TELEMEDICINE

Risk Management Considerations

CONTRIBUTORS

Editor

Denise Russell, MJ, MHM, RN, CHRM, CPPS, FASHRM

Associate Editors

Sue Boisvert MHSA, BSN, CPHRM, FASHRM

Douglas J. Borg, MHA, ARM, CPHRM, DFASHRM

Contributors

Maureen E. Burke, MSN, RN, CPHRM

Denise McCord, RN, CPHRM

Susan Heathcote, BSN, CRM

Kathleen Shostek, ARM, RN, CPHRM, CPPS, FASHRM

The American Society of Healthcare Risk Management (ASHRM)
of the American Hospital Association
155 North Wacker Drive, Suite 400
Chicago, IL 60606
(312) 422-3980

ASHRM@aha.org
www.ASHRM.org

TABLE OF CONTENTS

SUMMARY

The technology we utilize every day to make us more efficient in our professional and personal lives is now influencing health care with the introduction of telemedicine. The American Telemedicine Association (ATA) defines telemedicine as "the remote delivery of health care services and clinical information using telecommunications technology. This includes a wide array of clinical services using internet, wireless, satellite, and telephone media."[1]

Telemedicine will continue to grow as technology advances and acceptance increases. This growth projection is aided by regulation such as the Medicare Telehealth Parity Act of 2015, which expanded telehealth coverage to Medicare beneficiaries in both rural and urban area, and streamlined the payment system.[2]

Although the benefits to telemedicine are notable for both patients and clinical providers, an organization needs to be aware of the associated risks. Risk managers and insurance professionals recognize a multitude of potential risks associated with telemedicine services, such as credentialing and the need to accurately assess, mitigate and finance these risks. Many of the telemedicine risks are not new to risk management, but telemedicine adds another layer to that existing risk when, for example, the care crosses over state lines or countries. It is not difficult to foresee potential liability issues as telemedicine continues to grow.

This whitepaper will examine telehealth risks utilizing the eight ASHRM enterprise risk management (ERM) domains:

Operational – credentialing, standard of care and documentation

Clinical/Patient Safety – informed consent, scope of providers

Strategic – improved access to services, possible improvement of population management

Financial – reimbursement, risk financing and insurance coverage

Human Capital – education and training, performance evaluations

Legal/Regulatory – federal and state regulations, privacy (HIPAA), HITECH and CMS Conditions of Participation

Technology – equipment requirements, selection and reliability, maintenance, IT department responsibilities and downtime procedures

Hazard – telemedicine procedures and use for disasters, disaster planning, utilization and management during surge

Although there is risk in telemedicine, there are also strategic risks not to implement telemedicine. Utilizing an ERM review of telemedicine will allow the organization to set standards and guidance around telemedicine and be aware of potential risk areas. Mitigating the risks of telemedicine allows the organization and clinical providers to deliver safe and trusted health care to those who seek this avenue of treatment.

INTRODUCTION

Since the early 1990s advancements in technology and communication have had a significant impact on health care and its delivery. With the advent of digital imaging and the ability to transfer enormous amounts of data quickly and securely over large distances, both patients and providers have come to believe that telemedicine can be a cost-effective, safe and reliable method of delivering health care.

Telemedicine presents a distinctive set of risk management concerns. This whitepaper provides solutions for addressing and mitigating the risks and exposures related to the practice of telemedicine. It also covers several of its current applications, future use, definitions and a brief history.

HISTORY OF TELEMEDICINE

While telemedicine may seem to be a recent phenomenon, the concept has a long and varied history. Its origins date back to the mid-19th century, when the invention of the telegraph, and later the telephone, made rapid communication across long distances possible. In 1924, Radio News magazine featured a cover illustration of a family interacting with their physician via a video screen; which was a quite visionary idea for a time when home radios were not yet popular and television was not yet invented.

Telemedicine, as we know it today, likely originated in the mid-20th century from military applications and space industry technology.[3] At that time, clinical uses of telemedicine included education, electrocardiogram monitoring, the transmission of radiology images and the supervision of advanced practice professionals and students. However, because the costs of transmitting data were high, and the availability of appropriate equipment was sporadic, interest in telemedicine was not widespread until the late 1980s and 1990s, when improved technology and the internet began to overcome major implementation barriers.[4]

DEFINITIONS

Telemedicine: There are many terms associated with electronic health care including telehealth, telemedicine, e-health, virtual visits and m-Health or mobile health. Each one of these terms has many different definitions due to the large number of regulatory, industry and professional organizations involved in electronic health care.

The American Telemedicine Association (ATA) defines telemedicine as "the remote delivery of health care services and clinical information using telecommunications technology. This includes a wide array of clinical services using internet, wireless, satellite, and telephone media."[5] The ATA considers telehealth and telemedicine to be synonymous. ATA has a wide variety of discipline specific telemedicine practice guidelines available on their website (registration is required) as well as core standards, assessment and outcome measures.

Healthcare and the practice of medicine are heavily regulated and it is wise for practitioners to review regulatory definitions to ensure compliant practices. For example, all 50 states have developed telemedicine regulations and state definitions should be considered carefully in the development of telemedicine programs. The Centers for Medicare and Medicaid Services (CMS) use the term telehealth for Medicare reimbursed services. CMS specifies that providers intending to seek reimbursement from CMS must use "an interactive audio and video telecommunications system that permits real-time communication between [the provider] at the distant site, and the

beneficiary, at the originating site."[6] Store and forward technology is only permitted in demonstration sites in Alaska and Hawaii. The distant site, originating site methodology used in the CMS definition is often referred to as hub and spoke telemedicine and is commonly used in hospital settings.

The Federation of State Boards of Medicine (FSMB) defines telemedicine as "the practice of medicine using electronic communications, information technology or other means between a licensee in one location, and a patient in another location with or without an intervening healthcare provider. Generally, telemedicine is not an audio-only, telephone conversation, e-mail/instant messaging conversation, or fax. It typically involves the application of secure videoconferencing or store and forward technology to provide or support healthcare delivery by replicating the interaction of a traditional, encounter in person between a provider and a patient."[7] This definition is important because it clarifies that general telephone and electronic communications between the provider and patient do not constitute telemedicine.

