads to infection). In essence, telehealth-related technologies can be a means to provide healthcare services to patients while keeping them separated, quarantined, and/or simply away from situations which may expose them to infectious agents. Healthcare professionals should note the following: the application of telehealth may be beneficial in times of infectious disease outbreaks and/or pandemics; in the context of infectious disease prevention, the application of telehealth may be beneficial to specific patient populations such as older adults (individuals 65 years or older) and individuals with compromised immune systems.

- ***Timely access to locally unavailable healthcare services*** - telehealth can potentially offer individuals timely access to vital healthcare services that may not be, otherwise, available in their local vicinity or area of residence. In other words, telehealth can potentially provide patients with increased access to healthcare specialists, healthcare services, and healthcare programs which may not be available and/or offered to them in the traditional in-person healthcare capacity.

- ***Increased communication*** - telehealth-related technologies, such as specific mobile health applications, can allow patients and healthcare professionals the option to communicate healthcare information in a timely, effortless manner not offered in the traditional in-person healthcare capacity.

- ***Allows for real-time interactions between patients and healthcare professionals*** - live video telehealth services can provide patients and healthcare professionals the opportunity to communicate in real-time in order to simulate and achieve the goals of traditional in-person healthcare interactions as well as share vital healthcare information. Healthcare professionals should note that live video

telehealth technologies may be used by healthcare professionals to provide healthcare services to patients that may not have accessible access to healthcare due to their geographic location. Healthcare professionals should also note that live video telehealth technologies may be used by healthcare professionals to provide healthcare services to patients that may not be able to obtain healthcare in traditional in-person settings due to a physical disability or other health-related reason.

- ***Allows for the transmission of recorded health information (e.g., an x-ray or prerecorded video)*** - store-and-forward telehealth technologies can transmit recorded healthcare information (e.g., an x-ray or prerecorded video) through electronic communication systems to healthcare professionals who may use such information to evaluate and provide healthcare services to patients in need. Healthcare professionals should note that store-and-forward telehealth technologies may be used by healthcare professionals to provide healthcare services to patients that may not have accessible access to healthcare due to their geographic location. Healthcare professionals should also note that store-and-forward telehealth technologies may be used by healthcare professionals to provide healthcare services to patients that may not be able to obtain healthcare in traditional in-person settings due to a physical disability or other health-related reason.

- ***Remote patient monitoring*** - telehealth can allow for remote patient monitoring. As previously highlighted, remote patient monitoring may refer to the use of telehealth-related technologies to collect individuals' healthcare-related data in one location and electronically transmit it to healthcare professionals in a different location for assessment and recommendations. Healthcare professionals should note the following: remote patient monitoring programs can collect a wide range of healthcare data from the point of care, such as: vital signs, weight, blood pressure, blood sugar, blood oxygen levels, heart rate, and electrocardiograms; remote patient monitoring may be beneficial in times of infectious disease outbreaks and/or pandemics; in the context of infectious disease prevention, the application of remote patient monitoring may be beneficial to specific patient populations such as older adults and individuals with compromised immune systems; remote patient monitoring may also be beneficial to disabled individuals. Healthcare professionals should also note the following: remote patient monitoring may be used by healthcare professionals as a means to help reduce hospital admissions and hospital readmissions.

- ***Allows access to mobile health*** - as previously highlighted, mobile health may refer to the use of mobile communication devices (e.g., smartphones and tablets) to support healthcare, public health, and education. Mobile health applications may be

used to help individuals manage chronic conditions, track sleep patterns or fitness, schedule healthcare appointments, and/or send public health alerts via text message.

- ***Patient prescriptions may be ordered via telehealth technologies*** - patient prescriptions may be ordered via telehealth technologies based on information obtained by telehealth platforms and data collected via remote patient monitoring.
- ***Potential reductions in healthcare costs*** - evidence suggests that telehealth possesses the potential to reduce healthcare costs by increasing the efficiency of healthcare delivery, decreasing the costs associated with patient transportation, and by reducing hospital admissions and hospital readmissions.
- ***Improved patient outcomes*** - telehealth can potentially increase individuals' access to healthcare, allow for remote patient monitoring, and be used as a means to reduce hospital admissions and hospital readmissions as well as the transmission of infectious diseases - all of which can lead to improved patient outcomes.
- ***Improved patient satisfaction*** - finally, as previously alluded to, telehealth possesses the potential to make healthcare more convenient, flexible and accessible - all of which can work to improve patient satisfaction.

Telehealth and Individual State Laws

Specific laws regarding telehealth may vary by state. Therefore, a healthcare professional should be familiar with his or her particular state(s) of licensure's relevant telehealth-related laws. With that said, general information regarding telehealth state laws may be found below. Examples of individual state laws/ regulations regarding telehealth services may be found in Figure 1 and Figure 2. Figure 1 highlights the state of California's telehealth-related laws/regulations, while Figure 2 highlights the state of Nevada's telehealth-related laws/regulations. Healthcare professionals should note the following: telehealth state laws may change over time and/or due to an emergency crisis or situation, therefore healthcare professionals should stay up to date with their state(s) of licensure's relevant telehealth-related laws.

General information regarding telehealth-related state laws/regulations

Forty-nine state boards, plus the medical boards of District of Columbia, Puerto Rico, and the Virgin Islands, require that physicians engaging in telemedicine are licensed in the state in which the patient is located; twelve state boards issue a special purpose license, telemedicine license or certificate, or license to practice medicine across state lines to allow for the practice of telemedicine; six state boards require

physicians to register if they wish to practice across state lines; all states and the District of Columbia provide reimbursement for some form of live video in Medicaid fee-for-service; fourteen states reimburse for store-and-forward; twenty-two states reimburse for remote patient monitoring; eight states reimburse for all three, with certain limitations; forty states and the District of Columbia govern private payer telehealth reimbursement policies; six states have private payer parity laws.

Figure 1: California Telehealth-Related Laws and Regulations

- Telehealth is seen as a tool in medical practice, not a separate form of medicine.
- There are no legal prohibitions to using technology in the practice of medicine, as long as the practice is done by a California licensed physician.
- Telehealth is not a telephone conversation, email/instant messaging conversation, or fax; it typically involves the application of videoconferencing or store and forward technology to provide or support healthcare delivery.
- The standard of care is the same whether the patient is seen in-person, through telehealth or other methods of electronically enabled healthcare.
- Telehealth does not change the existing scope of practice of any licensed healthcare professional.
- Prior to the delivery of healthcare via telehealth, the healthcare professional who has ultimate authority over the care or primary diagnosis of the patient shall obtain verbal and written informed consent from the patient.
- The patient retains the option to withhold or withdraw consent at any time without affecting the right to future care or treatment nor risking the loss or withdrawal of any program benefits to which the patient would otherwise be entitled.
- A description of the potential risks, consequences, and benefits of telehealth should be provided to the patient.
- All existing confidentiality protections apply to telehealth.
- Patient access to all medical information transmitted during a telehealth consultation should be guaranteed.
- Dissemination of any patient identifiable images or information from the telehealth interaction to researchers or other entities shall not occur without the consent of the patient.

- A patient should sign a written statement prior to the delivery of healthcare via telehealth, indicating that the patient understands the written information provided regarding telehealth.
- The written consent statement signed by the patient should become part of the patient's medical record.
- Every insurer issuing group or individual policies of disability insurance that covers hospital, medical, or surgical expenses, including those telehealth services covered by the insurer hall reimburse claims or any portion of any claim, whether in state or out of state, for those expenses, as soon as practical.
- It is the intent of the Legislature is to recognize the practice of telehealth/ telemedicine as a legitimate means by which an individual may receive medical services from a healthcare provider without person-to-person contact with the provider.

Figure 2: Nevada Telehealth-Related Laws and Regulations

- Telehealth involves the use of various technologies to remotely deliver healthcare services, public health, and health-related education for patients and health professionals.
- Telehealth falls into four broad categories: live video, store-and-forward, remote patient monitoring, mobile health.
- In order to provide telehealth services in Nevada - whether providing a diagnosis, treatment order, or prescription, or directing or managing a patient's care - a provider of healthcare must have a valid Nevada license or certificate, unless he or she is providing services within the scope of employment or contract with an urban Indian organization; as with all healthcare services a health professional provides, telehealth services must be within the health professional's scope of practice and must meet required standards of care.
- As long as a healthcare provider is licensed in Nevada - and therefore subject to State laws and regulations - he or she can provide telehealth services to people in Nevada, regardless of the provider's location.
- Nevada law requires Medicaid and any policy of health or industrial insurance to cover telehealth services to the same extent as services provided in person.
- Providers of such insurance may not require the insured to obtain prior authorization for telehealth services if prior authorization is not required when the service is

provided in person, to establish a relationship in person with a provider, or to provide any additional consent or reason for obtaining services through telehealth as a condition of paying for services.

Telehealth and Health Insurance Portability and Accountability Act of 1996 (HIPAA)

In addition to individual state laws, federal laws and regulations such as those outlined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) may apply to the use of telehealth (the Health Insurance Portability and Accountability Act of 1996 (HIPAA) may refer to specific federal regulations or laws which provide provisions for safeguarding medical information). Therefore, it is important that healthcare professionals consider federal laws/regulations such as HIPAA when utilizing telehealth technologies for patient care. With that said, specific information regarding HIPAA and telehealth may be found below.

- The Standards for Privacy of Individually Identifiable Health Information, otherwise referred to as the Privacy Rule, establishes a set of national standards for the protection of certain health information.
- The Privacy Rule standards address the use and disclosure of individuals' health information, which is referred to as "protected health information" by organizations subject to the Privacy Rule. Organizations subject to the Privacy Rule are referred to as "covered entities." The Privacy Rule also sets standards for individuals' privacy rights to understand and control how their health information is used.
- One of the major goals of the Privacy Rule is to assure that individuals' health information is adequately protected while allowing the flow of health information needed to provide and promote high quality healthcare. Another major goal of the Privacy Rule is to protect the public's health and well being.
- The Privacy Rule applies to the following entities:
    - ***Health plans*** - in the context of this course, a health plan may refer to any plan which covers the cost of healthcare. Health plans that may be affected by the stipulations of the Privacy Rule include: health, dental, vision, and prescription drug insurers, health maintenance organizations ("HMOs"), Medicare, Medicaid, Medicare+Choice and Medicare supplement insurers, and long-term care insurers (excluding nursing home fixed-indemnity policies). Additional health plans that may be affected by the stipulations of the Privacy Rule include: employer-sponsored group health plans, government and church-sponsored health plans, and multi-employer health plans.

- ***Healthcare providers*** - essentially, every healthcare provider, regardless of size, who electronically transmits health information in connection with certain transactions may be considered a covered entity.
- ***Healthcare clearinghouses*** - in the context of this course, a healthcare clearinghouses may refer to any entity that processes nonstandard information from another entity into a standard format. Examples of healthcare clearinghouses include: billing services, re-pricing companies, and community health management information systems.
- ***Business associate*** - in the context of this course, a business associate may refer to a person or organization, other than a member of a covered entity's workforce, that performs certain functions or activities on behalf of, or to, a covered entity that involve the use or disclosure of individually identifiable health information.

- The Privacy Rule safeguards protected health information (PHI). PHI may refer to any information about health status, provision of healthcare, or payment for healthcare that is created or collected by a covered entity; individually identifiable health information. In essence, the Privacy Rule protects all individually identifiable health information held or transmitted by a covered entity or its business associate(s), in any form or media, whether electronic, paper, or oral.
- Healthcare professionals should note that individually identifiable health information is information, including demographic data, that relates to the following: an individual's past, present or future physical or mental health or condition, the provision of healthcare to an individual, or the past, present, or future payment for the provision of healthcare to the individual, and that identifies the individual or for which there is a reasonable basis to believe it can be used to identify the individual (i.e., individually identifiable health information is information that may be used to identify an individual and their relationship to the healthcare system). Healthcare professionals should also note that examples of individually identifiable health information include patients': names, birth dates, home addresses, and Social Security Numbers (however, the Privacy Rule excludes from protected health information employment records that a covered entity maintains in its capacity as an employer and certain other records indicated by law).
- The Privacy Rule indicates that there are no restrictions on the use or disclosure of de-identified health information. De-identified health information may refer to information that neither identifies nor provides a reasonable basis to identify an individual (i.e., information that cannot, necessarily, link an individual to the

healthcare system). Healthcare professionals should note the following two ways information may be de-identified: a formal determination by a qualified statistician may de-identify information; the removal of specified identifiers of the individual and of the individual's relatives, household members, and employers is completed, and is adequate only if the covered entity has no actual knowledge that the remaining information could be used to identify the individual.

- A major purpose of the Privacy Rule is to define and limit the circumstances in which an individual's protected heath information may be used or disclosed by covered entities.
- The Privacy Rule stipulates the following: a covered entity may not use or disclose protected health information, except as the Privacy Rule permits or requires; or as the individual who is the subject of the information (or the individual's personal representative) authorizes in writing. Fundamentally, the Privacy Rule determines how PHI may be used and/or disclosed to protect individuals' privacy.
- The Privacy Rule indicates that a covered entity may use and disclose protected health information for its own treatment, payment, and healthcare operations activities.
- Healthcare professionals should note that treatment, in this context, may refer to the provision, coordination, or management of healthcare and related services for an individual/patient by one or more healthcare professionals, including consultation between healthcare professionals regarding a patient and referral of a patient by one healthcare professional to another.
- The Privacy Rule indicates the following: informal permission, regarding the use of PHI, may be obtained by asking an individual outright, or by circumstances that clearly give an individual the opportunity to agree, acquiesce, or object; when an individual is incapacitated (e.g., in an emergency situation) or not available, covered entities generally may make such uses and disclosures, if in the exercise of their professional judgment, the use or disclosure is determined to be in the best interests of an individual.
- Healthcare professionals should note the following: a central aspect of the Privacy Rule is the principle of "minimum necessary" use and disclosure. A covered entity must make reasonable efforts to use, disclose, and request only the minimum amount of PHI needed to accomplish the intended purpose of the use, disclosure, or request. Essentially, the minimum necessary principle/rule can help prevent the disclosure of any unnecessary PHI. Healthcare professionals should always keep the minimum necessary principle/rule in mind when disclosing PHI.

