Telemedicine: The Law Is the Limit

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I. INTRODUCTION

Amidst this age of technological leaps and bounds, a rapidly growing industry called telemedicine is poised to assume a significant role in the way health care is conducted. Simply put, telemedicine allows

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health-care professionals to evaluate, diagnose, and treat patients from a remote location through the use of telecommunications technology.[1] By employing various equipment, including video networking, audio devices, medical monitoring equipment, and software applications, a typical computer can be used to facilitate medical treatments.[2]

Telemedicine is implemented in numerous ways. Developing and impoverished countries use telemedicine to reach patients in remote locations or to supplement inadequate medical resources.[3] The United States Department of Justice deemed telemedicine as a means of reducing health-care costs for inmates.[4] Deep-water drilling platforms use telemedicine applications to treat employees located hundreds of miles offshore.[5] U.S. communities have begun using telemedicine to reduce expenses and travel, provide relief to remote regions, and provide access to otherwise inaccessible or unavailable specialists. These are only a few examples of the growing role that telemedicine plays.

The future of telemedicine is much bolder. There are potential preventative rewards beyond the convenience and efficiencies generated from this growing technology. Imagine small, comfortable sensors that monitor your vital signs and store the information to your computer.[6] The information can then be automatically sent at scheduled intervals, and made available to your physician for review. Many conditions that may have once gone unnoticed could be identified and treated earlier. A decade ago, this may have seemed more like science fiction, but in this current age of "tweets" and "pokes,"[7] the technology is very real.

Another potential use of telemedicine involves the possibility of providing health care to uninsured and impoverished Americans. The United States Census Bureau estimated that 50.7 million Americans were

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1. *See Telemedicine Defined*, AMD GLOBAL TELEMEDICINE, http://www.amdtelemedicine.com/telemedicine-resources/telemedicine-defined.html (last visited Oct. 30, 2011).

2. *See id.*

3. *See generally* Andrés Martínez et al., *Rural Telemedicine for Primary Healthcare in Developing Countries*, IEEE TECH. & SOC'Y MAG (2004), http://www.ehas.org/uploads/file/difusion/articulos/revistas/rural-telemedicine-for-primary-healthcare-in-developing-countries-ieee.pdf.

4. *See* U.S. DEP'T OF JUSTICE, TELEMEDICINE CAN REDUCE CORRECTIONAL HEALTH CARE COSTS: AN EVALUATION OF A PRISON TELEMEDICINE NETWORK (1999), *available at* http://www.ncjrs.gov/telemedicine/toc.html.

5. *See, e.g.*, Oscar W. Boultinghouse, *Telemedicine Technologies Enhance Offshore Healthcare, Reduce Illness-Related Departures*, DRILLING CONTRACTOR (Nov. 2, 2009), http://www.drillingcontractor.org/telemedicine-technologies-enhance-offshore-healthcare-reduce-illness-related-departures-1853.

6. *See generally Telemedicine Is Good Medicine*, SWIFTMD (Aug. 2008), http://www.swiftmd.com/xres/uploads/documents/SwiftMD-WhitePaper20080819a.pdf.

7. Tweets and pokes refer to common actions on popular social networking sites, twitter.com and facebook.com, respectively.

uninsured in 2009, and 91.2 million were receiving Medicaid or Medicare.[8] Telemedicine could potentially provide an affordable means to diagnose and treat common conditions, and identify more serious symptoms. For those who already have Internet service at home, many services could be provided without leaving the house. For those without Internet service, a public medical facility could provide the needed service, without long waiting times or a staff of doctors. Telemedicine could also help reduce the cost of government-subsidized health-care services, which have become an ever-increasing burden on the nation.

As technology continues to facilitate faster and more efficient communication, the logistical barriers that once impeded the proliferation of telemedicine are diminishing. However, the legal system has yet to catch up. While the U.S. government is expending significant resources to develop and encourage this budding technology, legal treatment of emerging telemedicine issues, and "e-health"[9] in general, has been left to state law. However, the existing laws and regulations governing licensure, accreditation, and malpractice were not intended to regulate remotely administered health care. Furthermore, issues such as document security, fraud, and intellectual property rights could potentially create added barriers against the growth of telemedicine. As it stands, our current legal system is already struggling to embrace the amorphous Internet environment, which has progressively invaded modern society.

This Article is intended to provide an overview of telemedicine, both past and present, and the major legal obstacles that must be overcome in order to achieve widespread growth. Part II will explain the origin of telemedicine. Part III will discuss modern applications of telemedicine. Part IV will discuss the growth of the telemedicine industry in the United States. Part V will discuss the significant legal obstacles that telemedicine must overcome: licensure, accreditation, malpractice, and medical professional liability insurance. Part VI will summarize the Article and propose possible solutions and predictions.

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8. *See* Carmen DeNavas et al., *Income, Poverty, and Health Insurance Coverage in the United States: 2009*, U.S. CENSUS BUREAU 71 (2010), http://www.census.gov/prod/2010pubs/p60-238.pdf.

9. *See* G. Eysenbach, *What Is E-Health?*, J. MED. INTERNET RES. (2001), http://www.jmir.org/2001/2/e20 (defining e-health is a buzzword used to characterize "virtually everything related to computers and medicine").