Synchronous and Asynchronous Telemedicine: Telemedicine can be *synchonous* (real-time) or *asynchronous* (not simultaneous or concurrent). Some modes of telemedicine can be either synchronous or asynchronous.[8]

Two-way video and audio communication occurring in real-time between a patient and a provider, or between providers, is one of the most basic synchronous forms of telemedicine. This type of remote medical service is useful when immediate feedback is necessary or provides important benefits for the patient and/or the provider. Synchronous telemedicine can sometimes involve much more than just a two-way video link. Health care providers can use telemedicine to perform real-time diagnostic and treatment procedures from a distance.

Forms of asynchronous telemedicine involve health-related exchanges mediated by technology in which the participants are not acting at the same time. For example, a radiologist at a remote facility could interpret an x-ray and document the findings in an electronic health record for a physician to access and review at the hospital at a later time, or a patient could share records with a provider by uploading them through a patient portal. The phrase, store and forward, is used to describe an interaction where an image, study results, or other information is captured in one location and then forwarded digitally to a provider in a different location for later review.[9]

Remote patient monitoring is a type of telemedicine that has both synchronous and asynchronous applications. For example, cardiac, fetal or blood glucose monitoring data can be transmitted in real-time situations to providers at other locations who use the data to make immediate treatment decisions. The same monitoring technology could also be used asynchronously to gather data for research or to monitor chronic conditions. For example, a patient with diabetes could routinely monitor blood glucose levels at home and transmit the data to his or her health record for the provider to review at any time.[10]

Hub Site: Location from which specialty or consultative services originate such as an academic medical center.

Spoke Site: Remote site where the patient presents during telemedicine encounter or where the professional requesting consultation with a specialist is located.

Store and Forward (S&F): Type of telehealth encounter or consult that uses still digital images of patient data for rendering a medical opinion or diagnosis. Common services include radiology, pathology, dermatology, ophthalmology, and wound care. Store and forward includes the asynchronous transmission of clinical data from one site to another.

RISK MANAGEMENT CONCERNS AND MITIGATION STRATEGIES

Although the benefits of telemedicine for both patients and clinical providers are many and the financial case is generally compelling, risk managers and insurance professionals recognize a multitude of potential risks associated with telemedicine services. Risk management needs to accurately assess, mitigate and finance these risks.

Many of the risks related to telemedicine are not new to health care, but certain characteristics of telemedicine have created new twists on old exposures. One example is the geographic separation of the patient and provider.

Health care entities have addressed important telemedicine risk issues as usage has increased, but there is much work still to do and many questions remain unanswered. The Enterprise Risk Management (ERM) Framework for Telemedicine will address some strategies that risk managers and health care entities should consider.

ENTERPRISE RISK MANAGEMENT (ERM) FRAMEWORK FOR TELEMEDICINE

Operational

Notable operational risks associated with telemedicine fall into three categories: credentialing, standard of care and documentation.

- **Credentialing** - The Centers for Medicare and Medicaid Services (CMS) issued a final rule on credentialing and privileging requirements for hospital-based telehealth practitioners in July 2011 to address previous differences between hospital conditions of participation and Joint Commission accreditation standards.[11,12] This CMS rule establishes a process for originating-site hospitals (location of the patient) to rely on the credentialing and privileging decisions of the distant-site hospital (location of the specialist) for telehealth practitioners. The regulation specifies the need for credentialing of telemedicine physicians at the site providing the service and eliminates the need for the site receiving the service (the hospital where the patient is) to replicate the credentialing process.

  Risk managers at originating- and distant-site hospitals should collaborate with medical staff leaders to confirm that applicable credentialing requirements are in place for their telemedicine providers. The Center for Telehealth and eHealth Law (CTeL) is a good resource for risk managers. Its website includes a special report on credentialing, sample agreements and checklists.[13] CTeL recommends that both the originating- and distant-site hospitals include an adequate definition of telemedicine in their medical staff bylaws and specify at least a basic set of credentialing requirements for physicians who wish to engage in the practice.

  It is important to note that CMS requirements apply to hub and spoke telemedicine (the hub and spoke model connects larger "hub" hospitals with smaller "spoke" hospitals for consultations). Organizations that are using other forms of telemedicine technology such as store and forward technology [store and forward is a data communication technique in which a message transmitted from a source node is stored at an intermediary device before being forwarded to the destination node] for teleradiology and dermatology, or virtual visits for primary and urgent care, may not fall under the CMS guidelines. Providers still need to be credentialed to provide telemedicine services, but the credentialing requirements may be different based on the setting. Hospitals and healthcare systems with physician practices and alternative outpatient care settings will need to determine what, if any, telemedicine services are being provided in these alternate locations

and whether or not these services fall under the conditions of participation. Organizational corporate structure, state licensure regulations and Medicare provider number will drive this decision.

In physician practices, the term credentialing often leads to some confusion as it is also used in reference to enrolling providers with third party payers. Hospitals must explore provider third party payer credentialing for telemedicine. Physician practices and other outpatient care entities will need to develop guidelines that govern provider use of telemedicine to deliver services, as many outpatient settings do not use privileges.

- **Standard of Care** - A few states have defined a distinctive standard of care for telemedicine such as rules about the physician-patient relationship, electronic prescribing and in-person follow-up. However, for many practices and services, telemedicine-specific standards are not legally established. When that is the case, attorney Alexis Slagle Gilroy suggests that the following question should be asked: "Can and does the use of [telemedicine] technologies in the practice of medicine affect or alter the standard of care?" She further states, "If telemedicine is merely the practice of medicine using a telecommunications tool, then it is not the practice of medicine in question, rather whether the technology or method by which the technology is used enables the provider to meet that standard of care."[14]

  Even in the face of a legally defined standard of care for telemedicine, organizations providing telemedicine services would be wise to consider professional association positions. In addition to the American Telemedicine Association discipline-specific guidelines, medical societies such as the American Medical Association, the American Psychiatry Association and the American College of Physicians have also issued guidelines that can be considered, where appropriate.[15,16,17] The FSMB Model Policy for the Appropriate use of Telemedicine Technologies in the Practice of Medicine has also detailed voluntary policy guidelines for constituent state boards. These guidelines cover important considerations such as determining when a physician-patient relationship is established, defining and guaranteeing proper patient identity, and limiting the prescription of certain medications.[18] Organization providers and risk managers need to be aware of the FSMB guidance from the practice perspective as well as whether or not the governing board of medicine has adopted the rules in part or in total as well.