- The Privacy Rule stipulates the following: a covered entity must establish and implement policies and procedures (which may be standard protocols) for routine, recurring disclosures, or requests for disclosures, that limits the protected health information disclosed to that which is the minimum amount reasonably necessary to achieve the purpose of the disclosure.
- The Privacy Rule stipulates the following: a covered healthcare provider with a direct treatment relationship with individuals must make a good faith effort to obtain written acknowledgement from patients of receipt of the privacy practices notice.
- The Privacy Rule indicates the following: individuals have a right to an accounting of the disclosures of their protected health information by a covered entity or the covered entity's business associates.
- The Privacy Rule indicates the following: individuals have the right to request that a covered entity restrict use or disclosure of PHI for treatment, payment or healthcare operations, disclosure to persons involved in the individual's healthcare or payment for healthcare, or disclosure to notify family members or others about the individual's general condition, location, or death.
- The Privacy Rule indicates the following: a covered entity must maintain reasonable and appropriate administrative, technical, and physical safeguards to prevent intentional or unintentional use or disclosure of PHI in violation of the Privacy Rule and to limit its incidental use and disclosure pursuant to otherwise permitted or required use or disclosure.
- The Privacy Rule indicates the following: typically, parents are the personal representatives for their minor children (the term minor child may refer to any individual under a specific age, typically under the age of 18). Therefore, in most cases, parents can exercise individual rights, such as access to medical records, on behalf of their minor children.
- Healthcare professionals should note the following: generally, state laws that are contrary to the Privacy Rule are preempted by the federal requirements, therefore federal requirements will apply.
- The Privacy Rule provides a strong foundation for developing electronic health information exchange relationships and business models. Its underlying policies and provisions reflect the careful balance between protecting the privacy of individuals' PHI and assuring that such health information is available to those who need access to it to provide healthcare, payment for care, and for other important purposes. The Privacy Rule's provisions also provide considerable flexibility to accommodate

covered entities' utilization of Health Information Organizations (HIOs) and networked environments.

- The Security Standards for the Protection of Electronic Protected Health Information, otherwise referred to as the Security Rule, was enacted to establish a national set of security standards for protecting certain health information that is held or transferred in electronic form.
- The Security Rule addresses the technical and non-technical safeguards that covered entities must put in place to secure individuals' electronic protected health information (e-PHI).
- The Security Rule was enacted to work in conjunction with the Privacy Rule.
- One of the major goals of the Security Rule is to protect the privacy of individuals' health information while allowing covered entities to adopt and utilize technologies to improve the quality and efficiency of patient care (i.e., the aim of the Security Rule is to establish a means to protect patient-health related information as new technologies are incorporated into the healthcare system).
- Healthcare professionals should note the following: The Security Rule applies to health plans, healthcare clearinghouses, and to any healthcare provider who transmits health information in electronic form.
- Healthcare professionals should note the following: The Security Rule protects a subset of information covered by the Privacy Rule, which is all individually identifiable health information a covered entity creates, receives, maintains or transmits in electronic form; the Security Rule pertains to electronic health information.
- The Security Rule stipulates the following: a covered entity must periodically review and update its documentation in response to environmental or organizational changes that affect the security of e-PHI. Healthcare professionals should be aware of any such revisions if applicable.
- The Omnibus Rule was needed to strengthen the privacy and security protections established under HIPAA for individual's health information maintained in electronic health records and other formats.
- The Omnibus Rule indicates that covered entities and their business associates must conduct an incident risk assessment for every data security incident that involves PHI.

- The Omnibus Rule incorporates genetic information into the definition of PHI, which extends HIPAA's privacy protections to individuals' genetic information.
- The Omnibus Rule generally prohibits the sale of PHI, defined as remuneration (financial or otherwise) in exchange for PHI, without individual authorization. Healthcare professionals should note that exceptions may apply to the previous stimulation when PHI may be used for certain public health purposes.
- The Omnibus Rule indicates the following: research studies involving PHI that have been required to use multiple consent forms may use a single form. The aforementioned stipulation was made to limit patient confusion regarding consent forms.
- The Omnibus Rule also supports the use of both limited data sets and de-identified data without individual authorization.
- The Omnibus Rule reinforces the importance of the following: healthcare professionals should meet all requirements regarding patient privacy and data security.
- The Omnibus Rule indicates the term willful neglect may refer to the conscious, intentional failure or reckless indifference towards PHI. Healthcare professionals should note that according to the Omnibus Rule, all case of willful neglect will be investigated.
- The Omnibus Rule works to align state and federal laws.
- The Omnibus Rule clarifies that contrary state laws are to be preempted by the federal breach law.

Telehealth and Title 42 of the Code of Federal Regulations, Part 2

- In addition to HIPAA, healthcare professionals should also be aware of Title 42 of the Code of Federal Regulations, Part 2 when applying telehealth to patient care. Title 42 of the Code of Federal Regulations, Part 2, otherwise referred to as 42 CFR Part 2, protects patients seeking treatment for substance use disorders (a substance use disorder may refer to a medical condition characterized by a cluster of symptoms that do not allow an individual to stop using legal or illegal substances such as: alcohol, marijuana, cocaine, and/or opioids). The goal of 42 CFR Part 2 is to safeguard patients' rights and privacy. Additional information regarding 42 CFR Part 2 may be found below.

- 42 CFR Part 2 was established to encourage individuals to seek substance abuse treatment by removing the potential fear of privacy violations and the subsequent legal and social ramifications that could follow a privacy violation.
- 42 CFR Part 2 heightens the restrictions, even beyond those of HIPAA, on an individual's protected health information related to addiction treatment.
- 42 CFR Part 2 protects the confidentiality of records containing the identity, diagnosis, prognosis, or treatment of any patient maintained in connection with the performance of any federally assisted program or activity relating to substance use disorder education, prevention, training, treatment, rehabilitation, or research.
- 42 CFR Part 2 indicates the following: healthcare professionals may not disclose information that identifies individuals as having, having had, or referred for a substance use disorder without the patient's consent unless a 42 CFR Part 2 exception applies.
- 42 CFR Part 2 indicates the following: healthcare professionals may not acknowledge that a person is a patient in a substance use program.
- Healthcare professionals should note that 42 CFR Part 2 permits the disclosure of health-related information under certain circumstances without consent such as a medical emergency.
- Healthcare professionals should note that when a disclosure is made in connection with a medical emergency, the 42 CFR Part 2 program must document in the patient's record the name and affiliation of the recipient of the information, the name of the individual making the disclosure, the date and time of the disclosure, and the nature of the emergency.
- 42 CFR Part 2 indicates that individuals may not use 42 CFR Part 2 program information to initiate or substantiate criminal charges against a patient.
- Healthcare professionals should note that they must limit the disclosure of substance use disorder/ substance use disorder treatment-related information to the minimum amount of information necessary for the permitted purpose of the disclosure.
- 42 CFR Part 2 indicates the following: if a minor patient acting alone has the legal capacity under the applicable state law to apply for and obtain substance use disorder treatment, any written consent for disclosure may be given only by the minor patient.

- 42 CFR Part 2 indicates the following: no person may require any patient to carry in their immediate possession while away from the part 2 program premises any card or other object which would identify the patient as having a substance use disorder.
- 42 CFR Part 2 indicates the following: if a part 2 program discontinues operations or is taken over or acquired by another program, it must remove patient identifying information from its records or destroy its records, including sanitizing any associated hard copy or electronic media, to render the patient identifying information non-retrievable.
- 42 CFR Part 2 indicates the following: 42 CFR Part 2 regulations do not prohibit a part 2 program from giving a patient access to their own records, including the opportunity to inspect and copy any records that the part 2 program maintains about the patient.
- 42 CFR Part 2 indicates the following: if a patient consents to a disclosure of their records, a part 2 program may disclose those records in accordance with that consent to any person or category of persons identified or generally designated in the consent, except that disclosures to central registries and in connection with criminal justice referrals.
- 42 CFR Part 2 indicates the following: patient identifying information may be disclosed to medical personnel to the extent necessary to meet a bona fide medical emergency in which the patient's prior informed consent cannot be obtained.
- 42 CFR Part 2 indicates the following: patient identifying information may be disclosed to medical personnel of the FDA who assert a reason to believe that the health of any individual may be threatened by an error in the manufacture, labeling, or sale of a product under FDA jurisdiction, and that the information will be used for the exclusive purpose of notifying patients or their physicians of potential dangers.
- 42 CFR Part 2 indicates the following: an order authorizing the disclosure of patient records for purposes other than criminal investigation or prosecution may be applied for by any person having a legally recognized interest in the disclosure which is sought.

Section 1: Summary

Telehealth may refer to the use of electronic information and telecommunication technologies to support and promote long-distance clinical healthcare, patient and professional health-related education, public health and health administration. A range of technologies may be used to support the delivery of telehealth including the

following: text messaging, smartphone apps for mobile phones, websites and computers, standard and wireless telephones, live and asynchronous video, virtual reality, and/or artificial intelligence (AI). The different categories or types of telehealth include: live video, store-and-forward, remote patient monitoring, and mobile health. When applying telehealth services to patient care, healthcare professionals should be aware of their state(s) of licensure's relevant telehealth-related laws as well as federal laws that may apply to telehealth such as HIPAA and 42 CFR Part 2. Telehealth offers benefits as well as new opportunities to both healthcare professionals and patients. Therefore, healthcare professionals should possess insight into telehealth to best serve patients in need.

Section 1: Key Concepts

- Telehealth may be used to support and promote long-distance clinical healthcare, patient and professional health-related education, public health and health administration.
- Telemedicine is a subset of telehealth, which specifically involves a clinician providing medical services via telehealth technology; eHealth is also a subset telehealth.
- A range of technologies may be used to support the delivery of telehealth including the following: text messaging, smartphone apps for mobile phones, websites and computers, standard and wireless telephones, live and asynchronous video, virtual reality, and/or artificial intelligence (AI).
- The different categories or types of telehealth include the following: live video, store-and-forward, remote patient monitoring, and mobile health.
- The potential benefits of telehealth include the following: telehealth has the potential to reach more individuals compared to traditional in-person programs, patient convenience, may be used to help prevent patient exposure to infectious diseases, timely access to locally unavailable healthcare services, increased communication, allows for real-time interactions between patients and healthcare professionals, allows for the transmission of recorded health information (e.g., an x-ray or prerecorded video), allows for remote patient monitoring, allows access to mobile health, patient prescriptions may be ordered via telehealth technologies, potential reductions in healthcare costs, improved patient outcomes, and improved patient satisfaction.
- Specific laws regarding telehealth may vary by state; therefore, a healthcare professional should be familiar with his or her particular state(s) of licensure's relevant telehealth-related laws.

- Federal laws and regulations such as those outlined by HIPAA and 42 CFR Part 2 may apply to the use of telehealth; therefore, it is important that healthcare professionals consider federal laws/regulations such as HIPAA and 42 CFR Part 2 when utilizing telehealth technologies for patient care.

Section 1: Key Terms

Telehealth - the use of electronic information and telecommunication technologies to support and promote long-distance clinical healthcare, patient and professional health-related education, public health and health administration

Telemedicine - the practice of medicine using electronic communication, information technology, or other means between a physician in one location, and a patient in another location, with or without an intervening healthcare provider

EHealth - the use of information and communication technologies (ICT) for health and healthcare

Live video (in the context of telehealth services) - may refer to a live stream, two-way interaction between a patient and a healthcare professional(s) where both parties are communicating from different locations

Real-time - the actual time during which a meeting, interaction, process, or event occurs; live

Store-and-forward - a type of telehealth which involves the transmission of recorded health information (e.g., an x-ray or prerecorded video) through electronic communication systems to a healthcare professional who evaluates the information and provides a healthcare-related service to a patient(s)

Remote patient monitoring - the use of telehealth-related technologies to collect individuals' healthcare-related data in one location and electronically transmit it to healthcare professionals in a different location for assessment and recommendations

Mobile health - the use of mobile communication devices (e.g., smartphones and tablets) to support healthcare, public health, and education

Infectious disease - an illness caused by bacteria, viruses, and/or fungi, which enters the human body, multiplies, and leads to infection

Older adults - individuals 65 years or older

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) - specific federal laws and/or regulations which provide provisions for safeguarding medical information

Health plan (in the context of this course) - any plan which covers the cost of healthcare

Healthcare clearinghouses (in the context of this course) - any entity that processes nonstandard information from another entity into a standard format

Business associate (in the context of this course) - a person or organization, other than a member of a covered entity's workforce, that performs certain functions or activities on behalf of, or to, a covered entity that involve the use or disclosure of individually identifiable health information

Protected health information (PHI) - any information about health status, provision of healthcare, or payment for healthcare that is created or collected by a covered entity; individually identifiable health information

Individually identifiable health information - information, including demographic data, that relates to the following: an individual's past, present or future physical or mental health or condition, the provision of healthcare to an individual, or the past, present, or future payment for the provision of healthcare to the individual, and that identifies the individual or for which there is a reasonable basis to believe it can be used to identify the individual; information that may be used to identify an individual and their relationship to the healthcare system

De-identified health information - information that neither identifies nor provides a reasonable basis to identify an individual; information that cannot, necessarily, link an individual to the healthcare system

Treatment (in the context of HIPAA) - the provision, coordination, or management of healthcare and related services for an individual/patient by one or more healthcare professionals, including consultation between healthcare professionals regarding a patient and referral of a patient by one healthcare professional to another

Minor child - any individual under a specific age, typically under the age of 18

Substance use disorder - a medical condition characterized by a cluster of symptoms that do not allow an individual to stop using legal or illegal substances such as: alcohol, marijuana, cocaine, and/or opioids

Section 1: Personal Reflection Question

What are the potential benefits of telehealth?

Section 2: Telehealth Recommendations

It is important for healthcare professionals to possess insight into telehealth. It is also important for healthcare professionals to understand how to utilize telehealth in a manner that promotes the safe and effective administration of healthcare. With that sentiment in mind, this section of the course will review telehealth-related recommendations that promote the safe and effective administration of healthcare to patients.

Telehealth Recommendations for Healthcare Professionals

- ***Healthcare professionals should be familiar with the various technologies that may be used to support the delivery of telehealth*** - first and foremost, healthcare professionals should be familiar with the various technologies that may be used to support the delivery of telehealth. As previously mentioned, a range of technologies may be used to support the delivery of telehealth including the following: text messaging, smartphone apps for mobile phones, websites and computers, standard and wireless telephones, live and asynchronous video, virtual reality, and/or artificial intelligence (AI).[1] Healthcare professionals should be familiar with the aforementioned technologies to ensure the adequate delivery of telehealth services and, ultimately, the administration of safe and effective healthcare via telehealth.

- ***Healthcare professionals should be familiar with the different categories of telehealth*** - along with the various telehealth technologies, healthcare professional should be familiar with the different categories or types of telehealth, which may include: live video, store-and-forward, remote patient monitoring, and mobile health.[1] Healthcare professionals should seek education and training, from their affiliated healthcare organization as well as other sources, to ensure they understand how to employee each type of telehealth in a manner which fosters the safe and effective administration of healthcare.