II. BACKGROUND

Though the term "telemedicine" may not be widely recognized, the concept has been around for a long time. Aside from a few isolated experiments, telemedicine began with the space program in the 1960's.[10] During that time, the National Aeronautics and Space Administration (NASA) developed and implemented specially designed electronic devices to monitor the health of astronauts during space flight.[11] Physiological measurements were then "telemetered" from the spacecraft and space suits.[12] By utilizing satellite technology, NASA could monitor the health of each astronaut from thousands of miles away.

NASA's contribution to telemedicine did not end with the space program however. In 1972, NASA conducted a project, in cooperation with the Department of Health, Education, and Welfare, known as "STARPAHC" (Space Technology Applied to Rural Papago Advanced Health Care), which was developed to deliver health care to an isolated Papago Indian Reservation in Arizona.[13] Through the use of a van, equipped with a variety of medical equipment, two Indian paramedics were able to transfer data to a remote hospital using a two-way microwave transmission.[14] Another experiment, conducted in 1974, tested "the minimal television system requirements for accurate telediagnosis."[15] Finally, in 1989, "NASA conducted the first international telemedicine project, 'Space Bridge to Armenia/Ufa.'"[16] Following a devastating earthquake in the Soviet Republic of Armenia, "an offer of medical consultation was extended to the Soviet Union by several medical centers in the United States."[17] Through the use of "video, audio, and facsimile between a medical center in Yerevan, Armenia, and four medical centers in the United States," telemedicine consultations were conducted for the benefit of the earthquake victims.[18]

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10. *See* Charles R. Doarn et al., *Applications of Telemedicine in the United States Space Program*, 4 TELEMEDICINE J. 19, 19-20 (1998).

11. *Id.*

12. *Id.*

13. *See* Teresa Smith Welsh, *Telecommunications and Medicine: The Development of Telemedicine in Improving Access to Health Care in Rural Areas of East Tennessee*, U.S. MISS. (Nov. 1999), http://ocean.otr.usm.edu/~w146169/telemed.htm.

14. *Id.*

15. SCI SYSTEMS, INC., FINAL REPORT: VIDEO REQUIREMENTS FOR REMOTE MEDICAL DIAGNOSIS (1974).

16. Welsh, *supra* note 13.

17. *Id.*

18. *Id.*

Support was then further extended to Ufa, Russia to aid burn victims after a railway accident.[19]

For nearly half a century, expanding communication technologies have continued to facilitate the implementation of telemedicine services. As these technologies have evolved, health service researchers have continued to investigate opportunities to provide access to care beyond the traditional face-to-face model. Today, the needed technology is available. However, there are numerous legal obstacles that telemedicine must overcome before it can be implemented broadly. To understand these obstacles, it is first necessary to understand exactly what telemedicine currently entails.

III. TELEMEDICINE IN THE TWENTY-FIRST CENTURY

Today, the term telemedicine falls within the broader categories of "e-health," and "telehealth." Whereas telemedicine is characterized as focusing on the curative aspects of health care, telehealth focuses on the preventive and promotive aspects *as well as* the curative aspects. E-health, on the other hand, has been broadly defined as "*an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies.*"[20] E-health is commonly used to define all activities related to the practice of medicine through the use of telecommunication technology. However, for the purposes of this Article, "telemedicine" and "telehealth" will be used interchangeably to include both preventive and curative facets. Telemedicine is considered to have two different forms: "store-and-forward" and "real-time."[21] The former involves the collection and storage of medical information (such as X-rays and ECG readings), to be viewed by a medical practitioner at a later time, whereas the latter involves real-time interaction between patients and practitioners or practitioner-to-practitioner.[22]

Store-and-forward is particularly useful for outsourcing medical data to specialists, and has been used in some form for many years.[23] This practice is typically used for diagnosis and treatment decisions. In addition to the cost savings that can be realized by eliminating the need

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19. *Id.*
20. *See* Eysenbach, *supra* note 9.
21. *See* OR. EVIDENCE-BASED PRACTICE CTR., TELEMEDICINE FOR THE MEDICARE POPULATION: UPDATE (Feb. 2001), *available at* http://www.ahrq.gov/clinic/epcsums/telemedsum.htm.
22. *Id.*
23. *Id.*

for an on-site doctor, it is also effective for doctors and patients that are located in remote areas. In addition to outsourced medical opinions and sample testing, remote monitoring can be facilitated through a store-and-forward application by allowing asynchronous monitoring of patients using various devices. Such monitoring applications are particularly effective for patients with chronic conditions.[24]

Real-time telemedicine applications include: (1) interaction between patient and doctor, (2) remote mentoring, and (3) remote surgery (telesurgery).

A. Interaction Between Patient and Doctor

Real-time telemedicine has the most practical day-to-day implications for the average patient. The obvious beneficiaries of this developing form of health care are those that live or work in isolated locations. In addition to the available store-and-forward telemedicine possibilities, a person who is physically unable to travel to a specialist, or in some cases a primary care physician, can still have the opportunity to seek medical treatment through the use of teleconferencing technology.