  It is also important to consider whether advanced practice professionals have a role in telemedicine and what that role might be. For example, are advanced practice professionals providing telemedicine services directly to patients, such as might be the case with a dietician, pharmacists or social worker; or are they being supervised or providing supervision to remote workers. In these cases, other boards of licensure will be involved as well as other professional association position papers and guidelines.

- **Documentation** - As with all patient encounters, any provider-patient interaction using telemedicine technology should be documented in the patient's health record. Patient and provider access to this documentation should comply with existing regulations and institutional policies for privacy and security of health information. The health record should include documentation of all patient-related

ERM Risk Domains

Operational

Clinical/ Patient Safety

Strategic

Financial

Human Capital

Legal/ Regulatory

Technology

Hazard

electronic communications, including informed consent, as well as prescribed medications, diagnostic test results, clinical evaluations and instructions related to telemedicine technology.[19] Documentation should also include all clinicians involved in the telemedicine visit. For store and forward technology as well as virtual visits – this will likely be the provider.

For hub and spoke telemedicine, team members present at both the hub and the spoke should be documented in the record. The distant-site telemedicine provider will probably not have direct access to the originating-site electronic health record system for patient documentation purposes. Processes should be established in advance to ensure that distant site documentation is not overlooked. For example, informed consent would be important to participants at both sites. The distant-site provider may want an actual copy of the informed consent.

Risk managers should work with health information management professionals and legal counsel at both ends of the telemedicine operation to ensure that forms, policies and procedures are mutually agreed upon and that procedures for access, maintenance and protection of records related to telemedicine services are robust and in compliance with rules governing health information and health records.

Clinical/Patient Safety

Telemedicine has many advantages including increased access to care, decreased cost and higher levels of patient and provider satisfaction. To date, clinical and patient safety telemedicine risks remain limited. According to the Center for Connected Health Policy (CCHP), "Claims of malpractice liability involving telehealth have been few and most existing cases have been settled out of court with the final settlements sealed."[20] Limited claims and sealed claims results in a dearth of case law on which to base risk decisions. As long as all parties respect the differences between telemedicine and traditional care and are watchful of potential risks, telemedicine has proved to be very safe. In the absence of case law and claims data, common sense and application of best practices prevail. There is an ever-growing evidence base from which to draw clinical and practice guidance.

Most telemedicine services require dedicated provider space. The space must be large enough to accommodate comfortable seating for the provider and any necessary assistants as well as a work surface or cart with the equipment necessary to complete the visit. The space should be private, with a door if possible to prevent interruptions during a telemedicine encounter. There should be a telephone available. Space needs vary widely on the patient side. In a virtual visit, the patient has a significant amount of control over where the visit occurs. During hub and spoke telemedicine, the patient may be located in a telemedicine examination room staffed with a technology facilitator and clinicians, or they may be in a bed in the emergency department or on an inpatient unit. Even in clinical areas, the space must be adequate to permit entry of the telemedicine cart or robot and technicians as well as other members of the care team and patient's family as appropriate. The space should be conducive to privacy, preferably with solid walls and a door.

Informed consent should be obtained prior to the provision or receipt of telemedicine services. Although not all states require a specific informed consent for telemedicine, consent is an essential patient engagement and patient safety activity and it should be considered a service requirement. In addition to the routine elements included in a health care consent, telemedicine consent should also include:

- State specific requirements
- The names and credentials of telemedicine staff and providers
- Explanation of the patient's right to stop or refuse treatment by telemedicine

- The technology that will be used
- Privacy and security risks as well as measures taken to reduce the risk
- Technology specific risks such as service interruption and poor transmission quality
- Permission to bill as applicable
- Instructions for alternative care in case of an emergency or technology malfunction

Organizations can take additional steps, such as the following, to reduce clinical and patient safety risks in telemedicine:

- Define the scope of service for each type of telemedicine service provided
- Consider conducting a failure mode and effect analysis (FMEA) on a proposed telemedicine project
- Develop a comprehensive set of policies and procedures that may include:
    - Patient identification, particularly if virtual visits are being used
    - Criteria for patient selection
    - Process for managing patient-provided health information
    - Hours of availability/operation
    - Process for patient choice of provider
    - Informed consent including process to follow when patients refuse to provide consent
    - Documentation requirements for providers and staff
    - Archiving and retrieval of video and images as applicable
    - Prescribing practices
    - Communication with the ordering physician and/or the patient's primary care provider
    - Billing practices related to the Medicare fee schedule and other third-party payers (include private pay and collection of co-pays)
    - Follow up procedures for outpatient visits
    - Quality measurement, improvement and monitoring including peer review measures might include protocol compliance, treatment utilization rates, patient and provider satisfaction, clinical documentation review, and technology measures such as uptime and number of complete vs incomplete visits per month
    - Backup and downtime procedures
- Develop guidelines for sharing feedback between the originating- and distant-site facilities that include, at minimum, how patient complaints and adverse events relating to telemedicine activities will be reported and addressed.

Patient safety initiatives to improve communication among providers, and between providers and patients, should be applied to telemedicine as well. Those who provide telemedicine services should follow policies and procedures for communications regarding consultations, referrals and handoffs. They should also apply various system procedures, such as communication of test results, patient instructions, patient education, and follow-up care to prevent or reduce errors that can cause patient harm and potential liability.

Strategic

Implementing telemedicine is a strategic initiative. Telemedicine is an opportunity to improve access to services that are limited or unavailable locally such as stroke and burn care, behavioral health care, and access to specialists from rural locations. Under the Extension for Community Healthcare Outcomes (ECHO) model pioneered in New Mexico in 2003, telemedicine has been used by specialty providers in tertiary-based centers to mentor primary care providers and increase their abilities in subspecialty areas such as the management of epilepsy in children, the treatment of substance use disorders and primary care for transgender patients.[21,22,23]

Implementing telemedicine can lead to increased revenue and decreased costs in a number of ways. Increased access to appropriate care is a fitting venues which can help reduce admissions or readmissions and decrease the need for transfer out of the system or practice. Telemedicine may improve population management by moving chronic disease management out of the practices to where the patient is. Seeing the patients where they are can improve monitoring and data collection, which then increases compliance with measures and reducing leakage to other systems. Leakage occurs when a patient in a shared risk managed care arrangement leaves a practice to go to outside the network. This results in loss of control over that patient's health care and costs during the contract period. If a practice experiences high levels of leakage, it can affect overall population management and reduce savings resulting in penalties. Thus, managed care organizations have looked to innovated solutions such as virtual visits to decrease leakage. The addition of virtual visits to a physician practice can also decrease missed appointments, increase appropriate use of services and improve throughput.