- ***Healthcare professionals should determine a patient's capacity to receive healthcare via telehealth*** - it is important for healthcare professionals to ensure they understand how to adequately deliver healthcare via telehealth. That being said, it is equally important for healthcare professionals to ensure patients can adequately receive healthcare via telehealth. In essence, patients should possess

the capacity to understand telehealth, how it applies to their healthcare, and how to receive healthcare via telehealth. Determining a patient's capacity to receive healthcare via telehealth should be a priority for healthcare professionals when establishing telehealth as a means for an individual patient's care. Healthcare professionals should note the following: if an individual patient does not have the capacity to receive healthcare via telehealth, a healthcare professional should take the necessary steps or make the required adjustments to ensure the delivery of healthcare to said patient in a manner that is both safe and effective.

- ***Healthcare professionals should identify patients that may have special needs and/or requirements*** - to build on the previous recommendation, healthcare professionals should work to identify patients that may have special needs and/or requirements. Some patients, such as older adult patients or patients suffering from anxiety, depression, or attention-deficit/hyperactivity disorder (ADHD), may have special needs and/or requirements. Healthcare professionals should work to identify such patients to ensure they meet the needs and requirements of each individual patient - a failure to do so may lead to a breakdown in telehealth services and/or inadequate patient care.

- ***Healthcare professionals should follow state laws regarding telehealth*** - as previously highlighted, specific laws regarding telehealth may vary by state. Therefore, a healthcare professional should be familiar with his or her particular state(s) of licensure's relevant telehealth-related laws. Healthcare professionals should adhere to their particular states of licensure's relevant telehealth-related laws when engaging in telehealth. Healthcare professionals should note the following: telehealth state laws may change over time or due to an emergency crisis or situation, therefore healthcare professionals should stay up to date with their state(s) of licensure's relevant telehealth-related laws.

- ***Healthcare professionals should follow federal laws regarding telehealth*** - specific federal laws, such as HIPAA and42 CFR Part 2, may apply to telehealth. Thus, healthcare professionals should be familiar with relevant federal laws regarding telehealth. Healthcare professionals should adhere to relevant federal telehealth-related laws when engaging in telehealth.

- ***Healthcare professionals should uphold the ethic principles of healthcare when applying telehealth to patient care*** - when applying telehealth to patient care, healthcare professionals should ensure that they uphold the four major ethic principles of healthcare, which include: patient autonomy, beneficence, nonmaleficence, and justice.[7] Working within the ethic parameters of healthcare can help healthcare professionals ensure the safe and effective administration of

healthcare to patients. With that said, specific information regarding the aforementioned ethic principles of healthcare may be found below:

- **Patient autonomy** may refer a patient's right to make decisions regarding his or her own personal healthcare (i.e., a patient's right to determine the course of his or her healthcare without outside influence).[7] Essentially, patient autonomy grants patients the sole right to make decisions regarding their health, healthcare, and personal well-being. Healthcare professionals must respect patient autonomy when administering healthcare in the traditional in-person healthcare capacity and when applying telehealth to patient care. Violations of patient autonomy may occur if a healthcare professional makes healthcare-related decisions for a patient, influences a patient's healthcare-related decisions, bullies a patient into making a healthcare-related decision, withholds healthcare-related information from a patient in order to steer a patient into making a specific decision, provides a patient with biased healthcare information and/or education, fails to provide vital health-related information to a patient, and/or simply does not give a patient an opportunity to make his or her own decision regarding the administration of healthcare. Healthcare professionals may uphold patient autonomy by allowing patients to remain independent when making decisions about their healthcare. Healthcare professionals should note that they are allowed to provided patients with unbiased information and education to help patients make a decision regarding their own healthcare - however, a healthcare professional must not make the final healthcare-related decision for a patient. Healthcare professionals should also note that there may be healthcare situations where patient autonomy concepts may not necessarily apply, such as emergency situations where life-saving interventions are required.

- **Beneficence**, as it relates to healthcare, may refer to the act of doing what is best for the patient; acting in a manner that promotes patients' health.[7] Healthcare professionals must adhere to the principle of beneficence when caring for patients in any capacity including when applying telehealth to patient care. Examples of potential violations of beneficence may include the following: a healthcare professional does not act in the best interest of a patient, a healthcare professional puts his or her own interest before a patient's best interest, a healthcare professional does not consider the risks and benefits of a healthcare intervention before it is administered to a patient, a healthcare professional does not consider a patient's pain, physical, and/or mental suffering when administering healthcare, a healthcare professional does not consider a patient's risk of disability, diminished health, and/or death when administering healthcare, and a healthcare professional

promotes potentially dangerous healthcare to a patient (e.g., a healthcare professional encourages a patient to follow a therapeutic regimen that will, ultimately, jeopardize the patient's health, overall well-being, and quality of life). Healthcare professionals may uphold the ethic principle of beneficence by simply doing what is best for a patient's health. Healthcare professionals should note that individual patients may have specific needs or requirements. Healthcare professionals should consider individual patient needs and requirements when attempting to uphold the ethic principle of beneficence.

- **Nonmaleficence**, as it relates to healthcare, refers to inflicting no harm; do no harm; inflicting the least amount of harm as possible to achieve a beneficial outcome.[7] In essence, the ethic principle of nonmaleficence dictates that healthcare professionals should do no harm to patients.[7] With that in mind, many have argued that the ethic principle of nonmaleficence is the most important principle of healthcare. Many individuals have also argued that without nonmaleficence, there could be no healthcare system as it is known today. Thus, it is paramount that healthcare professionals adhere to the ethic principle of nonmaleficence. Examples of potential violations of nonmaleficence may include the following: a healthcare professional intentionally harms a patient, a healthcare professional gives a patient a medication knowing it will only harm the patient, a healthcare professional choose healthcare interventions for a patient that will harm the patient, and a healthcare professional does not follow safety precautions while administering care to a patient. Healthcare professionals may uphold the ethic principle of nonmaleficence by adhering to safety precautions. Healthcare professionals may also uphold the ethic principle of nonmaleficence by simply acting in a manner that does not intentionally harm a patient. Healthcare professionals should note the following: although beneficence and nonmaleficence are related, they are two separate and distinct ethic principles of healthcare.

- **Justice**, as it relates to healthcare, refers to the fair and legal allocation of healthcare resources to patients.[7] Essentially, the ethic principle of justice stipulates that patients in similar situations should have access to the same healthcare or the same level of healthcare. Failure to provide similar patients in similar situations with the same level of healthcare may be viewed as a violation of justice, as it relates to healthcare. Healthcare professionals can uphold justice by administering healthcare in an unbiased manner. Once a patient is admitted into a healthcare setting, healthcare professionals should treat patients equally and fairly. Healthcare should be administered to patients based on need. Race, gender and/or socioeconomic status should not dictate how healthcare is administered to patients. Patients' personalities and/

or personal backgrounds should also not dictate the administration of healthcare. In addition, personal relationships between healthcare professionals and patients should not affect the delivery of healthcare. A patient should not receive a higher level of healthcare due to a personal relationship with an individual healthcare professional; nor should healthcare be withheld based on a personal relationship. Justice, as it relates to healthcare, dictates the impartial allocation of available healthcare resources to patients in need. Similar patients in similar situations have the same right to available healthcare resources. A fair-minded approach to the administration of healthcare can ensure the aforementioned concepts are obtained.

- ***Healthcare professionals should adhere to their healthcare organizations' telehealth-related policies and procedures*** - specific healthcare organizations may have telehealth related policies and procedures in place to safeguard patient safety and healthcare. Healthcare professionals should be familiar with their specific healthcare organization's policies and procedures. If no such policies/ procedures exist, healthcare professionals may consider developing such policies/ procedures to help ensure the delivery of adequate telehealth services and, ultimately, the safe and effective administration of healthcare.

- ***Healthcare professionals should adhere to their related scopes of practice when applying telehealth to patient care*** - the term scope of practice may refer to a description of services qualified healthcare professionals are deemed competent to perform and permitted to undertake under the terms of their professional license.[8] In other words, a scope of practice is a legal guide that highlights a healthcare professional's responsibilities and limitations. It is essential that healthcare professionals adhere to their related scope of practice when administering healthcare in the traditional in-person healthcare capacity and when applying telehealth to patient care. Healthcare professionals should note that specific scopes of practice may vary by state. A healthcare professional should be familiar with his or her particular state(s) of licensure's relevant scope of practice.

- ***Healthcare professionals should adhere to relevant standards of practice when applying telehealth to patient care*** - the term standards of practice may refer to the authoritative statements of duties that all healthcare professionals, regardless of role, population or specialty are expected to perform competently.[9] Heath care professionals should note that professional organizations, like the American Nurses Association (ANA), have developed specific standards of practice for healthcare professionals. Standards of practice were established by the ANA, and other professional organizations, to provide a means for the consistent administration of

healthcare across the various healthcare settings found in the current landscape of healthcare. It is highly recommended that all healthcare professionals follow the standards of practice set for by their related professional organization in every aspect of healthcare administration, including telehealth, to ensure they are in accordance with the necessary requirements for safe and effective healthcare.

- ***Healthcare professionals should obtain informed consent from a patient, when applicable*** - informed consent may refer to the process by which a healthcare professional obtains permission, from a patient, to conduct a healthcare intervention on a patient.[10] Informed consent must be obtained, from a patient, before a healthcare intervention is conducted. The major elements of informed consent include the following: the nature of the healthcare intervention should be explained to the patient, the risks and benefits of the healthcare intervention as well as the healthcare intervention itself should be explained to the patient, reasonable alternatives should be provided to the patient, the risks and benefits of the reasonable alternatives should be explained to the patient, and finally, the patient must be able to understand the previous elements.[10] Informed consent is required for many aspects of healthcare including: treatment, dissemination of patient information, discussion of relevant laws, and specific procedures.[10]Obtaining informed consent should include: describing the proposed intervention, emphasizing the patient's role in decision-making, discussing alternatives to the proposed intervention, discussing the risks of the proposed intervention, and eliciting the patient's preference (usually by signature).[10] Discussion of all risks is absolutely paramount to informed consent in this context; most consent includes general risks, risks specific to the procedure, risks of no treatment and alternatives to treatment; additionally, many consent forms express that there are no guarantees that the proposed procedure will provide a cure to the problem being addressed.[10] The required standard for informed consent is determined by the state.[10] Healthcare professionals should be aware of how informed consent relates to telehealth in their particular state(s) of licensure. Healthcare professionals should also be aware that informed consent exceptions include the following: the patient is incapacitated, life-threatening emergencies with inadequate time to obtain consent, and voluntary waived consent.[10] Healthcare professionals should also note the following: if the patient's ability to make decisions is questioned or unclear, an evaluation by a psychiatrist to determine competency may be requested; a situation may arise in which a patient cannot make decisions independently but has not designated a decision maker; in the previous instance, the hierarchy of decision makers, which is determined by each state's laws, must be sought to determine the next legal surrogate decision maker; if this is unsuccessful, a legal guardian may need to be appointed by the court.[10]

- ***Healthcare professionals should foster effective communication when engaging in telehealth*** - effective communication occurs when information and messages are adequately transmitted, received and understood.[11] To foster effective communication, healthcare professionals should work to achieve an open communication climate. An open communication climate is characterized by communication that requires unrestricted, honest and mutual interaction for individuals to understand each other better, in order to promote tolerance, minimize conflicts, and promote safe and effective healthcare.[11] Healthcare professionals should note the following: an open communication climate may be essential to ensure adequate telehealth services and the administration of safe and effective healthcare.

- ***Healthcare professionals should work to avoid miscommunication when engaging in telehealth*** - miscommunication may refer to the inadequate transmission of information or messages between two or more individuals.[11,12] Essentially, when miscommunication occurs between individuals, intended meaning may be lost. Miscommunication can be problematic when administering healthcare because it may lead to situations which could jeopardize patients' health and healthcare. Thus, healthcare professionals should work to prevent miscommunication whenever possible. Healthcare professionals may prevent miscommunication by: making sure specific telehealth platforms are functioning properly, remaining professional, allowing for a free flow of information between individuals, clarifying points of confusion, asking questions, maintaining emotional stability, allowing others to speak, limiting interruptions and distractions, and by engaging in active listening. [12,13]

- ***Healthcare professionals should engage in active listening when applying telehealth to patient care*** - as previously alluded to, active listening may help healthcare professionals avoid miscommunication. Active listening may refer to the process in which a healthcare professional gathers information from a patient by engaging in a style of two-way communication which fosters a clear and mutual understanding of information.[13] That being said, there are several steps healthcare professionals can take to ensure they are effectively engaging in active listening when applying telehealth to patient care. Information regarding the steps to effectively engaging in active listening may be found below:

    - The first step healthcare professionals can take towards active listening is to give their patients their full attention when they are speaking. [13] Often when individuals engage in conversation, one individual speaks while the other individual simply waits for his or her turn to talk. Words are being heard, however individuals are not focused on what is being said. Instead, they

typically are thinking about what they want to say next. The previous style of listening can be referred to as passive listening.[13] Often when passive listening is employed, two people are engaged in conversation, however neither one of them is focused on what the other person is saying. There is little to no intent to obtain meaning when two individuals are engaged in passive listening. Therefore, the first step towards active listening should always be to focus and concentrate on what the other individual is saying. Making a concerted effort to focus on what the other person is saying when engaged in a conversation can increase the ability for both parties to understand the meaning of what is being communicated. It can also help both individuals improve their recall of the conversation. If an individual is focused on what another individual is saying, he or she is more likely to remember what is said. Healthcare professionals should always make an effort to avoid passive listening when engaged in conversation with a patient.

- The next step towards active listening is to make eye contact.[13] Eye contact can let individuals know they are being listened to. Eye contact can also foster trust and encourage individuals to open up and fully articulate what they want to say. Healthcare professionals should note that they may not be able to make eye contact in the traditional context when engaging in telehealth. However, healthcare professionals can ensure that they are clearly visible when employing specific telehealth services such as live video. Making sure one is completely visible when employing specific telehealth services, such as live video, may have the same effects as making eye contact in traditional contexts.

- The third step to active listening is to provide individuals with the opportunity to say what they would like to express.[13] Limiting interruptions when patients are speaking and allowing for periods of silence can further open up the conversation to allow for a greater expression of ideas.

- The next step to active listening is to respond to what is being said.[13] From time to time, healthcare professionals should respond to what patients are saying. Repeating what the patient says or paraphrasing the patient's words can reinforce that they are truly being heard and listened to, which can make them more likely to further engage in conversation. After all, everyone likes to know they are being heard.

- Making an effort to understand the emotions behind the patient's words can be another step towards active listening.[13] Talking about one's health and overall well-being can be an emotional experience. It can open up the stress and

horrors of past trauma and can leave patients feeling vulnerable. Being empathetic towards the difficult emotions behind the words can make patients feel at ease and allow them to continue to discuss their health-related needs and concerns.