While there are significant limitations to the level of care that can be provided to an in-home patient, with real-time telemedicine a homebound patient could nevertheless receive real-time medical attention. As in-home monitoring devices become cheaper and more readily available, the level of care that a patient could receive from their residence will also improve. Alternatively, services such as psychiatric therapy and counseling can be administered effectively without additional equipment.

B. Remote Mentoring

Remote mentoring involves interaction between separate medical providers to assist in certain procedures or to provide medical expertise.[25] This type of real-time application of telemedicine is useful in numerous ways. On an educational level, doctors from around the world can share information in a real-time setting. This interactive format allows for not only instructional exchanges, but also collaborative and explorative interaction. Additionally, remote mentoring can allow a distant medical

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24. *Id.* Asynchronous monitoring refers to collecting, sending, and interpreting medical data at certain intervals, as opposed to real-time monitoring. *Id.*

25. Roundtable on Legal Impediments to Telemedicine, *Legal Impediments to the Diffusion of Telemedicine*, U. MD. SCH. L. 8-11 (Apr. 16, 2010), http://dhmh.maryland.gov/mhqcc/pdf/2010/Sep10/Attachment_D_University_of_Maryland_School_of_Law_Telemedicine_White_Paper.pdf [hereinafter Roundtable].

practitioner to be "virtually present" during a treatment or operation. The virtual doctor can provide expert guidance and assistance to an inexperienced practitioner, or oversee a procedure that he developed. Finally, remote mentoring can also be implemented for general patient safety and quality assurance.

C. Remote Surgery

Remote surgery, or telesurgery, is the ability of a doctor to perform surgery on a patient from a remote location, through the use of robotics.[26] Remote surgery combines the elements of robotics, communication technology, and information management systems. While often times the robotic arms are being assisted by local surgeons, the remote doctor is conducting the operation.

One of the earliest remote surgeries was conducted in 2001 between doctors on different sides of the Atlantic Ocean. For this landmark operation, a New York surgeon performed gallbladder surgery on a patient in Strasbourg, France.[27] The operation was dubbed "Operation Lindbergh" after Charles Lindbergh's transatlantic flight from New York to Paris.[28] Since that time, there have been numerous similarly successful remote surgeries.[29]

As evidenced, store-and-forward *and* real-time processes have many beneficial applications. By combining these processes, even greater benefit can be realized. A good example of their combined value involves Grainger County, Tennessee, where in 1996, the U.S. government funded a project to evaluate the effectiveness of telemedicine in remote regions.[30] At that time, Grainger County had a population of 18,667 and no hospital.[31] Primary care was provided by four clinics, and due to geographical barriers, there was no ambulance service between 7:00 pm and 7:00 am.[32] During the span of the project, both store-and-forward and real-time applications of telemedicine were studied.[33] Each of the four clinics were supplied with interactive audio-video equipment

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26. *See Telesurgery Definition*, DICTIONARY.COM, http://dictionary.reference.com/browse/telesurgery (last visited Mar. 26, 2011).

27. *See* David Holt et al., *Telesurgery: Advances and Trends*, 82 U. TORONTO MED. J. 1 (Dec. 2004), *available at* http://utmj.org/archive/82-1/REV.pdf.

28. *Id.*

29. *E.g.*, Jo Revel, *'Remote' Surgery Turning-Point*, THE GUARDIAN (Oct. 5, 2002), http://www.guardian.co.uk/society/2002/oct/06/health.medicineandhealth.

30. *See* Welsh, *supra* note 13.

31. *Id.*

32. *Id.*

33. *Id.*

and training for its use with patient consultations.[34] This enabled physicians in one of the rural clinics to interact with patients in one of the other rural areas. Additionally, patients at the clinics would have access to specialists at the University of Tennessee Medical center in Knoxville (UT Medical).[35] To improve emergency care capabilities, the county-owned EMS service received two EKG units that were capable of transmitting patient data to UT Medical via cellular telephone.[36] Eight home care patients were also selected and provided with interactive audio/video equipment.[37] This equipment enabled them to consult directly with doctors. The cost of the equipment was recovered after only ten trips to the patients' homes were avoided.[38] The success of this project helped encourage further financing and exploration of telemedicine.

Store-and-forward and real-time applications of telemedicine represent the basis for comprehensive health care that does not require traditional face-to-face interaction. To date, these evolving practices have been exhaustively tested, and successfully implemented.

IV. GROWTH OF TELEMEDICINE IN THE UNITED STATES

The *interactive* telemedicine business has been growing by almost ten percent annually to more than $500 million in revenue in North America last year.[39] This represents only a fraction of the $3.9 billion overall telemedicine market, which includes home monitoring devices and health-care applications for smartphones.[40] The U.S government has been encouraging and financing exploration in this field for decades, and now it appears that telemedicine is finally gaining momentum.