Financial

Launching a telemedicine program can require a significant investment of both equipment and staff, and reimbursement of telemedicine services by commercial payers has historically lagged behind reimbursement for face-to-face provision of care. However, many states have adopted parity laws requiring payers to provide comparable coverage and reimbursement for telemedicine services. The payment environment continues to evolve as insurance companies and government payers recognize the potential cost savings and other benefits of telemedicine. CMS has made steady progress in its telemedicine policies, but rules and restrictions limit situations in which Medicare reimbursement is available. Likewise, the state rules and regulations surrounding payment for Medicaid patients are often varied and confusing.

- **Risk Financing and Insurance Coverage**
  As with any other service line, there are risk financing considerations for telemedicine. What types of coverage are necessary will be driven by the depth and breadth of telemedicine services offered. At the very least, currently existing insurance policies should be reviewed with counsel, the insurance broker and underwriting to determine what if any gaps in coverage are created by the addition or expansion of telemedicine services. For example, professional liability insurers may or may not view telemedicine in the same way as traditional health care. Coverage can vary by state and among insurance companies and may not carry across state lines. When considering extended coverage for care provided across state lines, the risk manager should be aware that the insurance company would likely assess the liability risk in the patient's jurisdiction. In some cases, an insurance company may be reluctant to cover arrangements where a provider residing in a low-risk jurisdiction engages in telemedicine with a patient in a high-risk jurisdiction. In other cases, ensuring coverage for interstate telemedicine services could be a simple matter of providing additional details regarding the anticipated activity, and possibly paying a modest premium adjustment.

In addition to professional liability coverage, organizations providing telemedicine services must also evaluate the efficacy of other coverages, including but not limited to cyber and regulatory liability, errors, omissions and business interruption.

Human Capital

All providers and staff who participate in telemedicine services, or care for patients who may receive telemedicine services, should receive telemedicine training either at hire or initiation of telemedicine services, as well as periodically thereafter. Education and training should include: role-specific, direct and supportive patient care, including how to use any adjunct tasks such as responsibility for documentation and informed consent. Education on each type of telemedicine modality that might be encountered, as well as how to troubleshoot problems with the technology and/or how to obtain technical assistance is needed. Develop role-specific telemedicine competencies and use them to evaluate providers and staff periodically. Include telemedicine expectations in job descriptions and annual performance evaluations.

Legal/Regulatory

Both federal and state laws and rules regulate telemedicine. Federal regulations to consider include the Department of Health and Human Services' Health Insurance Portability and Accountability Act (HIPAA), Health Information Technology for Economic and Clinical Health Act (HITECH) and the CMS Conditions of Participation.

- **HIPAA and HITECH**
  Both patients and providers want to ensure that rules related to privacy and confidentiality are upheld when protected health information (PHI) is transmitted electronically. In terms of privacy and security of the PHI generated and shared before during and after a telemedicine visit, the rules are the same as for other technologies such as the EHR. Organizations considering telemedicine or adding new telemedicine technologies to an already existing panel of services must consider how the new or added services will be incorporated into privacy and security policies, procedures and workflows. For example:
    - Incorporate telemedicine into the Notice of Privacy Practices
    - Include telemedicine equipment in the organization's Security Management Plan and annual Security Risk Assessment
    - Ensure all staff and providers who participate in telemedicine services have received telemedicine specific healthcare privacy and security training
    - Determine the need for Business Associate Agreements. Evaluate all parties, including any vendors involved in the provision of services, for compliance with federal and state privacy and confidentiality regulations, and require the ability to provide proof compliance if asked. Require telemedicine vendors to hold their subcontractors accountable as well

- **Centers for Medicare & Medicaid Services**
  Centers for Medicare & Medicaid Services (CMS) regulates traditional hub and spoke telemedicine in the medical staff section of both the hospital (42 CFR §485.616 c.) and the critical access hospital (42 CFR § 482.22 a.) conditions of participation. The requirements specify the steps for credentialing providers to practice telemedicine. The rules also require a written agreement between the originating site and distant site that outlines the responsibilities of each site, including who is responsible for credentialing distant site providers. Distant site hospitals or telemedicine entities must have an agreement with an organization for outside review of the quality of telemedicine services. Telemedicine services that are reimbursable under the Medicare Fee Schedule must meet the requirements outlined in Chapter 12 of the Medicare Claims Processing Manual section 190.[24]

- **State Specific Regualtions**
  State telemedicine regulatory efforts have increased in recent years. There are several reasons for this increase in state activity. As telemedicine technologies evolve, federal regulation and reimbursement models have lagged behind. Hub and spoke telemedicine is costly and labor intensive due to technology and infrastructure requirements. Federal programs restrict the use of and reimbursement for store and forward technologies. Finally, medical licensure is a significant barrier to broad implementation of telemedicine due to state specific requirements. For example, one common legal concern involves jurisdiction when the telemedicine provider and patient reside in different states. Precedence is generally given to state laws regarding provider licensing and medical practice requirements in the state where the patient is located, and telemedicine providers must be licensed in that state. Organizations that provide telemedicine services in multiple states must therefore navigate and meet multiple, potentially disparate requirements.

  Telemedicine providers must be licensed in the state from which they are providing services as well as the state where the patient is receiving services. For providers who cover a broad service area such as teleradiology and virtual urgent care services, the licensing issues can seem almost insurmountable due to the collage of state regulations and policies. In 2013, the Federation of State Medical Boards (FSMB) established the Interstate Medical Licensure Compact, which allows an expedited licensure pathway for physicians to practice in multiple states.[25] The number of states participating in the compact is constantly changing and risk managers are advised to check with the appropriate state medical and osteopathic boards to determine current licensure requirements.

Contracts are a necessary part of almost every health care venture and telemedicine is no different. Organizations may contract for telemedicine providers, equipment, software, communication technology and/or consulting. A telemedicine service contract will share many of the same contracting concerns as an electronic medical record, such as who owns the equipment, who owns the data, and expectations around service call timing, uptime, software updates and turnaround times. Telemedicine contracts must be reviewed to ensure that any state specific telemedicine requirements are respected, particularly if the service includes licensed providers. All agreements made with telemedicine providers or equipment/technology vendors should be reviewed to ensure that insurance provisions include mutual hold-harmless and indemnification language and that adequate insurance coverage is required.