- Asking open-ended questions and clarifying what is said can also be steps to active listening.[13] At times, healthcare professionals will need to ask their patients questions. Keeping questions open, as opposed to closed, can allow information to flow freely. Therefore, at times, it may be advantageous to avoid yes and no questions and focus on how, what, where, and why questions. Yes and no questions can limit the expression of ideas, while open ended questions can expand the expression of ideas, which can be very helpful to healthcare professionals when they are trying to get their patients to communicate information regarding their health, healthcare, and/or over all well-being. In addition, healthcare professionals should not be afraid to clarify what is said during a healthcare-related conversation with their patients. Slowing down the conversation to clarify what is said can benefit both parties in the long run.

- Lastly, to fully achieve active listening, healthcare professionals can provide words of encouragement to their patients.[13] As previously mentioned, talking about healthcare can be difficult for a patient. Using words of encouragement such as "you are being very brave" or "you have been courageous during this difficult situation" can go a long way to motivate patients to express themselves in regards to their individual health. Additionally, words of encouragement can bring a human aspect to the process of healthcare, which can help reinforce the idea to patients that they are being cared for by individuals dedicated to the improvement of their health and overall well-being.

- ***Actively observe patients and patient behavior, when applicable*** - it has been argued that patient observation can be an essential element of safe and effective healthcare. Fortunately, some types of telehealth, such as live video, may provide healthcare professionals with an opportunity to observe patients and patient behavior. Therefore, healthcare professionals should work to observe patients and patient behavior, when applicable, in order to obtain information that may be relevant to the safe and effective administration of healthcare.

- ***Complete effective healthcare documentation, when applicable*** - healthcare documentation may refer to a digital or an analog record detailing the administration of healthcare to patients.[1,14] Healthcare professionals should be sure

to complete effective healthcare documentation when applicable. In order for healthcare documentation to be considered effective, it must function as a viable form of communication, as well as a means to establish a detailed record of healthcare administration. That being said, there are many different forms of healthcare documentation - however, if healthcare professionals include the following specific characteristics in their documentation, they can ensure their documentation will be effective.

- The first characteristics of effective documentation are objectivity and accuracy. Healthcare documentation should include objective information free of subjective judgment, bias or opinion. Healthcare documentation should also be accurate - meaning it should include information which can be measured or verified by another individual.

- Additional characteristics of effective healthcare documentation include clarity and completeness. Clarity, as it relates to healthcare documentation, may refer to a quality which enables multiple healthcare professionals to obtain meaning from recorded data and/or information relating to healthcare. Completeness, as it relates to healthcare documentation, may refer to a state where all of the necessary components and/or parts are present. Only when **c**larity and completeness are achieved can healthcare documentation be considered effective.

- Finally, the information found within healthcare documentation should be readily accessible and available to all those who require it. Thus, healthcare professionals must include accurate times and dates of healthcare administration when completing their healthcare documentation to further its effectiveness.

- ***Work to prevent medical errors*** - the term medical error may refer to a preventable adverse effect of care that may or may not be evident or causes harm to a patient.[14] In an ideal healthcare climate, medical errors would not occur - however, the simple truth of the matter is that they do. Because medical errors do occur, organizations such as the Joint Commission have developed national patient safety goals and related recommendations to help healthcare professionals prevent medical errors from occurring. Due to the importance of patient safety goals and related recommendations, healthcare professionals should possess insight into how relevant patient safety goals and related recommendations may be applied to telehealth. Specific information regarding the application of relevant patient safety goals and related recommendations to telehealth may be found below. Healthcare professionals should note that the information found below was derived from

materials provided by the CDC, the Joint Commission, and the United Sates Food and Drug Administration (FDA).[1,14,15]

Patient Identification Goal: Improve the Accuracy of Patient Identification

The rationale behind the goal - patient errors occur in virtually all stages of diagnosis and treatment. The intent for this goal is two-fold: first, to reliably identify the individual as the person for whom the service or treatment is intended; second, to match the service or treatment to that individual. Acceptable identifiers may be the individual's name, an assigned identification number, telephone number, or other person-specific identifier.

Related recommendations - to ensure the right patient receives the right treatment/healthcare, healthcare professionals should follow the following recommendations: use at least two patient identifiers when providing care, treatment, or services; use at least two patient identifiers when providing healthcare.

Communication Goal: Improve the Effectiveness of Communication Among Caregivers

The rationale behind the goal - critical results of tests and diagnostic procedures fall significantly outside the normal range and may indicate a life-threatening situation. The objective is to provide the responsible licensed caregiver these results within an established time frame so that the patient can be promptly treated. In essence, this goal was established to ensure healthcare professionals receive vital patient information in a timely manner.

Related recommendations - to ensure healthcare professionals receive vital patient information in a timely manner, healthcare professionals/healthcare organizations should adhere to the following recommendations: develop written procedures for managing the critical results of tests and diagnostic procedures; implement the procedures for managing the critical results of tests and diagnostic procedures; evaluate the timeliness of reporting the critical results of tests and diagnostic procedures.

Medication Goal: Improve the Safety of Using Medications

The rationale behind the goal - medications or other solutions in unlabeled containers are unidentifiable. Errors, sometimes tragic, have resulted from

medications and other solutions removed from their original containers and placed into unlabeled containers. This unsafe practice neglects basic principles of safe medication management, yet it is routine in many organizations. The labeling of all medications, medication containers, and other solutions is a risk-reduction activity consistent with safe medication management. This practice addresses a recognized risk point in the administration of medications in perioperative and other procedural settings (note: medication containers include syringes, medicine cups, and basins). In other words, this goal was established to ensure the right patient receives the right medication.

Related recommendations - to ensure the right patient receives the correct medication, healthcare professionals should follow the following recommendation: if a patient has a question about a specific medication when engaged in telehealth, a healthcare professional should ensure the medication in question is labeled correctly and is prescribed for the patient (e.g., the medication bottle has the patient's name on it, the medication in question is included in the patient's healthcare documentation and is listed as an active medication).

Anticoagulant Therapy Goal: Reduce the Likelihood of Patient Harm Associated with the Use of Anticoagulant Therapy

The rationale behind the goal - anticoagulation therapy can be used as therapeutic treatment for a number of conditions, the most common of which are atrial fibrillation, deep vein thrombosis, pulmonary embolism, and mechanical heart valve implant. However, it is important to note that anticoagulation medications are more likely than others to cause harm due to complex dosing, insufficient monitoring, and inconsistent patient compliance. This patient safety goal has great potential to positively impact the safety of patients on this class of medications and result in better outcomes.

To achieve better patient outcomes, patient education is a vital component of an anticoagulation therapy program. Effective anticoagulation patient education includes interaction with a trained healthcare professional who works closely with patients to be sure that they understand the risks involved with anticoagulation therapy, the precautions they need to take, and the need for regular International Normalized Ratio (INR) monitoring. The use of standardized practices for anticoagulation therapy that include patient involvement can reduce the risk of adverse drug events associated with heparin (unfractionated), low molecular weight heparin, and warfarin. Essentially, the aforementioned goal was developed to help patients receiving

anticoagulation therapy avoid adverse events related to their anticoagulation therapy.

Related recommendations - to reduce the likelihood of patient harm associated with the use of anticoagulant therapy, healthcare professionals should follow the following recommendations: use approved protocols for the initiation and maintenance of anticoagulant therapy; before starting a patient on warfarin, assess the patient's baseline coagulation status; for all patients receiving warfarin therapy, use a current International Normalized Ratio (INR) to adjust this therapy; ensure the baseline status and current INR are documented in the medical record (note: the patient's baseline coagulation status can be assessed in a number of ways, including through a laboratory test or by identifying risk factors such as age, weight, bleeding tendency, and genetic factors); use authoritative resources to manage potential food and drug interactions for patients receiving warfarin; ensure a written policy addresses baseline and ongoing laboratory tests that are required for anticoagulants; provide education regarding anticoagulant therapy to prescribers, staff, patients, and families; evaluate anticoagulation safety practices, take action to improve practices, and measure the effectiveness of those actions in a time frame determined by the organization.

In addition to the aforementioned recommendations, healthcare professionals should ensure they possess insight into anticoagulation therapy/medications to help prevent any harm to patients on such therapy. Information regarding commonly prescribed anticoagulation therapies/medications may be found in Figure 3.

Figure 3: Information Regarding Commonly Prescribed Anticoagulation Therapies/Medications15

Heparin sodium

Medication notes - Heparin sodium is an anticoagulant indicated for: prophylaxis and treatment of venous thromboembolism and pulmonary embolism, atrial fibrillation with embolization, treatment of acute and chronic consumptive coagulopathies (disseminated intravascular coagulation), prevention of clotting in arterial and cardiac surgery, prophylaxis and treatment of peripheral arterial embolism, and anticoagulant use in blood transfusions, extracorporeal circulation, and dialysis procedures. The most

common adverse reactions associated with heparin sodium include the following: hemorrhage, thrombocytopenia, heparin-induced thrombocytopenia (HIT) and heparin-induced thrombocytopenia and thrombosis (HITT), hypersensitivity reactions, and elevations of aminotransferase levels.

Safety notes - Warnings and precautions associated with heparin sodium include the following: confirm choice of correct strength prior to administration, use caution in conditions with increased risk of hemorrhage, monitor for signs and symptoms and discontinue if indicative of HIT and HITT. Contraindications associated with heparin sodium include: history of HIT and HITT, known hypersensitivity to heparin or pork products, in whom suitable blood coagulation tests cannot be performed at appropriate intervals. Healthcare professionals should note the following heparin sodium monitoring recommendation: blood coagulation tests guide therapy for full-dose heparin; monitor platelet count and hematocrit in all patients receiving heparin.

Considerations for special patient populations - Healthcare professionals should note that a higher incidence of bleeding has been reported in patients over 60 years of age.

Enoxaparin sodium injection (Lovenox)

Medication notes - Lovenox is a low molecular weight heparin (LMWH) indicated for: prophylaxis of deep vein thrombosis (DVT) in abdominal surgery, hip replacement surgery, knee replacement surgery, or medical patients with severely restricted mobility during acute illness, inpatient treatment of acute DVT with or without pulmonary embolism, outpatient treatment of acute DVT without pulmonary embolism, prophylaxis of ischemic complications of unstable angina and non-Qwave myocardial infarction [MI], and treatment of acute ST-segment elevation myocardial infarction [STEMI] managed medically or with subsequent percutaneous coronary intervention [PCI]. The most common adverse reactions associated with Lovenox include the following: bleeding, anemia, thrombocytopenia, elevation of serum aminotransferase, diarrhea, and nausea.

Safety notes - Lovenox carries the following warnings: epidural or spinal hematomas may occur in patients who are anticoagulated with LMWH or heparinoids and are receiving neuraxial anesthesia or undergoing spinal puncture; these hematomas may result in long-term or permanent paralysis; consider these risks when scheduling patients for spinal procedures; factors that can increase the risk of developing epidural or spinal hematomas in these patients include: the use of indwelling epidural catheters, concomitant use of

other drugs that affect hemostasis, such as non-steroidal anti-inflammatory drugs (NSAIDs), platelet inhibitors, other anticoagulants, a history of traumatic or repeated epidural or spinal punctures, a history of spinal deformity or spinal surgery. Monitor patients frequently for signs and symptoms of neurological impairment. If neurological compromise is noted, urgent treatment is necessary; consider the benefits and risks before neuraxial intervention in patients anticoagulated or to be anticoagulated for thromboprophylaxis. Additional warnings and precautions associated with Lovenox include: use with caution in patients at risk for bleeding, obtain hemostasis at the puncture site before sheath removal, use with caution in patients with bleeding diathesis, uncontrolled arterial hypertension or history of recent gastrointestinal ulceration, diabetic retinopathy, renal dysfunction, or hemorrhage, use with caution in patients with a history of HIT, monitor thrombocytopenia closely, do not exchange with heparin or other LMWHs, and pregnant women with mechanical prosthetic heart valves and their fetuses, may be at increased risk and may need more frequent monitoring and dosage adjustment. Contraindications associated with Lovenox include: active major bleeding, thrombocytopenia with a positive in vitro test for anti-platelet antibody in the presence of enoxaparin sodium, hypersensitivity to enoxaparin sodium, hypersensitivity to heparin or pork products, hypersensitivity to benzyl alcohol (for multi-dose formulation only).

Considerations for special patient populations - Healthcare professionals should note the following: doses of Lovenox should be adjusted for patients with creatinine clearance <30mL/min.

Warfarin (Coumadin)

Medication notes - Coumadin is a vitamin K antagonist indicated for the following: prophylaxis and treatment of venous thrombosis and its extension, pulmonary embolism; prophylaxis and treatment of thromboembolic complications associated with atrial fibrillation and/or cardiac valve replacement; reduction in the risk of death, recurrent myocardial infarction, and thromboembolic events such as stroke or systemic embolization after myocardial infarction. The most common adverse reactions associated with Coumadin are fatal and nonfatal hemorrhage from any tissue or organ.

Safety notes - Warnings associated with Coumadin include the following: Coumadin can cause major or fatal bleeding; perform regular monitoring of INR in all treated patients; drugs, dietary changes, and other factors affect INR levels achieved with Coumadin therapy; instruct patients about prevention

measures to minimize risk of bleeding and to report signs and symptoms of bleeding. Contraindications associated with Coumadin include the following: pregnancy, except in women with mechanical heart valves; hemorrhagic tendencies or blood dyscrasias. Healthcare professionals should note the following Coumadin monitoring recommendation: obtain daily INR determinations upon initiation until stable in the therapeutic range; obtain subsequent INR determinations every one to four weeks.

Considerations for special patient populations - Use with caution in a nursing woman; monitor breast-feeding infants for bruising or bleeding.

Apixaban (Eliquis)

Medication notes - Eliquis is a factor Xa inhibitor anticoagulant indicated to reduce the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation. The most common adverse reactions associated with Eliquis are related to bleeding.

Safety notes - Warnings associated with Eliquis include the following: discontinuing Eliquis places patients at an increased risk of thrombotic events; an increased rate of stroke was observed following discontinuation of Eliquis in clinical trials in patients with nonvalvular atrial fibrillation; if anticoagulation with Eliquis must be discontinued for a reason other than pathological bleeding, coverage with another anticoagulant should be strongly considered. Contraindications associated with Eliquis include active pathological bleeding and severe hypersensitivity to Eliquis.

Considerations for special patient populations - Healthcare professionals should note the following recommendations: the use of Eliquis is not recommended in pregnant patients or in patients with severe hepatic impairment; discontinue Eliquis or discontinue nursing.