So why is this promising field of health care, which has existed since the 60s, finally beginning to gain traction? The answer, in a nutshell, is the growth of technology and the gradual adoption of telemedicine. Technology, or lack thereof, has always been a major obstacle for the widespread acceptance of telemedicine. At its inception, telemedicine was facilitated through sophisticated multi-million-dollar NASA equipment, which beamed information down to earth from newly

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34. *Id.*
35. *Id.*
36. *Id.*
37. *Id.*
38. *Id.*
39. *See* Milt Freudenheim, *The Doctor Will See You Now. Please Log On*, N.Y. TIMES, May 29, 2010, at BU1, *available at* http://www.nytimes.com/2010/05/30/business/30telemed.html.
40. *Id.*

developed satellite technology.[41] Besides the cost, it literally required a rocket scientist to operate and maintain the equipment. Today, thanks to remarkable technological leaps, we have become a society that demands immediate delivery of information. And that is exactly how we receive information, on-demand. As it turns out, the same technology that provides us with instantaneous updates on the social activities of our favorite personalities could also save our lives. The rapid communication infrastructure that had been lacking in the previous decades is now a functioning reality.

Besides rapidly expanding technological advances, another major factor that has allowed telemedicine to expand, is adoption. The U.S. government has been supporting the cause for some time now.[42] In addition to providing grants and other financial incentives to medical researchers, for many years government health-care programs have been reimbursing doctors and hospitals that provide remote care to rural and underserved areas.[43] Furthermore, the new federal health-care law provides $1 billion a year to study telemedicine and other innovations.[44] In recent years, a growing number of major insurance companies have started to market telemedicine.[45] In addition, the states are slowly coming on board. For example, in 2010, Virginia became the twelfth U.S. state to enact a law requiring that health plans pay for telemedicine services.[46] Although the statute is narrowly written, it represents another positive step for telemedicine. Where states are beginning to require reimbursement for telemedicine services, insurance providers are being forced to recognize that such practices constitute legitimate medical procedures. Subsequently, patients in these areas are encouraged to

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41. *See* Doarn et al., *supra* note 10.

42. *See* NAT'L RURAL HEALTH ASS'N, THE ROLE OF TELEMEDICINE IN RURAL HEALTH CARE (Feb. 1998) (describing how the Department of Defense undertook a major investment in telemedicine use for isolated military personnel and how the U.S. Department of Health and Human Services heavily grants video conferencing technology in at least forty states); CAL. TELEMEDICINE & EHEALTH CTR., TELEMEDICINE REIMBURSEMENT: A NATIONAL SCAN OF CURRENT POLICIES AND EMERGING INITIATIVES (2009), *available at* http://www.nrtrc.org/wp-content/uploads/CTEC-National-Scan1.pdf (explaining the 1997 Balanced Budget Act authorization of limited reimbursements to telehealth services; 2000—Benefits Improvement Act of 2000 amended the Social Security Act to expand scope of telemedicine coverage; 2008 expansion of medical centers that could receive Medicare reimbursements for telemedicine treatments).

43. *See* CAL. TELEMEDICINE & EHEALTH CTR., *supra* note 42.

44. *See* Freudenheim, *supra* note 39.

45. *Id.*

46. *See* Kate Ackerman, *Virginia Bill Mandates Telemedicine Coverage; Barriers Remain*, IHEALTHBEAT.COM (Mar. 22, 2010), http://www.ihealthbeat.org/features/2010/virginia-bill-mandates-coverage-of-telemedicine-barriers-remain.aspx.

explore and utilize these services without the concern that their health-care provider will deny reimbursement. These adoptive measures by the government, states, insurance carriers, and patients, will help propel the practice of telemedicine into the forefront of health care.

In addition to the many domestic benefits that will be realized, telemedicine is poised to promote the globalization of health care.[47] Where patients were once limited by their choices in health-care services, now a patient may theoretically utilize the best doctors and surgeons from around the world through cooperative efforts with local health-care providers. Although this would not eliminate the need for primary care physicians, it would increase the competitive market for such services, which could greatly increase the quality of care in our country. Also, the cost savings of implementing e-health services on a national, and potentially global scale, could effectively reduce government and public health-care costs, which could increase the availability of health-care opportunities to a broader segment of the population.

While many potential applications of telemedicine are possible, there are significant hurdles to overcome. In addition to inevitable political barricades, numerous legal impediments block the path of this emerging field.

V. LEGAL IMPEDIMENTS

A. Overview

The practice of medicine encompasses numerous areas of legal significance, including: licensure/accreditation, malpractice, privacy of records, fraud, and intellectual property. Because traditional medical practices were never intended to extend beyond state boundaries, the current legal system is unequipped to deal with the new challenges of telemedicine. Just as law makers and courts are struggling to re-interpret existing standards and devise new legislation to address unrelated Internet based services, telemedicine too requires a remodeled interpretation of our current legal regime. However, unlike other forms of Internet applications, telemedicine will require a more proactive approach, instead of reactive responses. The reason for this is elucidated in the following Subparts, but essentially, many existing regulations prohibit the growth of telemedicine.

There are also numerous potential conflicts between state and federal rights. For example, it is well established that the Tenth

47. Julio Frenk, *Telemedicine and e-Health*, MARY ANN LIEBERT, INC. PUBLISHERS (June 2005), http://www.liebertonline.com/doi/abs/10.1089/tmj.2005.11.291.