Risk managers should confer with legal counsel to determine which state laws apply to the organization's telemedicine services, monitor changes in applicable regulations and take steps to ensure that procedures for education and compliance are in place.

Technology

Telemedicine is a technology-based undertaking. Technology equipment reliability, data speeds and available bandwidth have increased dramatically over the last several years permitting telemedicine to expand.

When addressing the risks associated with equipment and technology, risk managers should consider the following:[26]

- **Equipment Selection and Maintenance:** Whether equipment is purchased or leased, agreements between organizations, facilities and/or vendors should clearly delineate the responsibilities for choice and maintenance of equipment. It is essential that equipment used for telemedicine purposes have high quality audio and visual capabilities, up to date operating systems, and the ability to be secured against malware.

- **Roles and Responsibilities of the Information Technology (IT) Department:** IT leadership at both the originating and distant locations should be consulted and involved in decision-making related to the IT systems that will be used to transmit and receive data. If technical standards are not already in place, they should be developed to ensure the security, capacity and reliability of data transmission.

  These standards should specifically address:

  - Interoperability of systems
  - Verification of receipt of data and results
  - Technical support

- **Downtime Procedures:** Backup plans and downtime policies and procedures, including provisions for communication and documentation during service interruptions, should be developed and tested.

Hazard

Virtual visits and telemedicine have been used successfully in a number of disasters including responses to the hurricanes that struck Texas and the Gulf Coast in fall of 2017. Although the shelters had access to onsite providers, twenty-four hour coverage and access to some of the pediatric specialties proved challenging. Telemedicine served this population well. Services included prescriptions for routine medications, evaluation of insect bites, rashes and wound infections, as well as mental health consults.[27]

Telemedicine capabilities should be considered in all hazard disaster planning, particularly for surge (a markedly increased volume of patients) management. Considerations might include developing memorandums of understanding with other health systems and virtual visit providers for telemedicine services. Virtual visits are particularly useful in a disaster because they can be managed from a laptop, tablet or smart phone as long as there is cellphone or internet access.

PREDICTED GROWTH

Telemedicine is moving from its adolescence into early adulthood. Communication and delivery technologies continue to improve, the costs to deliver or receive telemedicine services are declining and reimbursement is becoming more common. Third party payers recognize the potential benefits of telemedicine: improved access to care, disease specific population management, decreased costs, and increased provider and patient satisfaction. In fact, some third party payers, such as Anthem and Blue Cross, are branching out into the virtual visit business.[28] In addition, as will be discussed later, state and federal regulations are becoming more compatible with alternate delivery care models and some of the barriers, such as medical licensure, are beginning to be addressed. Consequently, many health care organizations are creating telemedicine offerings to strengthen their networks and expand their range of services.

Many academic medical centers were early adopters of telemedicine as changing payment models drove providers, critical access and community hospitals to align with tertiary hospitals resulting in integrated delivery systems. New technologies such as telemedicine and electronic medical records became an important component of connectivity, communication and standardized patient care. Telemedicine began as a way to bring specialty care to remote or underserviced areas but the applications have rapidly increased as providers of all backgrounds recognize the efficiencies created by remote access to services. Employers and providers in private practice have also discovered the convenience of virtual care. Virtual employee health programs and virtual sick visits (allows

patients to see and talk to a doctor from their mobile device or computer) are rapidly becoming part of routine health care delivery for millions of patients every year. In addition to the benefits of reduced time, increased patient satisfaction and convenience, early studies indicate the quality of virtual care is comparable to in person visits and costs may be less.[29,30]

Twentieth century telemedicine introduced healthcare providers and patients to the urban/rural hub and spoke model for specialty patient care and teleradiology to improve throughput as well as address round the clock coverage and physician shortage issues. The following section is a brief look at what telemedicine looks like in the twenty first century and where growth is occurring and is expected to continue.

Four areas of predicted telemedicine growth:

1. Critical Care
2. Behavioral Health and Substance Use
3. Outpatient Virtual Visits
4. Alternative Settings: long term care and prisons

Critical Care

The application of telemedicine to critical care has permitted patients to access highly specialized services closer to home, to receive lifesaving diagnosis and treatment prior to and during transfers to tertiary and quaternary care and to receive continued specialty follow up with less travel. Time is an essential element in providing critical care services; time is muscle in cardiac care, time is neurological function in a stroke and time is organ system function in trauma and burn care. Inserting the specialist early in the assessment and diagnosis of catastrophic patient events improves patient outcomes by decreasing the time to definitive care. Just as important, but often overlooked, is the comfort and confidence provided to providers and staff at outlying community hospitals and to first responders in the field when technology brings a highly trained specialist into the decision making process.

- **Tele Stroke**

  Tele Stroke care refers to "a centralized or remotely based stroke care team with a stroke physician at a distant site networked with the remote stroke patient at an originating site."[31] Tele Stroke services were developed partly in response to studies that indicated patient outcomes differed greatly between hospitals with physicians that were inexperienced in the use of thrombolytics in the face of occlusive stroke and hospitals with neurology and neuroradiology expertise. Subsequent studies indicated the implementation of Tele Stroke programs, combined with education and adherence to evidence based guidelines, improved outcomes for patients treated at hospitals that did not have stroke centers.[32] In their 2017 Tele Stroke position statement, the American Heart Association and American Stroke Association suggest that Tele Stroke programs may also benefit patient care at hospitals that have stroke expertise by providing "additional speed or quality aids that increase protocol adherence and further improve outcomes."[33]

  Tele Stroke care often involves a hub site team consisting of neurologists, radiologists, critical care nurses and intensivist or emergency physicians with expertise in stroke care and guidelines.[34] To date, Tele Stroke programs have liaised with providers in emergency departments, intensive care units and in the field with mobile intensive care and mobile stroke units.