Medication Information Goal: Maintain and Communicate Accurate Patient Medication Information

The rationale behind the goal - there is evidence that medication discrepancies can affect patient outcomes. Medication reconciliation is intended to identify and resolve discrepancies - it is a process of comparing the medications a patient is taking (and should be taking) with newly ordered medications. The comparison addresses duplications, omissions, and interactions, and the need to continue current medications. The types of information that clinicians use to reconcile medications include (among others)

medication name, dose, frequency, route, and purpose. Organizations should identify the information that needs to be collected to reconcile current and newly ordered medications and to safely prescribe medications in the future.

Related recommendations - to achieve the medication information goal when engaging in telehealth, healthcare professionals should follow the following recommendations: obtain information on the medications the patient is currently taking, when applicable; accurately document patient medication information, when applicable; provide patients (or family as needed) with information regarding relevant medications.

Alarm Systems Goal: Reduce the Harm Associated with Clinical Alarm Systems

The rationale behind the goal - clinical alarm systems are intended to alert caregivers of potential patient problems, but if they are not properly managed, they can compromise patient safety. This is a multifaceted problem. In some situations, individual alarm signals are difficult to detect. At the same time, many patient care areas have numerous alarm signals and the resulting noise and displayed information tends to desensitize staff and cause them to miss or ignore alarm signals or even disable them. Other issues associated with effective clinical alarm system management include too many devices with alarms, default settings that are not at an actionable level, and alarm limits that are too narrow. These issues vary greatly among healthcare organizations.

There is general agreement that this is an important safety issue. Universal solutions have yet to be identified, but it is important for a healthcare organization to understand its own situation and to develop a systematic, coordinated approach to clinical alarm system management. Standardization contributes to safe alarm system management, but it is recognized that solutions may have to be customized for specific clinical units, groups of patients, individual patients and/or the application of telehealth.

Related recommendations - to help achieve this goal, healthcare professionals and healthcare organizations should follow the following recommendations: improve the safety of clinical alarm systems; leaders establish alarm system safety as a priority; identify the most important alarm signals to manage; establish policies and procedures for managing alarms; educate staff and licensed independent practitioners about the purpose and proper operation of alarm systems for which they are responsible.

Healthcare-Associated Infections Goal: Reduce the Risk of Healthcare-Associated Infections

The rationale behind the goal - according to the Centers for Disease Control and Prevention, each year, millions of people acquire an infection while receiving care, treatment, and services in a healthcare organization. Consequently, healthcare-associated infections (HAIs) are a patient safety issue affecting all types of healthcare organizations. Some of the most important ways to address HAIs include improving hand hygiene of healthcare staff, improving hand hygiene awareness, and by promoting adequate infection control.

Related recommendations - to help achieve the previous goal, healthcare professionals and healthcare organizations should follow the following recommendations: set goals for improving compliance with hand hygiene guidelines; improve compliance with hand hygiene guidelines based on established goals; promoting adequate infection control when applying telehealth to patient care.

Surgical Site Infection Goal: Prevent Surgical Site Infections

The rationale behind the goal - surgical site infections can lead to increased patient morbidity and mortality rates - thus, healthcare professionals and healthcare organizations should make attempts to prevent surgical site infections whenever possible.

Related recommendations - to help achieve the aforementioned goal, healthcare professionals and healthcare organizations should follow the following recommendations: educate staff and licensed independent practitioners involved in surgical procedures about surgical site infections and the importance of prevention; educate patients, and their families as needed, who are undergoing a surgical procedure about surgical site infection prevention; implement policies and practices aimed at reducing the risk of surgical site infections; measure surgical site infection rates for the first 30 or 90 days following surgical procedures based on National Healthcare Safety Network (NHSN) procedural codes; provide process and outcome (for example, surgical site infection rate) measure results to key stakeholders; administer antimicrobial agents for prophylaxis for a particular procedure or disease according to methods cited in scientific literature or endorsed by professional organizations; promote surgical site infection prevention via telehealth.

Safety Risk Goal: The Healthcare Organization Identifies Safety Risks Inherent in its Patient Population

The rationale behind the goal - the suicide of a patient while in a traditional in-person healthcare setting is a frequently reported type of sentinel event (sentinel event may refer to an unanticipated event in a healthcare setting that results in death or serious physical or psychological injury to a patient(s), not related to the natural course of the patient's illness). Therefore, healthcare professionals should work to identify patients that may at risk for suicide when delivering telehealth. Healthcare professionals should note the following: identification of individuals at risk for suicide while under the care of or following discharge from a healthcare organization is an important step in protecting these at-risk individuals.

Related recommendations - to help achieve this goal, healthcare professionals and healthcare organizations should follow the following recommendations: identify patients at risk for suicide; conduct a risk assessment that identifies specific patient characteristics and environmental features that may increase or decrease the risk for suicide; address the patient's immediate safety needs and most appropriate setting for treatment; when a patient at risk for suicide leaves the care of a healthcare organizations, provide suicide prevention information (such as a crisis hotline) to the patient and his or her family.

Procedure Verification Goal: Procedure Verification

The rationale behind the goal - when providing patient care via telehealth, healthcare professionals should consider verifying upcoming, scheduled patient procedures, when applicable. When attempting to reach this goal, healthcare professionals should verify that any upcoming, scheduled patient procedures are required and that the procedure is performed on the right person. Healthcare professionals should note that the frequency and scope of the verification process will depend on the type and complexity of the patient procedure. Healthcare professionals should also note that they may be asked or required to participate in a verification process via telehealth.

Related recommendations - to help achieve the aforementioned goal, healthcare professionals and healthcare organizations should follow the following recommendations: conduct a preprocedure verification process; implement a preprocedure process to verify the correct procedure, for the correct patient, at the correct site; identify the items that must be available

for the procedure and use a standardized list to verify their availability; promote procedure verification via telehealth.

Time Out Goal: A Time-Out is Performed Before the Procedure

The rationale behind the goal - the purpose of the time-out is to conduct a final assessment that the correct patient, site, and procedure are identified. This requirement focuses on those minimum features of the time-out. Some believe that it is important to conduct the time-out before a patient procedure for several reasons, including involvement of the patient. During a time-out, activities are suspended to the extent possible so that healthcare professionals can focus on active confirmation of the patient, site, and procedure. Healthcare professionals should note that this goal is often applied in the traditional in-person healthcare capacity. However, the overall concepts of the goal may be applied to telehealth. For example, a healthcare professional may take a time-out before providing patient care via telehealth to ensure he or she has the right healthcare information for the right patient (i.e., specific healthcare information matches a specific patient).

Related recommendations - to help achieve the aforementioned goal, healthcare professionals should take a time-out before providing patient care via telehealth to ensure they have the right healthcare information for the right patient.

- ***Healthcare professionals should report potential patient safety issues that may warrant investigation to appropriate individuals associated with their healthcare organizations*** - during the delivery of telehealth services a patient-related incident may occur that warrants investigation. If such an incident occurs healthcare professionals should report it to the relevant representatives of their affiliated healthcare organizations. With that said, in order for healthcare professional reporting to be effective, healthcare organizations must have internal channels for such reporting. Healthcare professionals should be familiar with their associated healthcare organizations' methods for patient safety reporting. If no such channels exist, healthcare professionals should consider approaching representatives of their healthcare organizations that may be able to help develop such channels. Healthcare professionals should note the following: reporting potential patient safety issues may help healthcare professionals, their peers, and their associated healthcare organizations avoid incidents that could potentially lead to inadequate telehealth services and/or inadequate patient care.

- ***Consider working with a patient safety organization*** - healthcare professionals should consider reporting and sharing patient safety information with Patient Safety Organizations (PSOs) to help others avoid preventable errors. By providing both privilege and confidentiality, PSOs create a secure environment where clinicians and healthcare organizations can use common formats to collect, aggregate, and analyze data that can improve quality by identifying and reducing the risks and hazards associated with patient care and/or the application of telehealth.[1,5]
- ***Healthcare professionals should not use any patient information/health-related information on any form of social media*** - the term social media may refer to any electronically driven application that enables individuals to create and share content for the purposes of virtual communication.[5] When considering the use of health-related information on social media channels, healthcare professionals should always remember that HIPAA regulations relate to the use of social media. Essentially, HIPAA regulations prohibit the use of protected health information (PHI) on any form of social media (i.e., healthcare professionals should not use PHI on Facebook, Twitter, Snapchat or any other form of social media).[5] As a result, healthcare professionals should never share any individually identifiable health information, that may link an individual patient to the healthcare system in any way, on social media. Healthcare professionals should note the following: individually identifiable health information is information, including demographic data, that relates to the following - an individual's past, present or future physical or mental health or condition, the provision of healthcare to an individual, or the past, present, or future payment for the provision of healthcare to the individual, and that identifies the individual or for which there is a reasonable basis to believe it can be used to identify the individual; individually identifiable health information is information that may be used to identify an individual and their relationship to the healthcare system.[5] Healthcare professionals should also note that examples of individually identifiable health information may include patients': names, birth dates, home addresses, and Social Security Numbers.[5]
- ***Healthcare professionals should not use any patient images collected via telehealth technologies on any form of social media*** - to build on the previous recommendation, healthcare professionals should not use any patient images collected via telehealth technologies on any form of social media. As previously indicated, healthcare professionals should not use any information that may link an individual to the healthcare system - that includes pictures of patients. Individuals may be identified in pictures and then eventually linked to the healthcare system, thus, healthcare professionals should avoid using any patient picture on social media.

- ***Healthcare professionals should not use health-related information about rare diseases or rare injuries, collected via telehealth, on social media*** - it is important for healthcare professionals to avoid using health-related information about rare diseases or rare injuries on social media. Essentially, health-related information about rare diseases or rare injuries could link a specific individual to the healthcare system, even if the health-related details do not include any individually identifiable health information.
- ***Healthcare professionals should consider the repercussions for violating HIPAA regulations before they use health-related information on social media*** - violations of HIPAA regulations could result in disciplinary actions for healthcare professionals. Disciplinary actions for HIPAA violations could range from formal reprimands, to termination, to fines, and even jail time.[5] Healthcare professionals should consider those possibilities before they use health-related information on social media - doing so, could help prevent a healthcare professional from violating HIPAA regulations, and experiencing the negative repercussions that may follow such a violation. In essence, healthcare professionals should ask themselves the following question before using any form of social media: is the use of health-related information on social media worth jeopardizing my career? If the answer is no to the previous question, then maybe healthcare professionals should not proceed to use such information on social media.
- ***Healthcare professionals should make attempts to continue their healthcare education and remain up to date on relevant telehealth topics*** - healthcare information is always being updated. Thus, healthcare professionals should pursue opportunities to further their education. Remaining up to date on relevant telehealth-related topics can help healthcare professionals in their daily practice and can further their understanding of how to provide safe and effective healthcare when engaging in telehealth.

Section 2: Summary

It is important for healthcare professionals to possess insight into telehealth. It is also important for healthcare professionals to understand how to utilize telehealth in a manner which promotes the safe and effective administration of healthcare. Fortunately, for healthcare professionals, telehealth recommendations have been developed to help them promote the safe and effective administration of healthcare. Such recommendations include the following: healthcare professionals should be familiar with the various technologies that may be used to support the delivery of telehealth, healthcare professionals should be familiar with the different categories of telehealth, healthcare professionals should determine a patient's capacity to

receive healthcare via telehealth, healthcare professionals should identify patients that may have special needs and/or requirements, healthcare professionals should follow state laws regarding telehealth, healthcare professionals should follow federal laws regarding telehealth, healthcare professionals should uphold the ethic principles of healthcare when applying telehealth to patient care, healthcare professionals should adhere to their healthcare organizations' telehealth-related policies and procedures, healthcare professionals should adhere to their related scopes of practice when applying telehealth to patient care, healthcare professionals should adhere to relevant standards of practice when applying telehealth to patient care, healthcare professionals should obtain informed consent from a patient, when applicable, healthcare professionals should foster effective communication when engaging in telehealth, healthcare professionals should work to avoid miscommunication when engaging in telehealth, healthcare professionals should engage in active listening when applying telehealth to patient care, actively observe patient and patient behavior, when applicable, complete effective healthcare documentation, when applicable, work to prevent medical errors, healthcare professionals should report potential patient safety issues that may warrant investigation to appropriate individuals associated with their healthcare organizations, consider working with a patient safety organization, healthcare professionals should not use any patient information/health-related information on any form of social media, healthcare professionals should not use any patient images collected via telehealth technologies on any form of social media, healthcare professionals should not use health-related information about rare diseases or rare injuries collected via telehealth on social media, healthcare professionals should consider the repercussions for violating HIPAA regulations before they use health-related information on social media, and healthcare professionals should make attempts to continue their healthcare education and remain up to date on relevant telehealth topics.

Finally, healthcare professionals should note the following: healthcare professionals should work in tandem with their healthcare organizations to promote the safe and effective administration of health to patients via telehealth.

Section 2: Key Concepts

- It is important for healthcare professionals to understand how to utilize telehealth in a manner which promotes the safe and effective administration of healthcare.
- Healthcare professionals can help promotes the safe and effective administration of healthcare when utilizing telehealth by following related recommendations.

Section 2: Key Terms

Patient autonomy - a patient's right to make decisions regarding his or her own personal healthcare; a patient's right to determine the course of his or her healthcare without outside influence[7]

Beneficence (as it relates to healthcare) - the act of doing what is best for the patient; acting in a manner that promotes patients' health[7]

Nonmaleficence (as it relates to healthcare) - inflicting no harm; do no harm; inflicting the least amount of harm as possible to achieve a beneficial outcome[7]

Justice (as it relates to healthcare) - the fair and legal allocation of healthcare resources to patients[7]

Scope of practice - a description of services qualified healthcare professionals are deemed competent to perform and permitted to undertake under the terms of their professional license[8]

Standards of practice - the authoritative statements of duties that all healthcare professionals, regardless of role, population or specialty are expected to perform competently[9]

Informed consent - the process by which a healthcare professional obtains permission, from a patient, to conduct a healthcare intervention on a patient[10]

Miscommunication - the inadequate transmission of information or messages between two or more individuals[11,12]

Active listening - the process in which a healthcare professional gathers information from a patient by engaging in a style of two-way communication which fosters a clear and mutual understanding of information[13]

Healthcare documentation - a digital or an analog record detailing the administration of healthcare to patients[1,14]

Clarity (as it relates to healthcare documentation) - a quality which enables multiple healthcare professionals to obtain meaning from recorded data and/or information relating to healthcare

Completeness (as it relates to healthcare documentation) - a state where all of the necessary components and/or parts are present

Medical error - a preventable adverse effect of care that may or may not be evident or causes harm to a patient[14]

Medication reconciliation - is a process of comparing the medications a patient is taking (and should be taking) with newly ordered medications[14]

Sentinel event - to an unanticipated event in a healthcare setting that results in death or serious physical or psychological injury to a patient(s), not related to the natural course of the patient's illness[14]

Social media - any electronically driven application that enables individuals to create and share content for the purposes of virtual communication[5]

Section 2: Personal Reflection Question

How can healthcare professionals apply the above recommendations to patient care via telehealth and the promotion of safe and effective healthcare?