Amendment reserves for the States the power to regulate health and safety issues.[48] However, the practice of telemedicine may challenge such notions. If a practitioner in Florida is examining a patient in Oregon, which state would regulate the activities of the doctor? Furthermore, if a state refuses to provide licensing or imposes higher standards for an out-of-state practitioner, is that state violating the Constitution?[49]

While historically States have enjoyed the right to manage health care, the inherent lack of physical boundaries associated with the Internet creates an argument for federalizing these regulations. Though strong arguments exist on both sides of this issue, a hybrid approach may well be the best solution. Either way, the federal and local governments will need to cooperate in addressing these legal issues.

B. Licensure and Accreditation

1. Licensure

State laws present the most formidable hurdle for the interstate practice of medicine because all state and U.S. territories have enacted laws to strictly regulate practice in that region. In 1997 and 2001, the Office for the Advancement of Telehealth released the *Telemedicine Report to Congress*, and "identified licensure as a major barrier to the development of telemedicine."[50] Long-established state boards enforce the guidelines set forth, and in many states criminal penalties have been included as well. While the States have remained well within their constitutional rights, the need for cooperation between State and Federal government is necessary for telemedicine to grow.

Although each state's board of medical licensure generally performs the same function, each board has its own requirements and protocols. Because there are sixty-nine licensing jurisdictions in the United States, satisfying the requirements in multiple jurisdictions can be quite burdensome for a practicing physician. Though many standards are similar (i.e., approved medical schools, physical and mental fitness, and lack of serious disciplinary history), major requirement differences can

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48. U.S. CONST. amend. X.

49. *See, e.g.*, Supreme Court of N.H. v. Piper, 470 U.S. 274 (1985) (holding that an attorney has a constitutional right to practice law in nonresident state under Privileges and Immunities Clause); Philadelphia v. New Jersey, 437 U.S. 617, 629 (1978) (holding that an action by state to favor in-state economic interests over out-of-state interests is unconstitutional act of protectionism under the Commerce Clause).

50. *See* CTR. FOR TELEMEDICINE LAW, OAT: TELEMEDICINE LICENSURE REPORT (June 2003).

include length of postgraduate training, approved foreign medical schools, and type and extent of verified credentials.[51] While some states have enacted legislation that supports remote licensure, most have adopted restrictive licensure positions.

In 2010, the FCC noted that, "State-by-state licensing requirements limit practitioners' ability to treat patients across state lines. This hinders access to care, especially for residents of states that do not have needed expertise in-state."[52] Several national medical organizations have also weighed in on the subject. The American Medical Association has stated, "states and their medical boards should require a full and unrestricted license in each state for physician and health professionals who wish to regularly practice telemedicine in that state."[53]

The Federation of State Medical Boards (FSMB) adopted a Model Act to Regulate the Practice of Medicine Across State lines.[54] In doing so, the FSMB recommended that "state medical boards offer an expedited licensure by endorsement process to physician and health professionals meeting the following qualifications:

1. Full and unrestricted licensure (in all jurisdictions where a medical license is held);
2. Free of disciplinary history, license restrictions, or pending investigations (in all jurisdictions where a medical license is or has been held);
3. Graduation from an approved medical school or hold current Educational Commission for Foreign Medical Graduates (ECFMG) certification;
4. Passage of a licensing examination acceptable for initial licensure within three attempts per step/level and within a seven (7) year time period;
5. Completion of three (3) years of progressive postgraduate training in an accredited program; and/or,

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51. NGA CTR. FOR BEST PRACTICES, STREAMLINING THE LICENSURE SYSTEM TO ENABLE CROSS-STATE E-HEALTH (Sept. 25, 2008), *available at* http://www.nga.org/Files/live/sites/NGA/files/PDF/0809EHEALTHLICENSURE.PDF.

52. FED. COMMC'NS COMM'N, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (Mar. 2010), *available at* http://www.broadband.gov/download-plan.

53. *Licensure Portability*, AM. TELEMEDICINE ASS'N (Mar. 2007), http://www.americantelemed.org/files/public/policy/Licensure_Portability.pdf (citing H.L. BLATT, TELEMEDICINE: A PROMISING DREAM FACES HARSH REALITIES (Summer 1998)).

54. *Id.* at 2.

6. Current certification from a medical specialty board recognized by the American Board of Medical Specialties (ABMS) or the American Osteopathic Association (AOA).[55]

Another recognized advocate, the American Telemedicine Association (ATA), has identified three fundamental issues at the heart of the licensing controversy: (1) assurance of quality care; (2) protection of state's rights; and (3) protection of trade from outside competition.[56]

Every state seeks to provide competent, quality care, which is regulated by the state medical board. Any contention by one state that a licensed physician from another state might not provide adequate care presupposes that the licensing state has lax enforcement or inferior requirements.[57] However, all fifty states require passing all four tests of the United States Medical Licensing Exam (USMLE) for any physician to obtain a license to practice medicine.[58] The test is the same in every state.[59] While there may be differences in licensing requirements, the core substantive pre-requisites are the same. Subsequently, in most cases assurance of quality care is not likely the primary source of a state's reluctance to provide licensing for telemedicine providers.