- **Tele ICU**
  The terms Tele ICU, Virtual ICU and Remote ICU all refer to "a network of audio-visual communication and computer systems which provide the foundation for a collaborative, inter-professional care model focusing on critically ill patients. TeleICU service is not designed to replace local services, but to augment care through the leveraging of resources and the standardization of processes."[35] TeleICU services are provided in a number of different models depending on the resources at the hub site and the needs of the spoke sites. Intensity of services may vary from continuous monitoring and fully collaborative care between the sites, to scheduled interactions (such as during patient rounds), or event based interactions initiated by an alarm, pager or phone call. Studies suggest that effective implementation of TeleICU increases adherence to published guidelines, which improves patient outcomes and decreases length of stay.[36,37] A recent study suggested that incorporating assistance with patient logistics could improve utilization, leverage capacity and increase case volume – literally working smarter not harder.[38]

- **Tele Burn**
  Burn care lends itself well to the practice of telemedicine. Over four decades, the number of burn centers declined from a high of 180 in 1976 to 123 centers in 2011, 60 of which were verified by the American Burn Association.[39] The decline in burn centers is due to a number of factors, including the cost to maintain fully staffed burn beds and a steady decrease in the annual number of severe burns. Although the number of burns is declining, the patients who are most likely to be burned, children and the elderly, are already a group that requires specialized care. The availability of burn specialists skilled in geriatric and pediatric burn management is very small. As of 2011, there were only 37 burn centers in the country verified to care for both adult and pediatric burn patients. Consequently, only 40% of burn patients are treated in burn centers.[40]

  The development and application of Tele Burn care has been a an impetus to providers and patients. Initially Tele Burn care was limited to early evaluation and intervention with patients who had serious burns. However, as telemedicine gains traction in a wider range of healthcare settings, Tele Burn care is gaining increasing use in rehabilitation of severe burns as well as identification, staging and assistance with management of less severe burns in emergency, urgent care and outpatient settings, particularly in pediatric burn management.

  Telemedicine is an effective addition to treatment of patients with critical conditions who present to healthcare organizations with limited specialty care facilities and provider expertise.

Behavioral Health and Substance Use

Psychiatrists have used telemedicine for many years. The American Psychiatric Association states, "telepsychiatry is especially effective in the treatment of PTSD, depression, and ADHD in team based environments, and with some patient groups may be more effective than in-person care."[41]

Dr. Carlos Castillo, a psychiatrist whose primary practice is adolescent psychiatry, has provided telemedicine services for more than three years in Wisconsin. Initially, he was concerned he would lose the human touch especially in adolescent psychiatry, when using telemedicine. Over time, and by making small changes to his telemedicine practice, his concerns have been alleviated. Using telemedicine, he increased the number of visits with each patient while decreasing the length of each visit. Although the overall time with each patient remains the same, the increased frequency of visits provides a more consistent treatment experience, and, because the patient is on camera, Castillo can visualize facial expressions and body language, which is crucial to his practice. Because of the private and confidential nature of psychiatry, parents or other family members generally cannot be in the room with the patient during a virtual visit. However, if a family meeting is required, family members can easily come together around the computer.[42]

In many situations, both practitioners and patients may find advantages in the use of telemedicine for medication management visits. Using telemedicine to evaluate the patient's response to treatment in between office visits may be more convenient for the patients and cost-effective for the payer and provider.

This is particularly true in the management of substance use disorder. The misuse of opioids in America has been recognized as a public health emergency by providers, patients, families, health care organizations and the US Department of Health and Human Services. The number of patients addicted to opioids has greatly outstripped the ability to provide care for them. Inpatient treatment beds are scarce as are outpatient services. In an effort to decrease the number of fatalities, opioid reversal agents such as naloxone are no longer only available by prescription. Naloxone is being dispensed by pharmacies and administered by friends and family members in addition to first responders and (in some metropolitan areas) corps of volunteers such as those who have suffered from substance addiction and individuals experiencing homelessness; who have access to the most vulnerable population.

Effective substance use management requires talk therapy and medication management, known as medication-assisted treatment. Talk therapy can and is being provided by telemedicine. Medication Assisted Treatment (MAT) can also be provided by telemedicine with one important distinction – controlled substances cannot be prescribed via telemedicine. This prohibition stretches to the drugs most commonly used for MAT (methadone and buprenorphine). In most states, an in-person visit with a provider who also performs a physical examination is required to prescribe opioids. This requirement is partially in response to a 2008 federal law known as the Ryan Haight Act. The Ryan Haight Act limits how digital health platforms can be used to manage certain conditions. At the time the law was enacted, it was designed to protect consumers from unregulated internet pharmacies. In 2018, some critics argue the law is impeding efforts to address the opioid crisis and there are calls for change. At the time of this writing at least three states were evaluating their telemedicine rules and regulations with an eye to creating formularies of controlled substances that may be managed and prescribed using telemedicine.

Outpatient Virtual Visits

Increasing costs, decreasing reimbursement, a shrinking pool of primary care physicians, competition from retail clinics and patient centered delivery models are just a few of the challenges facing the 21st century physician practice. Forced to provide more care with fewer resources; practices and providers are turning to virtual services as a cost effective means to increase patient access and satisfaction for non-emergent services.

Virtual healthcare changes the communication dynamic between provider and patient by eliminating the need for the participants to be in the same physical location. Outpatient virtual visits (sometimes referred to as e-visits) can be very convenient for the patient, in some cases too convenient. Cell phones are the equivalent of a hand held computer. This functionality and convenience has led patients to seek care from public spaces such as restaurants, trains and lobbies. These areas are not conducive to health care for a number of reasons (for example, noise level can affect attentiveness) so location of the patient must be considered during an e-visit before any health care is provided.

Even when the patient is at home during the virtual visit, the provider is faced with significant challenges. Even the simplest vital sign, such as temperature, may not be possible if the patient does not have a thermometer. Lighting at the patient location and the intervening electronics make assessing skin color and moisture difficult. The typical assessment of ears, nose, throat and lymph

nodes when a patient has upper respiratory complaints is not possible. These barriers must be considered when developing a virtual visit program and when deciding what types of patients and what conditions are appropriate for virtual treatment.

To address some of these challenges, healthcare providers have teamed up with retail outlets and pharmacies to provide telemedicine services. There are several different models depending on the collaboration, but these retail placed clinics share one thing in common: convenience. The sites are convenient for the patient and the location is convenient for the retail outlet if the patient needs prescriptions and supplies. In some sites, the addition of simple diagnostic tools such as a temporal thermometer and automatic blood pressure monitor (that the patient can be instructed when and how to use) extend convenience and comfort for the provider. This new model is one to watch and another example of the many ways health care is and will continue to be affected by technology.