Section 3: The Application of Telehealth

As previously alluded to, telehealth may be beneficial to patient care. The potential benefits of telehealth include: telehealth has the potential to reach more individuals compared to traditional in-person programs, patient convenience, may be used to help prevent patient exposure to infectious diseases, timely access to locally unavailable healthcare services, increased communication, allows for real-time interactions between patients and healthcare professionals, allows for the transmission of recorded health information (e.g., an x-ray or prerecorded video), allows for remote patient monitoring, allows access to mobile health, patient prescriptions may be ordered via telehealth technologies, potential reductions in healthcare costs, improved patient outcomes, and improved patient satisfaction. Beyond those aforementioned potential benefits of telehealth, evidence suggests that telehealth may be beneficial to patients when applied to specific disease states, healthcare education programs, and healthcare-related emergencies. With that in mind, this section of the course will review the application of telehealth to specific disease state management programs, healthcare education programs, and healthcare-related emergencies.

Diabetes

Research indicates that telehealth can be beneficial when applied to diabetes management, especially when used to increase participation in diabetes self-management education and support (DSMES) programs.[1] Diabetes self-management education and support (DSMES) programs may refer to services that help individuals manage their diabetes.[1] DSMES services help individuals manage their diabetes by

providing education and support centered around the following vital areas of diabetes management: eating healthy, being active, checking blood sugar, taking medicines, and handling stress.[1]

Evidence presented by the CDC suggests that DSMES programs can improve healthcare outcomes, reduce diabetes complications and can be cost-effective or cost-saving for employers, insurers, and the US healthcare system.[1]

Evidence presented by the CDC also suggests that the application of telehealth to DSMES programs may help increase patient participation (i.e., telehealth-related DSMES programs possesses the potential to reach more patients with diabetes than traditional in-person-related programs).[1]

When developing and establishing telehealth-related DSMES programs, healthcare professionals should consider the steps highlighted below. The information found below was derived from materials provided by the CDC.[1]

- ***Assess service needs and the environment*** - identify and document the need for a telehealth-related DSMES program and identify specific needs for the community or region of interest. Healthcare professionals should note the following: surveys or key informant interviews with community coalitions, lifestyle coaches, and other stakeholders can be useful when assessing service needs and the environment for DSMES programs.
- ***Define the DSMES program model*** - define the services, population, and setting of the telehealth-related DSMES program. Healthcare professionals should note the following: tailoring DSMES programs to the cultural needs of the community it will serve is an essential element of defining the DSMES program model.
- ***Develop the business case*** - determine if there is a market for the proposed DSMES program and a mechanism for payment. Healthcare professionals should note that this step is critical when planning for the long-term sustainability of a DSMES program.
- ***Determine whether any state laws are applicable to the reimbursement of diabetes prevention or diabetes self-management education and support services via telehealth*** - healthcare professionals should determine whether applicable state laws specify which telehealth technologies are reimbursable. Healthcare professionals should note that this step can be important to the sustainability and overall success of a DSMES program.

- ***Locate telehealth resource centers*** - healthcare professionals should note that regional telehealth resource centers may be available and able to help healthcare professionals understand how state-specific laws might impact reimbursement for programs and services delivered via telehealth.

- ***Develop and plan the DSMES program and relevant technology*** - finally, healthcare professionals should use all of the information collected in the prior steps to create a plan that details all the areas that require work during the implementation of the telehealth-related DSMES program. Healthcare professionals should note the following: as part of the planning, healthcare professionals should consider relevant state and federal laws, such as HIPAA, as well as telehealth technologies that meet DSMES program needs.

Heart Disease and Stroke

Research indicates that telehealth can be beneficial when applied to heart disease and stroke management.[1] Healthcare professional should note that the CDC's Division for Heart Disease and Stroke Prevention promotes the use of telehealth as a way to reduce heart disease and stroke risk factors.[1] Healthcare professional should also note that the CDC presents information indicating that telehealth may be an effective means to increase patient participation in cardiac rehabilitation programs.[1] A cardiac rehabilitation program may refer to a cardiac event prevention program, which typically occurs in an outpatient capacity.[1] Often, cardiac rehabilitation programs are designed to help patients improve their heart health after a cardiac event or procedure and prevent future events.[1]

Evidence has shown that the safety and effectiveness of home-based cardiac rehabilitation is equal to the care delivered in healthcare facilities.[1] Thus, healthcare professionals are beginning to implement telehealth in cardiac rehabilitation programs. When developing and implementing telehealth in cardiac rehabilitation programs, healthcare professionals should consider the related areas found below. The information found below was derived from materials presented by the CDC.[1]

- ***Systems change*** - when considering healthcare system changes, healthcare professionals should determine methods of establishing foundations for effective cardiac rehabilitation utilization efforts and the best places on which to focus initial telehealth efforts.

- ***Referrals*** - when considering patient referrals, healthcare professionals should identify approaches aimed at bolstering cardiac rehabilitation patient referrals.

- ***Enrollment and participation*** - healthcare professionals should list strategies that health systems can use to encourage enrollment and participation in cardiac rehabilitation. Healthcare professionals should note that examples of such strategies include the following: various modes of patient education and engagement and different ways in which cardiac rehabilitation programs can be modified to better accommodate patient needs and preferences.
- ***Adherence*** - healthcare professionals should develop strategies to encourage patient adherence to cardiac rehabilitation programs.
- ***Prospective patient populations*** - healthcare professionals should examine patient case studies from specific cardiac rehabilitation programs to establish a foundation for prospective patient populations.
- ***Program-specific tools*** - healthcare professionals should identify tangible resources that have been implemented by other cardiac rehabilitation programs to identify what program-specific tools are required for the long-term sustainability and success of their cardiac rehabilitation program.
- ***Organization-specific tools*** - finally, healthcare professionals should identify resources from clinical and public health organizations that support cardiac rehabilitation.

Epilepsy

Information provided by the CDC indicates the following: individuals with epilepsy (a brain disorder that causes seizures) benefit from regular care from a healthcare professional; however, individuals with epilepsy are more likely to report a lack of access and accessibility to required healthcare professionals due to transportation issues and geographic location; thus, telehealth services may be beneficial to individuals with epilepsy (i.e., telehealth may be an adequate means to provide individuals with access to the healthcare professionals and healthcare they require to effectively manage their epilepsy).[1] With that said, fortunately, there are telehealth-related programs currently available to help individuals manage their epilepsy and related conditions. Examples of such programs may be found below. The information found below was derived from materials provided by the CDC.[1]

- ***Project Using Practice and Learning to Increase Favorable Thoughts (UPLIFT)*** - Project UPLIFT is a program delivered entirely by phone that was designed to significantly reduce and prevents depressive symptoms in adults with epilepsy. Healthcare professionals should note the following: UPLIFT has been piloted in approximately nine states; reductions in depressive symptoms among UPLIFT participants have been observed.

- ***Home-Based Self-Management and Cognitive Training Changes Lives*** - Home-Based Self-Management and Cognitive Training Changes Lives is an evidence-based program, delivered primarily by phone, that is shown to improve memory and quality of life in adults with epilepsy and memory problems.

Healthcare professionals should note the following: when developing telehealth services for epilepsy, healthcare professionals should consider the key elements of epileptic care which include: seizure education, medication education, medication adherence education, seizure record keeping, sleep recommendations, exercise recommendations, nutrition, ways to avoid triggers, ways to reduce stress, ways to manage the emotional complications of epilepsy, and strategies to help with the memory problems associated with epilepsy.[1]

Tobacco Cessation

Both the CDC and the American Lung Association present information indicating that telehealth may be useful in tobacco cessation programs to reach individuals who are ready to quit smoking or using nicotine products (i.e., telehealth may be an adequate means to provide individuals with access to tobacco cessation programs).[1,16]

Healthcare professionals should note the following: when developing telehealth services for tobacco cessation programs, healthcare professionals should consider the key elements of tobacco cessation which may include the following: the 5**A**'s of tobacco cessation, behavioral interventions, access to support groups, and information regarding medications for smoking cessation.[1,16] Specific information regarding the aforementioned key elements of tobacco cessation may be found below. The information found below was derived from materials provided by the CDC and the American Lung Association.[1,16]

- ***The 5A's of tobacco cessation*** - the 5**A**'s of tobacco cessation include the following: **A**sk every individual/patient about tobacco use, **A**dvise every tobacco user to quit, **A**ssess the willingness of a tobacco user to quit smoking/ make a quite attempt within 30 days, **A**ssist a tobacco user with his or her plan to quit, **A**rrange a follow-up with the tobacco user to promote quitting the use of tobacco.

- ***Behavioral interventions*** - behavioral interventions for tobacco cessation include a variety of behavior treatment strategies such as cognitive behavioral therapy. Cognitive behavioral therapy may refer to a form of psychotherapy which focuses on helping individuals solve problems and create positive

outcomes by changing unrealistically negative patterns of thought and behavior. In other words, cognitive behavioral therapy works to identify unrealistically negative thoughts and their relationship to negative behavior patterns and outcomes in order to develop constitutive ways of thinking that will ultimately lead to more positive behavior patterns and outcomes.

- ***Access to support groups*** - support groups may also be used as a therapeutic option for those individuals engaged in tobacco cessation programs. Support groups can be used to help individuals avoid isolation and make connections with other individuals to improve upon their tobacco cessation program experience as well as their health, overall well-being and quality of life. Healthcare professionals should be aware that various types of support groups exist and that an individual may participate in one or more support group at a time.

- ***Medications for smoking cessation*** - medications for smoking cessation include the following: nicotine gum, lozenges, patches, and nasal spray as well as bupropion and varenicline. Information regarding medications for smoking cessation should be provided to patients, when applicable.

Breastfeeding Support

Breastfeeding support/education programs may also benefit from telehealth. Breastfeeding support may refer to any effort made to assist, guide and/or facilitate breastfeeding.[1,2] Breastfeeding support can be essential to the healthcare of new mothers and infants. Research indicates the following: breastfeeding is recognized as the best source of nutrition for most infants; breastfeeding often results in improved infant health outcomes; breastfeeding can help lower mothers' risk of high blood pressure, type 2 diabetes, ovarian cancer, and breast cancer; breastfeeding can help women lose weight; breastfeeding may help a mother's uterus return to its pre-pregnancy size; breastfeeding may have positive psychological effects for new mothers (i.e., evidence suggests that breastfeeding may help mothers bond with their infants, which in turn can help mothers avoid any anxiety or postpartum depression associated with giving birth).[1,2] Therefore, healthcare professionals should make efforts to provide breastfeeding support to new parents. Unfortunately, some new parents may not be able to receive breastfeeding support in the traditional in-person capacity. Thus, telehealth may be a viable option to provide breastfeeding support to those individuals who may not be able to receive breastfeeding support in the traditional in-person capacity.

Healthcare professionals should note the following: when developing telehealth services for breastfeeding support, healthcare professionals should consider the key

elements of breastfeeding support which include: the breastfeeding mother's diet, signs an infant is receiving enough breast milk, breast pumps, breast milk storage, and obstacles to breastfeeding.[1,2] Specific information regarding the aforementioned key elements of breastfeeding support may be found below. The information found below was derived from materials provided by the CDC, the WHO, and the American Academy of Pediatrics. [1,2,17]

- ***Breastfeeding mother's diet*** - a healthy diet for mothers during breastfeeding is important to support the health of both the mother and the infant; breastfeeding mothers typically require more calories to meet their nutritional needs while breastfeeding; an additional 450 to 500 kilocalories (kcal) of healthy food calories per day is recommended for well-nourished breastfeeding mothers; typically, women do not need to limit or avoid specific foods while breastfeeding.

- ***Signs an infant is receiving enough breast milk*** - some of the more widely accepted signs that an infant is receiving enough breast milk include the following: the child passes clear/pale yellow urine (i.e., a child passing mostly clear/pale yellow urine can be an apparent sign that a child is receiving enough breast milk; in essence, the clear/pale yellow urine can be an indication that a child is hydrated and well nourished); the child is producing consistent bowel movements; consistent sleep patterns (i.e., a child receiving enough breast milk should switch between short sleep periods and wakeful, alert periods); the child appears content after breastfeeding; the breasts feel different after breastfeeding is complete (i.e., if the child received enough breast milk, the individual breastfeeding should notice that the breast(s) feels different and/or softer).

- ***Breast pumps*** - breast pumps may play an important role in breastfeeding. The term breast pump may refer to any device designed and used for the removal of milk from a woman's breast. Individuals should know how to use and clean a breast pump.

- ***Breast milk storage*** - breast milk storage may play an important role in breastfeeding, especially for those individuals providing expressed breast milk to infants (expressed breast milk may refer to milk that has been removed from the breast(s)). Healthcare professionals may consider reviewing the following counseling points when discussing the storage of breast milk with patients and/or other individuals: freshly expressed breast milk may be stored at room temperature for up to four hours; freshly expressed breast milk may be stored in the refrigerator for up to four days; freshly expressed breast milk

may be stored in the freezer for up to 12 months, although frozen breast milk is best six months after freezing; when storing breast milk individuals should use breast milk storage bags or clean food-grade containers with tight fitting lids made of glass or plastic to store expressed breast milk; individuals should never store breast milk in disposable bottle liners or plastic bags that are not intended for storing breast milk; individuals should not store breast milk in the door of the refrigerator or freezer due to the potential for temperature changes when the refrigerator/freezer door is opened; if freshly expressed breast milk will not be used within four hours of removal from the breast, it should be frozen right away to help to protect the quality of the breast milk; individuals should use breast milk within 24 hours of thawing in the refrigerator.

- ***Obstacles to breastfeeding*** - for many individuals the breastfeeding process will be enjoyable and free of obstacles. However, breastfeeding is not without its potential difficulties. Therefore, a portion of breastfeeding support should focus on the potential obstacles associated with breastfeeding and strategies to overcome such obstacles. Examples of the potential obstacles associated with breastfeeding include: an insufficient breast milk supply, an oversupply of breast milk, breast engorgement, plugged ducts, sore nipples, breast infections, and infant jaundice, gastroesophageal reflux disease (GERD), colic (the term colic may refer to periods of frequent and/or prolonged distress from an otherwise healthy infant). Examples of strategies to overcome such obstacles include the following: to overcome an insufficient breast milk supply mothers should remember that the more often the breasts are emptied, the more milk they will produce; to overcome an oversupply of breast milk, a woman may remove excess breast milk by hand or by breast pump; to overcome breast engorgement, women may remove breast milk by hand or with a breast pump (healthcare professionals should note the following regarding breast engorgement: women can prevent breast engorgement by breastfeeding often after giving birth); to overcome plugged ducts, women should breastfeed on the affected side every two hours to help loosen the plug and keep breast milk flowing; to overcome sore nipples, women should change positions or breastfeeding holds each time they breastfeed; to overcome breast infections, women should note the following: breast infections may require healthcare treatment, women should seek healthcare if both breasts are affected and/or they observe pus or blood in their breast milk; to overcome obstacles centered around infant jaundice, women should note the following: jaundice can occur early on in an infant's life, jaundice may develop if an infant does not get enough breast milk, jaundice is typically not harmful,

more frequent breastfeeding can help clear up jaundice; to overcome obstacles centered around infant GERD, women should note that it is important for a woman to continue breastfeeding even if an infant exhibits signs of GERD; and, finally, to overcome obstacles centered around infant colic, women should note that infant colic may be caused by a breastfeeding woman's diet and dietary changes, such as limiting caffeine, can help alleviate colic.