Protection of state's rights is nearer to the "heart of the matter," according to the ATA.[60] Reluctance to relinquish control of licensing power and collection of licensing fees is a major concern for the states. Licensing fees create a significant source of income that states do not want to lose. For this reason, federal preemption of state licensing powers will not be easy to achieve. Without the states' support, Congress would have to contest states' rights based on Commerce and Spending powers. The likelihood that Congress would challenge a state's well-established powers of licensure is highly unlikely, especially without considerable political momentum.

The "unspoken heart" of the medical licensure issue is trade protectionism.[61] Physicians and specialty groups have long encouraged steep licensing requirements for out-of-state physicians in an effort to prevent competition for patients and health services.[62] The emergence of

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55. Special Comm. on License Portability, *Federation of State Medical Boards: Report of the Special Committee on License Portability*, FED'N STATE MED. BOARDS (2002), http://www.fsmb.org/pdf/2002_grpol_License_Portability.pdf.

56. Jon Linkous, *Telemedicine and State Licensure*, AM. TELEMEDICINE ASS'N (Apr. 19, 2010), http://americantelemed.blogspot.com/2010/04/telemedicine-and-state-licensure.html.

57. *See id.*

58. *Id.*

59. *Id.*

60. *Id.*

61. *Id.*

62. *Id.*

telemedicine will only aggravate the selfish interests of those who support trade protectionism.

There are many propositions for solving the licensing dilemma, ranging from full state licensure to nationalization of licensure.[63] Though it is unclear which model will prevail, in 2009, FSMB received a three-year grant from the U.S. Health Resources and Services Administration (HRSA) to work on license portability initiatives.[64] So far, thirty states have expressed an interest in participating in the grant along with the FSMB.[65] Proponents of telemedicine are hopeful that the participating states will adopt and codify a licensure model, which may then open the doors for telemedicine on a broader scale.

2. Credentialing and Privileging

In addition to licensing requirements, current CMS (Centers for Medicare and Medicaid Services) rules regarding credentialing and privileging of health care provide another legal obstacle that telemedicine must overcome.[66] Because hospitals have a legal duty to evaluate the competency of physicians that provide medical services for their patients, these practitioners are subjected to a process known as credentialing.[67] Credentialing ensures that each physician possesses the necessary qualifications to provide medical services to patients.[68] Once the credentialing process is satisfied, the hospital must take further steps to assess the practitioner's competence in a specific area of patient care.[69] This process is called "privileging."[70]

Credentialing is based on the notion that hospitals must provide the highest possible quality of care. This process is intended to be objective, and is typically completed in one or two phases. During the initial phase, the hospital verifies that the physician has completed medical training, is properly licensed in the respective state, and has no serious medical violations. Some hospitals require an additional credentialing process known as "periodic credentialing."[71] These hospitals have the

63. Roundtable, *supra* note 25, at 8-11.
64. *Id.* at 12.
65. *Id.*
66. *Id.* at 19.
67. *Id.*
68. *Id.*
69. *Id.*
70. *Id.*
71. *See, e.g.*, *Credentialing Process*, OKLA. DEP'T CORRECTIONS 3 (2009), http://www.doc.state.ok.us/offtech/op140134.pdf.

opportunity to reevaluate the status of a physician's licenses and certificates.[72]

Upon completion of the credentialing process, the hospital will then assess a physician's competency in a specific area of practice, such as surgery or cardiology. Unlike the objective standard in the credentialing process, the privileging phase is often a subjective measurement which incorporates peer review along with an evaluation of the physician's historical performance with the hospital.[73] Like credentialing, some hospitals administer "re-privileging" periodically to re-assess the performance of the practitioner.[74] Many hospitals implement the services of "credentials verification organizations" to check the credentials of their practitioners.[75] However, due to the subjective nature of privileging, this process is more difficult to outsource.

Credentialing and privileging is typically the responsibility of the hospital where the practicing physician is located. Because telemedicine is often conducted between two hospitals, the question then becomes, which hospital performs these functions? In following the traditional model, the physician's hospital would perform these services, however, the remote hospital would still be bound by a responsibility to its own patients.

Most hospitals abide by the nationally accepted standards of credentialing and privileging that are provided by the Joint Commission. The Joint Commission was created in 1910 as an independent, not-for-profit organization. It currently provides accreditation services to more than 19,000 health-care organizations in the United States.[76] Unique to the Joint Commission is the program's "deeming" authority, which was statutorily enacted through the Medicare statute of the 1965 Social Security Amendments. The amendment stated that the Joint Commission was deemed to meet the federal Conditions of Participation (CoPs) required by the CMS.[77] This meant that hospitals participating in Joint Commission accreditation programs were automatically eligible for reimbursements from Medicare and Medicaid programs.

Because the Joint Commission allowed accreditation by proxy, remote hospitals that provided telemedicine services could then rely on the practitioner's hospital for credentialing and privileging decisions.

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72. *Id.*

73. *See* Roundtable, *supra* note 25, at 19.

74. *Id.*

75. *Id.*

76. *About the Joint Commission*, JOINT COMM'N, http://www.jointcommission.org/about_us/about_the_joint_commission_main.aspx (last visited Oct. 30, 2011).

77. *See* Roundtable, *supra* note 25, at 20.