Alternative Settings

- **Long-Term Care**

  Long-term care (LTC) facilities, especially those in rural areas, may lack the resources to provide a timely and comprehensive medical evaluation of patients in distress. If a resident has a change in condition or a new onset of symptoms, the LTC staff will typically call a physician, physician assistant or advanced practice nurse for a consult. In some circumstances, the provider is not immediately available to return a call, and, as a result, the patient is transported to the hospital for an emergency evaluation that could have possibly been avoided by a prompt consult. Telemedicine can be used to decrease the provider's response time, which allows the LTC staff to make better informed decisions about the need for emergent care or hospital admission.

  Morrissey reports that caregivers at an LTC facility in rural South Dakota used a specialized cart with a video camera to facilitate bedside patient assessment by a remote provider and found that about 90 percent of its telemedicine cases could be appropriately treated in the nursing home.[43] In another LTC telemedicine initiative, nursing homes in Pennsylvania used specialized carts with video cameras, special wound cameras, electronic stethoscopes, otoscopes and 12-lead electrocardiograms for the bedside evaluation of patients by remote geriatric specialists; this program, too, reduced hospital admissions.[44]

- **Prison Health**

  Telemedicine has been used in prison systems to ensure public safety, improve patient outcomes, and decrease expense. Transporting an inmate to a health care facility is expensive, and it can involve security issues when the inmate is a potentially dangerous individual who might try to escape or harm the facility's staff, other patients and visitors. Telemedicine can take that risky and costly transfer out of the equation and allow care to be provided in a more secure setting.

  Telemedicine may also further care in prisons with limited resources for routine medical services. An ophthalmologist at the University of Texas Medical Branch at Galveston (UTMB) designed a hypothetical model tele-ophthalmology system to remotely evaluate diabetic retinopathy (a cause of blindness) in patients with type 2 diabetes. A study done by the Texas Department of Criminal Justice in conjunction with UTMB showed that the use of this model system to evaluate inmates for diabetic retinopathy would be cost-effective and provide better patient outcomes.[45]

THE FUTURE OF TELEMEDICINE

The future of telemedicine is bright, even though it continues to face challenges. In 2016, approximately 15 million Americans received a form for remote medical care, and that number is likely to rise as technologies improve and current administrative and regulatory barriers are surmounted.[46,47]

New mobile and wearable biotech devices have remote monitoring and diagnostic capabilities, and advancements in augmented and virtual reality may revolutionize education and training. Robotic surgery could become more commonplace. As levels of electronically mediated interactions between patients and providers expand and are facilitated by continued advances in technology, telemedicine may transform thinking about how healthcare is best delivered.

The benefits of telemedicine achieved thus far, such as reduced costs, improved access, greater convenience and heightened efficiency, may be just the tip of the proverbial iceberg. Telemedicine is a disruptive technology. The risk mitigation skills that risk managers have applied to technologies (such as electronic medical records and advanced imaging techniques) before can be applied to telemedicine as well. In order to do so, it is critical that risk managers maintain efforts to keep abreast of current developments and remain flexible and open-minded as they guide their organizations to manage new risks and opportunities as they occur.

ADDITIONAL RESOURCES:

American Hospital Association Telehealth Resource page: https://www.aha.org/telehealth

American Telemedicine Association: https://thesource.americantelemed.org

Center for Connected Health Policy National Telehealth Policy Resource Center: http://www.cchpca.org/national-telehealth-policy-resource-center

Center for Telehealth and e-Health Law: http://ctel.org

Federation of State Medical Boards: http://www.fsmb.org

Interstate Medical Licensure Compact: http://www.imlcc.org

National Telehealth Technology Assessment Resource Center: http://www.telehealthtechnology.org

Substance Abuse and Mental Health Services Administration, SAMHSA In Brief Rural Behavioral Health: Telehealth Challenges and Opportunities: https://store.samhsa.gov/shin/content/SMA16-4989/SMA16-4989.pdf

Telehealth Resource Centers: https://www.telehealthresourcecenter.org

REFERENCES

1. American Telemedicine Association About Telemedicine website. 2018. Retrieved from http://www.americantelemed.org/main/about/about-telemedicine/telemedicine-faqs.
2. Zhang, Benjamin: The Benefits and Risks of Telemedicine, Risk Management, August 1, 2016. http://www.rmmagazine.com/2016/08/01/the-benefits-and-risks-of-telemedicine/
3. Institute of Medicine Committee on Evaluating Clinical Applications of Telemedicine; Field, M. J., ed. (1996). Telemedicine: a guide to assessing telecommunications in health care. Washington, DC: National Academies Press. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK45445.
4. Institute of Medicine Committee on Evaluating Clinical Applications of Telemedicine (1996).
5. American Telemedicine Association About Telemedicine website. 2018. Retrieved from http://www.americantelemed.org/main/about/about-telemedicine/telemedicine-faqs.
6. Medicare Learning Network. *Telehealth Services*. February 2018. Centers for Medicare and Medicaid Services, Department of Health and Human Services. Retrieved from www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/TelehealthSrvcsfctsht.pdf
7. Federation of State Boards of Medicine. (2014). *Model Policy for the Appropriate use of Telemedicine Technologies in the Practice of Medicine.* Retrieved from http://www.fsmb.org/globalassets/advocacy/policies/fsmb_telemedicine_policy.pdf
8. *Telemedicine guide* (n.d.). Retrieved from eVisit website: https://evisit.com/what-is-telemedicine
9. *Telemedicine guide* (n.d.).
10. *Telemedicine guide* (n.d.).
11. Centers for Medicare and Medicaid Services (2015, July 11). *Telemedicine services in hospitals and critical access hospitals (CAHs) (memorandum)*. Retrieved from https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/downloads/SCLetter11_32.pdf
12. Waters, R. J. (2011). *Credentialing and privileging*. Retrieved from Center for Telehealth & eHealth Law website: http://ctel.org/expertise/credentialing-and-privileging
13. Center for Telehealth and e-Health Law website. Retrieved from http://ctel.org
14. Gilroy, A. S. (2014, June 6). *Telemedicine, mobile health, and the standard of care*. Paper commissioned for American Association for the Advancement of Science (AAAS) mHealth and Law workshop. Washington D.C. Retrieved from https://www.aaas.org/sites/default/files/Gilroy-Telemedicine,%20mHealth%20and%20the%20Standard%20of%20Care.pdf
15. AMA Code of Medical Ethics Opinion 1.2.12 Ethical Practice in Telemedicine https://www.ama-assn.org/delivering-care/ethical-practice-telemedicine
16. American Psychiatry Association Telemedicine Toolkit; https://www.psychiatry.org/psychiatrists/practice/telepsychiatry
17. Daniel H, Sulmasy LS, Policy Recommendations to Guide the Use of Telemedicine in Primary Care Settings: An American College of Physicians Position Paper. Ann Intern Med. 2015; 163:787–789. doi: 10.7326/M15-0498 http://annals.org/aim/fullarticle/2434625/policy-recommendations-guide-use-telemedicine-primary-care-settings-american-college