Nutrition

Telehealth may be useful in providing nutrition education programs and support to individuals in need. Examples of the type of information that may be expressed via telehealth nutrition education/support programs may be found below. The information found below was derived from materials provided by the U. S. government.[18]

- ***Follow a healthy eating pattern across the lifespan*** - all food and beverage choices matter; choose a healthy eating pattern at an appropriate calorie level to help achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of chronic disease.
- ***Focus on variety, nutrient density, and amount*** - to meet nutrient needs within calorie limits, choose a variety of nutrient-dense foods across and within all food groups in recommended amounts.
- Limit calories from added sugars and saturated fats and reduce sodium intake - consume an eating pattern low in added sugars, saturated fats, and sodium; cut back on foods and beverages higher in these components to amounts that fit within healthy eating patterns.
- ***Shift to healthier food and beverage choices*** - choose nutrient-dense foods and beverages across and within all food groups in place of less healthy choices; consider cultural and personal preferences to make these shifts easier to accomplish and maintain.
- ***Support healthy eating patterns for all*** - everyone has a role in helping to create and support healthy eating patterns in multiple settings nationwide, from home to school to work to communities.
- Individuals should consume a healthy eating pattern that accounts for all foods and beverages within an appropriate calorie level.

- A healthy eating pattern includes: a variety of vegetables from all of the subgroups, fruits, especially whole fruits, grains, at least half of which are whole grains, fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages, a variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), and nuts, seeds, and soy products, and oils.
- A healthy eating pattern limits saturated fats and trans fats, added sugars, and sodium.
- Individuals should consume less than 10 percent of calories per day from added sugars.
- Individuals should consume less than 10 percent of calories per day from saturated fats.
- Individuals should consume less than 2,300 milligrams (mg) per day of sodium.

Opioid Education

The current opioid epidemic as well as opioid-involved drug overdose deaths have been growing concerns in the U.S. for several decades.[1] The CDC identified several strategies to address the opioid and opioid overdose epidemic, including the following: increased availability of and access to medication-assisted treatment, guidance on safer opioid prescribing practices, and opioid education programs.[1] Telehealth offers the potential for increasing access and availability to the aforementioned strategies. Telehealth also offers the potential for increasing patient participation in opioid education programs. Specific information regarding the current opioid epidemic may be found below. The information found below was derived from material provided b the CDC.[1]

- The CDC reports that approximately 68% of the more than 70,200 drug overdose deaths in 2017 involved an opioid.
- The CDC reports that in 2017, the number of overdose deaths involving opioids (including prescription opioids and illegal opioids like heroin and illicitly manufactured fentanyl) was six times higher than in 1999.
- According to the CDC, on average, 130 Americans die every day from an opioid overdose.
- Evidence suggests that the recent rise in opioid overdose deaths can be attributed to an increase in the use of prescription opioids, heroin, and illicitly-manufactured fentanyl.

- Evidence suggests that more than 191 million opioid prescriptions were dispensed to American patients in 2017.
- Healthcare professionals should note the most common drugs involved in prescription opioid overdose deaths include: methadone, oxycodone, and hydrocodone.
- Healthcare professionals should note heroin is an illegal, highly addictive opioid drug; a heroin overdose can cause slow and shallow breathing, coma, and death.
- Evidence suggests the following: between 2010 and 2017, the rate of heroin-related overdose deaths increased by almost 400%.
- Healthcare professionals should note the following: pharmaceutical fentanyl is a synthetic opioid pain reliever, approved for treating severe pain, typically advanced cancer pain; fentanyl is 50 to 100 times more potent than morphine; fentanyl is prescribed in the form of transdermal patches or lozenges and can be diverted for misuse and abuse.
- Evidence suggests that the most recent cases of fentanyl-related harm, overdose, and death in the U.S. are linked to illegally made fentanyl.
- According to information provided by the CDC, overdose deaths involving synthetic opioids other than methadone, which includes fentanyl, increased by almost 50% from 2016 to 2017; roughly about 30,000 people died from overdoses involving synthetic opioids other than methadone in 2017.
- Evidence suggests that the rise in fentanyl-related deaths may be due to the increased availability of illegally made, non-pharmaceutical fentanyl.
- Healthcare professionals should note the following: evidence suggests that the best ways to prevent opioid overdose deaths are to improve opioid prescribing, reduce exposure to opioids, prevent misuse, and treat opioid use disorder.
- Healthcare professionals should be aware of the following signs of an opioid overdose: constricted pupils, loss of consciousness, slow, shallow breathing, choking sounds, limp body, and pale, blue, or cold skin.
- Healthcare professionals should note that the medication naloxone, an opioid antagonist, may be used for the emergency treatment of a known or suspected opioid overdose.

- Healthcare professionals should note that naloxone may be used to reverse the life-threatening respiratory depression associated with an opioid overdose.
- Healthcare professionals should note that a variety of naloxone products (nasal spray, injection, auto-injection) are available to respond to a potential opioid overdose.
- Healthcare professionals may be called upon to administer naloxone in cases of a known or suspected opioid overdose.

Bioterrorism

Bioterrorism is a very real possibility in today's global climate. Bioterrorism can refer to any act involving the intentional release of toxic biological agents to further personal or political agendas.[1,19] Bioterrorism attacks may occur without warning and can lead to disruptions, disturbances and outright chaos. Moreover, a bioterrorism attack may lead to mass infection, disease and serious, life-threatening conditions. As a result, healthcare, healthcare education programs, and healthcare support are often required during a healthcare emergency such as a bioterrorism attack. Unfortunately, local areas may be cut off from essential healthcare, healthcare education programs and healthcare support during an incident of bioterrorism. Healthcare professionals should note that telehealth may be useful in providing those cut off areas with essential healthcare, healthcare education, and support. Specific information regarding bioterrorism may be found below. The information found below was derived from materials provided by the CDC and U. S. government.[1,19]

- During an incident of bioterrorism, bioterrorism dissemination may occur. Bioterrorism dissemination may refer to the process used to spread or release a biological agent/material in order to inflict illness, death, disruption and/or destruction. The main ways bioterrorism dissemination may occur include: aerosol dissemination, dissemination via public food and water supplies, dissemination via human carriers, dissemination via animal carriers, and dissemination via physically distribution.
- The effect or impact of a bioterrorism attack may include social disruption, economic turmoil and the destruction of personal property. However, the biggest impact of bioterrorism attacks may be on individuals' health. A bioterrorism attack may cause both physical and psychological trauma to those affected by an attack. Individuals can become severely ill and their lives may be threatened. A small amount of a bioterrorism agent/material used in a bioterrorism attack may be lethal and incredibly detrimental to the public's physical health, overall well-being and quality of life. Furthermore, a

bioterrorism attack may lead to psychological trauma which could last for years after an attack. Bioterrorism attacks are designed to cause mass fear. The initial trauma and the extreme fear caused by a bioterrorism attack may lead to long-term psychological effects such as post traumatic stress disorder, anxiety, and depression. Those individuals victimized by a bioterrorism attack should be encouraged to seek healthcare to address any physical or psychological issues that may arise from a bioterrorism attack.

- Many different types of biological agents may be used in a bioterrorism attack including: bacteria, viruses and biotoxins. Bacteria, in the context of bioterrorism, may refer to single-celled organisms which may lead to disease. A virus may refer to a biological agent which requires other host cells to replicate. A virus can infect many forms of life including: humans, plants and animals. The term biotoxin may be used to refer to a poisonous substance produced by a living organism. Biotoxins can range in toxicity and can affect different forms of life in distinct ways. Unfortunately, all of the aforementioned agents may be lethal to humans.

- Infection control and the treatment of infections may be two of the most important elements of action that may be required from healthcare professionals during and after a bioterrorism attack. Healthcare professionals may be able to provide information centered around infection control and the treatment of infections via telehealth during and after an incident of bioterrorism.

- Additional important elements of action that may be required from healthcare professionals during and after a bioterrorism attack include: effective communication, healthcare documentation, reporting bioterrorism-related information, and obtaining/monitoring bioterrorism-related information.

Infectious Disease Outbreaks and Pandemics

As previously mentioned, telehealth possesses the potential to help prevent patient exposure to infectious diseases (the term infections disease may refer to an illnesses caused by bacteria, viruses, and/or fungi, which enters the human body, multiplies, and leads to infection).[1] In essence, telehealth-related technologies can be a means to provide healthcare services to patients while keeping them separated, quarantined, and/or simply away from situations which may expose them to infectious agents. That being said, telehealth may be especially beneficial in times of healthcare-related emergencies such as infectious disease outbreaks and/or infectious disease pandemics. The term outbreak, when applied to infectious diseases, is an occurrence of more cases of a disease than would normally be expected in a specific

place or group of people over a given period of time.[1] The term pandemic, when applied to infectious diseases, may refer to a global or worldwide outbreak of disease; outbreak of disease over a large area.[1] Examples of infectious disease outbreaks are as follows: an influenza outbreak in a given year; an influenza outbreak in a given area, in a given year. An example of an infectious disease pandemic is coronavirus disease 2019 (COVID-19). Specific information regarding COVID-19 may be found below. The information found below regarding COVID-19 may provide insight as to why telehealth services may be required/beneficial during an infectious disease outbreak or, in the case of COVID-19, an infectious disease pandemic. In addition to the specific information regarding COVID-19, information regarding the application of telehealth to patient care during an infectious disease outbreak or infectious disease pandemic may be found below. The information found below was derived from materials provided by the CDC and the WHO.[1,2]

- COVID-19 is a respiratory illness that can spread from person to person.
- Coronaviruses are a large family of viruses which may cause illness in animals or humans; in humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Severe Acute Respiratory Syndrome (SARS); COVID-19 is a novel coronavirus that was first identified during an investigation into an outbreak in Wuhan, China.
- It is currently believed that the virus that causes COVID-19 is transmitted or spread through person-to-person contact (the term person-to-person contact may refer to the transmission of a communicable disease/illness from a host to a healthy person by way of body fluids (e.g., respiratory droplets, blood)).
- COVID-19 my spread between people who are in close contact with one another (within about six feet); COVID-19 my spread through respiratory droplets produced when an infected person coughs or sneezes.
- It may be possible for an individual to obtain COVID-19 by touching a surface or an object that has become contaminated with the virus. For example, an individual may become infected with COVID-19 if he or she touches a surface contaminated with the virus and then touches his or her own mouth, nose, and/or eyes.
- Evidence suggests that coronaviruses (including the COVID-19 virus) may persist on surfaces for a few hours or up to several days; the survivability of the COVID-19 virus on surfaces may vary under different conditions (e.g., type

of surface, temperature or humidity of the environment in which the surface is in).

- The potential symptoms of COVID-19 include the following: fever, cough, shortness of breath, tiredness, aches and pain, nasal congestion, runny nose, sore throat, and diarrhea.
- COVID-19 can lead to mild symptoms or to severe illness; COVID-19 may lead to death.
- When applying telehealth services to patient care during an infectious disease outbreak or infectious disease pandemic, healthcare professionals should ask patients the types of questions found below:

    - Are you currently ill?
    - Do you currently feel sick?
    - What symptoms are you currently experiencing?
    - Have you recently traveled?
    - Have you recently traveled internationally?
    - Where have you recently traveled to?
    - When did you recently travel?
    - Do you have any ongoing medical conditions?
    - What are your ongoing medical conditions?
    - Are you currently on any medications?
    - What are your current medications?
    - Have you been taking your current medications as prescribed?
    - Do you have any allergies?
    - Do you have any medication allergies?

- When applying telehealth services to patient care during an infectious disease outbreak or infectious disease pandemic, healthcare professionals should collect necessary demographic information from patients such as age and gender.

- When applying telehealth services to patient care during an infectious disease outbreak or infectious disease pandemic, healthcare professionals and healthcare organizations should consider designing, implementing and utilizing a clinical decision algorithm, otherwise referred to as a clinical decision flow chart, to guide clinical care. A clinical decision algorithm/clinical decision flow chart may refer to any text designed to guide healthcare professionals when making clinical decisions and/or administering healthcare to patients. A clinical decision algorithm/clinical decision flow chart may include the types of questions healthcare professionals should ask patients and how healthcare professionals should proceed when providing healthcare to patients. Healthcare professionals should note that a clinical decision algorithm/clinical decision flow chart should include information advising healthcare professionals when to recommend emergency services to a patient.

Section 3: Summary

Telehealth may be beneficial to patients when applied to specific disease state management programs and healthcare education programs such as the following: diabetes management programs, heart disease and stroke management programs, epilepsy management programs, tobacco cessation programs, breastfeeding support/education programs, nutrition education programs, and opioid-related programs. Telehealth may also be beneficial to patients when applied to specific healthcare-related emergencies such as bioterrorism attacks and infectious disease outbreaks and/or infections disease pandemics. With that said, when applying healthcare via telehealth, healthcare professionals should be aware of how to effectively develop, establish, and implement telehealth-related programs. Additionally, healthcare professionals should possess insight into related telehealth programs, key elements of related care, the type of information that should be expressed via telehealth, and specific information regarding the direct application of telehealth services to patient care. Finally, healthcare professionals should work to identify healthcare-related situations and patient populations that may benefit from telehealth.

Section 3: Key Concepts

- Telehealth may be beneficial to patients when applied to specific disease state management programs and healthcare education programs such as the following: diabetes management programs, heart disease and stroke management programs, epilepsy management programs, tobacco cessation programs, breastfeeding support/education programs, nutrition education programs, and opioid-related programs.

- Telehealth may be beneficial to patients when applied to specific healthcare-related emergencies such as bioterrorism attacks and infectious disease outbreaks and/or infections disease pandemics.
- When applying healthcare via telehealth, healthcare professionals should be aware of how to effectively develop, establish, and implement telehealth-related programs as well as related telehealth programs, key elements of related care, the type of information that should be expressed via telehealth, and specific information regarding the direct application of telehealth services to patient care.