However, while the CMS allowed such proxy applications for credentialing, it did not allow hospitals to perform privileging functions remotely. Instead the CMS required that each hospital fulfill privileging decisions on-site in order to ensure satisfaction of physician requirements. However, because of the Joint Commission's statutorily granted status of fulfilling CoPs requirements, hospitals were able to receive reimbursements, despite the conflicting policies.

Recently, this long standing practice of violating CMS regulations was addressed with the passage of the Medicare Improvements for Patients and Providers Act of 2008.[78] The Act stripped the Joint Commission of its statutorily granted status, effective July 15, 2008.[79] It further required that all accrediting bodies, including the Joint Commission, apply to the CMS for hospital deeming authority.[80] The Joint Commission was forced to adjust its policies to conform to the CMS rules.

This new law created a significant barrier for practitioners of telemedicine. The duty of remote hospitals to perform privileging requirements for distant physicians provided a logistical and administrative nightmare. In response, telemedicine advocates met with congressional leaders, which resulted in the addition of a provision in the 2009 Senate Health Care Reform Bill.[81] Senator Udall included this provision in S. 2741, the *Rural Telemedicine Enhancing Community Health* (TECH) Act of 2009.[82] He also included the credentialing and privileging provisions in that bill as an amendment to the Senate health-care reform amendment as SA 3136.[83] The provision allowed telemedicine practitioners to satisfy privileging requirements by proxy.[84] Although the provision never made it into the final Senate bill, telemedicine advocates continued to lobby for changes in the CMS policy.

As of May 26, 2010, a proposed rule titled "Credentialing and Privileging of Telemedicine Physicians and Practitioners" was published in the Federal Register.[85] If passed, the rule would amend current CMS

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78. *See H.R. 6331: Medicare Improvements for Patients and Providers Act of 2008*, GOVTRAK.US (July 10, 2008), http://www.govtrack.us/congress/bill.xpd?bill=h110-6331.

79. *Id.*

80. *Id.*

81. *See* Roundtable, *supra* note 25, at 21.

82. *Id.*

83. *Id.*

84. Credentialing and Privileging of Telemedicine Physicians and Practitioners, 75 Fed. Reg. 29,479 (proposed May 20, 2010) (to be codified at 42 C.F.R. §§ 482, 485).

85. *Id.*

policy to provide separate standards for telemedicine and traditional medicine.[86] Justification for the proposed rule states, in part:

> [W]e came to the conclusion that our present requirement is a duplicative and burdensome process for physicians, practitioners, and the hospitals involved in this process, particularly small hospitals, which often lack adequate resources to fully carry out the traditional credentialing and privileging process for all of the physicians and practitioners that may be available to provide telemedicine services. In addition to the costs involved, small hospitals often do not have in-house medical staff with the clinical expertise to adequately evaluate and privilege the wide range of specialty physicians that larger hospitals can provide through telemedicine services.[87]

In order to continue the growth of telemedicine, such a proposed change to current CMS regulations is necessary. Absent this change, telemedicine practice in hospitals will remain stifled.

C. Malpractice Liability

State law defines medical malpractice, though generally two factors must exist: (1) the existence of a doctor-patient relationship and (2) action on the part of the doctor that breached his professional duty of care.[88] Thus, a malpractice claim must contain a contractual relationship and a breach of duty. For example, Louisiana defines medical malpractice as, "any unintentional tort or any breach of contract based on health care or professional services rendered, or which should have been rendered, by a health care provider, to a patient."[89]

1. The Existence of a Doctor-Patient Relationship

The task of defining a doctor-patient relationship has been attempted by numerous state courts. The Supreme Court of Illinois stated:

> [T]he determination of whether a duty exists—whether the defendant and the plaintiff stood in such a relationship to one another that the law

86. *See id.*

87. *Id.*

88. *See generally* James L. Rigelhaupt, Jr., Annotation, *What Constitutes Physician-Patient Relationship for Malpractice Purposes*, 17 A.L.R. 4th 132 (1986) (analyzing state and federal cases in which the courts have decided what constitutes a physician-patient relationship for malpractice purposes).

89. The Louisiana Medical Malpractice Act, La. R.S. 40:1299.41.

> imposed upon the defendant an obligation of reasonable conduct for the benefit of the plaintiff—is an issue of law to be determined by the court.[90]

In 1996, the Appellate Court of Illinois for the Fourth District defined the doctor-patient relationship as, "a consensual relationship in which the patient knowingly seeks the physician's assistance and the physician knowingly accepts the person as a patient."[91] Other state courts have also offered interpretations of the doctor-patient relationship, and identified that a doctor-patient relationship must be established as an element of a malpractice claim.[92]

2. Duty of Care

Once a legal relationship has been established, it is necessary for the court to determine the duty of care that is owed to the patient. Typical to any act of negligence, "[d]uty is the legal obligation a defendant owes to a plaintiff to conform to a reasonable-person standard of care in order to protect against unreasonable risks of harm."[93] In the case of a medical practitioner, the "reasonable person" standard is elevated to that of a person with similar knowledge and experience in the field of medicine.