18. Federation of State Medical Boards (2014). *Model policy for the appropriate use of telemedicine technologies in the practice of medicine*. Retrieved from https://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/FSMB_Telemedicine_Policy.pdf

19. American Telemedicine Association (n.d.). *Practice guidelines & resources*.

20. Center for Connected Health Policy (n.d.). *Malpractice*. Retrieved from http://www.cchpca.org/malpractice-0

21. American Academy of Pediatrics, Pediatric ECHOS website https://www.aap.org/en-us/professional-resources/practice-transformation/echo/Pages/Health-Conditions.aspx

22. Komaromy M, Duhigg D, Metcalf A, Carlson C, Kalishman S, Hayes L, Burke T, Thornton K and , Arora S. Project ECHO (Extension for Community Healthcare Outcomes): A new model for educating primary care providers about treatment of substance use disorders.Subst Abus. 2016;37(1):20-4. doi: 10.1080/08897077.2015.1129388.

23. Fenway Institute, National LGBT Health Education Center Transgender Health ECHO https://www.lgbthealtheducation.org/transecho/

24. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c12.pdf

25. Interstate Medical Licensure Compact (2018). Retrieved from http://www.imlcc.org

26. Zurich American Insurance Company (2013). *Mitigating telemedicine risk*. a checklist for healthcare providers (white paper). Retrieved from https://www.zurichna.com/en/knowledge/articles/2013/06/mitigating-telemedicine-risks

27. Lorman S. How Telemedicine Is Changing Disaster Relief. *Well Being*. September 8, 2017. Retrieved from https://www.thriveglobal.com/stories/13073-how-telehealth-is-changing-disaster-relief

28. Herman B. (2016). Virtual reality: More insurers are embracing telehealth. *Modern Health* February 20. Retrieved from http://www.modernhealthcare.com/article/20160220/MAGAZINE/302209980

29. Courneya PT, Palatto KJ and Gallagher JM. HealthPartners' online clinic for simple conditions delivers savings of $88 per episode and high patient approval. Health Affairs 2013; 32(2):885-392.

30. Gordon AS, Adamson WC, DeVries AR. Virtual visits for acute, nonurgent care: A Claims analysis of episode-Level utilization. J Med Internet Res 2017;19(2):e35.

31. Page 5 American Telemedicine Association Practice Guidelines for Telestroke. March 2017. Retrieved from www.ata.org (registration required)

32. Wechsler,LR, et. al. Telemedicine Quality and Outcomes in Stroke A Scientific Statement for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke* January 2017. e1-e23. DOI: 10.1161/STR.0000000000000114 Retrieved from http://stroke.ahajournals.org/content/early/2016/11/03/STR.0000000000000114

33. Wechlsler Ibid p e23

34. ATA quoting Demaerschalk BM, Miley ML, Kiernan TE, Bobrow BJ, Corday DA, Wellik KE, et al. Stroke telemedicine. Mayo Clin Proc. 2009;84:53-64.

35. Page 7 American Telemedicine Association Guidelines for Tele-ICU Operations, May 2014. Retrieved from www.ata.org (registration required).

36. Lilly CM, Cody S, Zhao H, et al. Hospital mortality, length of stay, and preventable complications among critically ill patients before and after tele-ICU reengineering of critical care processes. JAMA. 2011;305(21):2175-2183.

37. Wilcox ME, Adhikari NK. The effect of telemedicine in critically ill patients: systematic review and meta-analysis. Crit Care. 2012;16(4):R127.

38. Lilly CM, Motzkus C, Rincon T, Cody SE, Landry K, Irwin RS., ICU Telemedicine Program Financial Outcomes. *Chest* 2017; 151(2): 206-297. Retrieved from http://journal.chestnet.org/article/S0012-3692(16)62552-7/pdf

39. Ortiz-Pujols SM, Thompson K, Sheldon GF, Fraher EP, Ricketts TC, & Cairns BA. Burn care: Are there sufficient providers and facilities? November 2011. The American College of Surgeons Health Policy Research Institute. Retrieved from https://www.facs.org/~/media/files/advocacy/hpri/burncare.ashx.

40. Ibid

41. American Psychiatric Association Telepsychiatry Toolkit website *Feasibility and Effectiveness* page retrieved from https://www.psychiatry.org/psychiatrists/practice/telepsychiatry/feasibility.

42. Castillo, C. (2017, June 12). Interview.

43. Morrissey, J. (2016, September). Use of telemedicine grows in long-term settings. *Health Data Management*. Retrieved from https://www.healthdatamanagement.com/news/use-of-telemedicine-grows-in-long-term-care-settings

44. Morrissey (2016).

45. Aoki, N., Dunn, K., Fukui, T., Beck, R. J., Schull, W. J., & Li, H. K. (2004, May). Cost-effectiveness analysis of telemedicine to evaluate diabetic retinopathy in a prison population. *Diabetes Care*, 27(5), 1095–1101.

46. American Telemedicine Association. *The source*. Retrieved from https://thesource.americantelemed.org/home

47. Donohue, J. (2016, September 6). Telemedicine: what the future holds. *Healthcare IT News* (blog post). Retrieved from http://healthcareitnews.com/blog/telemedicine-what-future-holds

This whitepaper, Telemedicine Risk Management Considerations, was made possible by the American Society for Healthcare Risk Management.

It was developed to support efforts to advance safe and trusted healthcare through enterprise risk management.

To learn more and become an ASHRM member, visit www.ASHRM.org/membership.

ASHRM
AMERICAN SOCIETY FOR HEALTH CARE RISK MANAGEMENT