Section 3: Key Terms

Diabetes self-management education and support (DSMES) programs - services that help individuals manage their diabetes[1]

Cardiac rehabilitation program - a cardiac event prevention program, which typically occurs in an outpatient capacity[1]

Epilepsy - a brain disorder that causes seizures[1]

Cognitive behavioral therapy - a form of psychotherapy which focuses on helping individuals solve problems and create positive outcomes by changing unrealistically negative patterns of thought and behavior[1]

Breastfeeding support - any effort made to assist, guide and/or facilitate breastfeeding[1,2]

Breast pump - any device designed and used for the removal of milk from a woman's breast[1,2]

Expressed breast milk - milk that has been removed from the breast(s)[1,2]

Colic - periods of frequent and/or prolonged distress from an otherwise healthy infant[1,2]

Bioterrorism - any act involving the intentional release of toxic biological agents to further personal or political agendas[1,19]

Bioterrorism dissemination - the process used to spread or release a biological agent/material in order to inflict illness, death, disruption and/or destruction[1,19]

Bacteria (in the context of bioterrorism) - single-celled organisms which may lead to disease[1,19]

Virus - a biological agent which requires other host cells to replicate[1,19]

Biotoxin - a poisonous substance produced by a living organism[1,19]

Outbreak (when applied to infectious diseases) - an occurrence of more cases of a disease than would normally be expected in a specific place or group of people over a given period of time[1]

Pandemic (when applied to infectious diseases) - a global or worldwide outbreak of disease; outbreak of disease over a large area[1]

Coronavirus disease 2019 (COVID-19) - a respiratory illness that can spread from person to person[1,2]

Person-to-person - the transmission of a communicable disease/illness from a host to a healthy person by way of body fluids (e.g., respiratory droplets, blood)[1,2]

Clinical decision algorithm/clinical decision flow chart - any text designed to guide healthcare professionals when making clinical decisions and/or administering healthcare to patients[1,2]

Section 3: Personal Reflection Question

How can healthcare professionals effectively apply telehealth to specific disease state management programs, healthcare education programs, and/or healthcare-related emergencies?

Case Study: Telehealth

A telehealth-related case study is presented below to review the concepts found in this course. A case study review will follow the case study. The case study review includes the types of questions healthcare professionals should ask themselves when considering telehealth and how it relates to the administration of healthcare. Additionally, reflection questions will be posed, within the case study review, to encourage further internal debate and consideration regarding the presented case study and telehealth. The information found within the case study and case study review was derived from materials provided by the CDC, the WHO, and the American Academy of Pediatrics.[1,2,17]

Case Study

A 32-year-old mother has been exclusively breastfeeding her infant for the past three months. The mother's breastfeeding is going well. However, recently the mother has been concerned that her infant is not getting enough breast milk and may be experiencing jaundice. The mother also has several questions regarding breast milk storage and her diet. The mother understands the importance of breastfeeding and

she is dedicated to breastfeeding. However, due to her questions and concerns, she is not sure she can continue to safely and effectively breastfeed her infant. The mother would like to obtain breastfeeding support to help address her questions and concerns as soon as possible. Unfortunately, the mother's residence is geographically isolated and she does not have access to reliable transportation. Due to her circumstances, the mother is not sure how she can receive the necessary breastfeeding support to safely and effectively breastfeed her infant.

Case Study Review

What patient details may be relevant to breastfeeding support?

The following patient details may be relevant to providing breastfeeding support: the mother understands the importance of breastfeeding and acknowledges she is dedicated to breastfeeding, the mother has been exclusively breastfeeding her infant for the past three months, the mother's breastfeeding is going well, the mother is not sure if her infant is getting enough breast milk, the mother has concerns centered around infant jaundice, and the mother has several question regarding breast milk storage and diet.

Are there any other patient details that may be relevant to breastfeeding support; if so, what are they?

How are each of the aforementioned patient details relevant to breastfeeding support?

Each of the previously highlighted patient details may be potentially relevant to providing breastfeeding support. The potential relevance of each patient detail may be found below.

The mother understands the importance of breastfeeding and acknowledges she is dedicated to breastfeeding - the previous patient detail is relevant because it indicates the mother understands the importance of breasting and wants to breastfeed her infant. Healthcare professionals should note that when individuals report that they understand the importance of breastfeeding and are dedicated to breastfeeding it may be advantageous to focus breastfeeding support on areas essential to effective breastfeeding.

The mother has been exclusively breastfeeding her infant for the past 3 months - the previous patient detail is relevant because it is another indication that the mother wants to continue breastfeeding her infant.

The mother reports that her breastfeeding is going well - the previous report by the mother is relevant because it provides a context for the mother's overall breastfeeding experience. When providing breastfeeding support to mothers, it may be beneficial for the healthcare professional to ascertain information which can shed light on an individual's overall breastfeeding experience. Such information can help a healthcare professional better understand individuals' breastfeeding perspectives, the effectiveness of their breastfeeding, and where they may or may not need help or support.

The mother is not sure if her infant is getting enough breast milk - being able to tell if an infant is getting enough breast milk is relevant to effective breastfeeding. Thus, healthcare professionals should provide individuals with information regarding the following signs that may indicate an infant is receiving enough breast milk: the child passes clear/pale yellow urine.

The mother has concerns centered around infant jaundice - it is natural for individuals to have questions regarding infant jaundice. That being said, it is important mothers understand how to effectively manage infant jaundice. Healthcare professionals can provide the following suggestions and/or information to help individuals mange infant jaundice: jaundice can occur early on in an infant's life; jaundice may develop if an infant does not get enough breast milk; jaundice is typically not harmful; more frequent breastfeeding can help clear up jaundice.

The mother has several questions regarding breast milk storage and diet - breast milk storage is relevant to an infant's health. Individuals who are providing expressed breast milk to an infant should understand how to effectively store breast milk to ensure infant safety (expressed breast milk may refer to milk that has been removed from the breast(s)). Healthcare professionals should provided, at the very least, some

practical information regarding breast milk storage such as the following: freshly expressed breast milk may be stored at room temperature for up to four hours; freshly expressed breast milk may be stored in the refrigerator for up to four days; freshly expressed breast milk may be stored in the freezer for up to 12 months, although frozen breast milk is best six months after freezing; when storing breast milk individuals should use breast milk storage bags or clean food-grade containers with tight fitting lids made of glass or plastic to store expressed breast milk; individuals should never store breast milk in disposable bottle liners or plastic bags that are not intended for storing breast milk; individuals should not store breast milk in the door of the refrigerator or freezer due to the potential for temperature changes when the refrigerator/freezer door is opened; if freshly expressed breast milk will not be used within four hours of removal from the breast, it should be frozen right away to help to protect the quality of the breast milk; individuals should use breast milk within 24 hours of thawing in the refrigerator. Healthcare professionals should note that if individuals are inquiring about breast milk storage, they may also require information regarding breast pumps.

The mother's diet is relevant to both the infant and the breastfeeding mother's health. When receiving dietary-related questions, healthcare professionals should provide, at the very least, some practical information regarding diet such as the following: a healthy diet for mothers during breastfeeding is important to support the health of both the mother and the infant; breastfeeding mothers typically require more calories to meet their nutritional needs while breastfeeding; an additional 450 to 500 kilocalories (kcal) of healthy food calories per day is recommended for well-nourished breastfeeding mothers; typically, women do not need to limit or avoid specific foods while breastfeeding.

What other ways, if any, are the previous patient details relevant to breastfeeding support?

What patient details may be relevant to the application of telehealth?

The following patient details may be relevant to the application of telehealth: the mother understands the importance of breastfeeding and she is dedicated to breastfeeding, the mother is not sure she can continue to safely and effectively breastfeed her infant, the mother would like to obtain breastfeeding support to help address her questions and concerns as soon as possible, the mother's residence is geographically isolated and she does not have access to reliable transportation, the mother is not sure how she can receive the necessary breastfeeding support to safely and effectively breastfeed her infant.

Are there any other patient details that may be relevant to the application of telehealth; if so, what are they?

How are each of the aforementioned patient details relevant to the application of telehealth?

Each of the previously highlighted patient details may be potentially relevant to the application of telehealth. The potential relevance of each patient detail may be found below:

The mother understands the importance of breastfeeding and she is dedicated to breastfeeding - the previous patient detail is relevant because it provides context for the need for telehealth. The previous patient detail is also relevant because it indicates the mother understands the importance of breasting and wants to breastfeed her infant.

The mother is not sure she can continue to safely and effectively breastfeed her infant - the previous patient detail is relevant because it provides context for the need for telehealth. The previous patient detail is also relevant because it provides insight into the importance of telehealth. In other words, the previous patient detail suggests that without the application of telehealth, the mother may not continue to breastfeed her infant. With that in mind, healthcare professionals should note the following potential benefits of breastfeeding: breastfeeding is recognized as the best source of nutrition for most infants; breastfeeding often results in improved infant health outcomes; breastfeeding can help lower mothers' risk of high blood pressure, type 2 diabetes, ovarian cancer, and breast cancer; breastfeeding can help women lose weight; breastfeeding may help a mother's uterus return to its pre-pregnancy size; breastfeeding may have positive psychological effects for new mothers (i.e., evidence suggests that breastfeeding may help mothers bond with their infants, which in turn can help mothers avoid any anxiety or postpartum depression associated with giving birth).

The mother would like to obtain breastfeeding support to help address her questions and concerns as soon as possible - the previous patient detail is relevant because it is an indication that the mother wants to continue breastfeeding her infant. The previous patient detail is also relevant because it indicates that the mother may be a good candidate for telehealth. Healthcare professionals should note the following: not every patient may be a good candidate for telehealth; healthcare professionals should examine individual patient-related information and details to determine if an individual patient is, indeed, a good candidate for telehealth (i.e., the patient is committed and willing to obtain healthcare education, support, and care via telehealth).

The mother's residence is geographically isolated and she does not have access to reliable transportation - the previous patient detail is relevant because it provides insight into why the mother may require telehealth.

The mother is not sure how she can receive the necessary breastfeeding support to safely and effectively breastfeed her infant - the previous patient detail is relevant because it provides further context for the need for breastfeeding support via telehealth.

What other ways, if any, are the previous patient details relevant to the application of telehealth?

Is it possible that breastfeeding support, via telehealth, could help the mother from the case study?

Yes, based on the information presented in the case study, it does appear breastfeeding support, via telehealth, may possibly help the mother effectively breast feed her infant. Healthcare professionals should note the following: effective breastfeeding occurs when an infant receives human breast milk for ingestion (the American Academy of Pediatrics recommends exclusive breastfeeding for a period of about six months, followed by continued breastfeeding, while introducing complementary foods, until the child is 12 months old or older).

How may telehealth be applied to the mother's breastfeeding support?

How may breastfeeding support, via telehealth, help the mother from the case study effectively breastfeed her infant?

Due to the mother's desire to breastfeed, it appears breastfeeding support could help the mother safely and effectively breastfeed her infant. Essentially, breastfeeding support could help provide the mother with relevant information to help facilitate continued breastfeeding.

Are there any other ways breastfeeding support could help the mother from the case study effectively breastfeed her infant; if so, what are they?

Conclusion

Telehealth may refer to the use of electronic information and telecommunication technologies to support and promote long-distance clinical healthcare, patient and professional health-related education, public health and health administration. A range of technologies may be used to support the delivery of telehealth including the

following: text messaging, smartphone apps for mobile phones, websites and computers, standard and wireless telephones, live and asynchronous video, virtual reality, and/or artificial intelligence (AI). The different categories or types of telehealth include: live video, store-and-forward, remote patient monitoring, and mobile health. When applying telehealth services to patient care, healthcare professionals should be aware of their state(s) of licensure's relevant telehealth-related laws as well as federal laws that may apply to telehealth such as HIPAA and 42 CFR Part 2. Telehealth offers benefits as well as new opportunities to both healthcare professionals and patients. Therefore, healthcare professionals should possess insight into telehealth to best serve patients in need.

In addition to possessing insight into telehealth, it is also important for healthcare professionals to understand how to utilize telehealth in a manner which promotes the safe and effective administration of healthcare. Fortunately, for healthcare professionals, telehealth-related recommendations have been developed to help them promote the safe and effective administration of healthcare. Healthcare professionals should follow telehealth-related recommendations when providing healthcare via telehealth.

Telehealth may be beneficial to patients when applied to specific disease state management programs and healthcare education programs such as the following: diabetes management programs, heart disease and stroke management programs, epilepsy management programs, tobacco cessation programs, breastfeeding support/ education programs, nutrition education programs, and opioid-related programs. Telehealth may also be beneficial to patients when applied to specific healthcare-related emergencies such as bioterrorism attacks and infectious disease outbreaks and/or infections disease pandemics. With that said, when applying healthcare via telehealth, healthcare professionals should be aware of how to effectively develop, establish, and implement telehealth-related programs. Additionally, healthcare professionals should possess insight into related programs, key elements of related care, the type of information that should be expressed via telehealth, and specific information regarding the direct application of telehealth services to patient care.

Finally, healthcare professionals should note that the use of telehealth within the healthcare system has steadily increased over the past few years. Evidence suggests that the utilization of telehealth will continue to expand as the healthcare system progress towards the future. Thus, healthcare professionals should work to identify healthcare-related situations and patient populations that may benefit from the application of telehealth.

References

1. health care.cdc.gov

2. health care.who.int

3. "Practicing Medicine Through Telehealth Technology," https://health care.mbc.ca.gov/

4. https://health care.leg.state.nv.us/

5. health care.hhs.gov

6. health care.congress.gov

7. Bhanji SM (2013) Healthcare Ethics. J Clinic Res Bioeth 4:142. doi:10.4172/2155-9627.1000142.

8. health care.ohio.gov

9. The American Nurses Association. Nursing: Scope and Standards of Practice, 3rd Ed. ISBN-13: 978-1-55810-619-2. SAN: 851-3481. 07/2015.

10. Gossman et al. Informed Consent. StatPearls. July 10, 2019.

11. Bergman et al. Exploring Communication Processes in Workplace Meetings: A Mixed Methods Study in a Swedish Healthcare Organization. Work. 2016; 54(3): 533–541. Published online 2016 Jul 26. doi: 10.3233/WOR-162366.

12. Vertino et al. Effective Interpersonal Communication: A Practical Guide to Improve Your Life. Online J Issues Nurs. 2014 Sep 30;19(3):1.

13. Jahromi et al. Active Listening: The Key of Successful Communication in Hospital Managers. Electron Physician. 2016 Mar; 8(3): 2123–2128.

14. health care.jointcommission.org

15. health care.fda.gov

16. health care.lung.org

17. "Breastfeeding and the Use of Human Milk," pediatrics.aappublications.org

18. "Dietary Guidelines for Americans 2015 - 2020," https://health.gov

19. "News and Terrorism: Communicating in a Crisis," health care.dhs.gov