Foreseeability is of critical importance in a negligence action for malpractice. If an injury giving rise to a cause of action for negligence could not have been reasonably foreseen or anticipated, there is no proximate cause, and no liability for negligence.[94] Some jurisdictions have also held that doctors have an additional duty to disclose the risks associated with a treatment plan and discuss possible alternatives.[95] These precautions are predicated upon the idea that a patient should be in a position to provide knowledgeable consent.

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90. *See* Kirk v. Michael Reese Hosp. & Med. Ctr., 513 N.E.2d 387, 396 (Ill. 1987) (citing Wimmer v. Koenigseder, 484 N.E.2d 1088 (Ill. 1985); Pelham v. Griesheimer, 440 N.E.2d 96 (Ill. 1982); Cunis v. Brennan, 308 N.E.2d 617 (Ill. 1974)).

91. Reynolds v. Decatur Mem'l Hosp., 660 N.E.2d 235, 239-43 (Ill. App. Ct. 1996).

92. *See* Young v. Crescente, 39 A.2d 449, 451 (N.J. 1944). *But cf.* Bovara v. St. Francis Hosp., 700 N.E.2d 143, 144 (Ill. App. Ct. 1998) (holding whether a consensual relationship exists where a physician contacts another physician on behalf of the patient is a question of fact); Roberts v. Hunter, 426 S.E.2d 797, 799 (S.C. 1993) (holding the existence of a doctor-patient relationship is a prerequisite to any medical malpractice claim).

93. *See* Staples v. Cbl & Assocs., 15 S.W.3d 83, 89 (Tenn. 2000); Burroughs v. Magee, 118 S.W.3d 323 (Tenn. 2003).

94. *See* Rathnow v. Knox County, 209 S.W.3d 629 (Tenn. Ct. App. 2006) (holding that foreseeability is a critical element for establishing proximate cause in a negligence action).

95. *See generally* Allan H. McCoid, *The Care Required of Medical Practitioners*, 12 VAND. L. REV. 549 (1959).

3. Malpractice Liability for Electronic Medical Treatments

While the same general negligence model applies to medical services that are performed remotely, malpractice issues in telemedicine are generally more ambiguous. Questions regarding the appropriate jurisdiction and extent-of-liability remain speculative due to a lack of telemedicine malpractice cases from which to evaluate judicial treatment.[96] In fact, the only telemedicine malpractice cases to date have involved providers who were prescribing drugs over the Internet.[97] According to many telemedicine experts and advocates, as telemedicine grows, resulting malpractice complications are likely to create a new body of law.[98]

4. Institutional liability

Malpractice liability issues will affect both institutional and home-based service providers alike, though very differently. The vast communication networks that make telemedicine possible also pose familiar problems for institutional medical providers: vicarious liability.[99] Under theories of vicarious liability, courts have found that principals are responsible for any negligence committed by the agent while the agent acts on the principals behalf.[100] This liability may apply to both employees and nonemployees under theories of respondeat superior and ostensible agency.

Since the Court of Appeals of New York first applied the theory of respondeat superior to hospitals in 1957,[101] such practice has continued with regularity to this day.[102] As hospitals have continued to employ numerous practitioners and service providers instead of contracting out services, plaintiff's opportunities to pursue claims based on theories of respondeat superior have continued to increase. Ostensible agency

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96. *See* Glenn W. Wachter, *Malpractice and Telemedicine Liability: The Uncharted Waters of Medical Risk* TELEMEDICINE INFORMATION EXCHANGE (July 2002), http://tie.telemed.org/articles/article.asp?path=articles&article=malpracticeLiability_gw_tie02.xml; CTR. FOR TELEMEDICINE & THE LAW (CTeL), SUMMARY OF FINDINGS: MALPRACTICE AND TELEMEDICINE (Dec. 23, 2009).

97. CTeL, *supra* note 96, at 4 (citing United States v. Kanner, No. 07-CR-1023-LRR, 2008 WL 2663414 (N.D. Iowa June 27, 2008)).

98. *See* Roundtable, *supra* note 25.

99. *See* Barbara Noah, *The Managed Care Dilemma: Can Theories of Tort Liability Adapt to the Realities of Cost Containment?*, 48 MERCER L. REV. 1219, 1231 (1997).

100. *See id.*

101. *See* Bing v. Thunig, 2 N.Y.2d 656 (1957).

102. *See* William Trail & Susan Kelley-Claybrook, *Hospital Liability and the Staff Privileges Dilemma*, 37 BAYLOR L. REV. 315, 317 (1985).

claims are also a continued threat where patients have a reasonable belief that a nonemployee is an agent of the hospital.

Telemedicine will further exacerbate liability concerns for institutional medical providers. As the network of practitioners grows within telemedicine services, so does the potential for additional liability. Subsequently, the missteps of a remote physician could foreseeably become the responsibility of the servicing hospital.

D. Home-Based Care Liability

There are three levels of medical malpractice liability for home-based electronic medical services: (1) low-risk education and support; (2) moderate-risk consultation and advice; and (3) high-risk diagnosis, treatment, and prescriptions.[103]

1. Low-Risk Education and Support

Education and support, in this context, typically refers to the asynchronous dissemination of medical information over the Internet. The Internet is packed with content; ranging from social networking, to blogs, to sites dedicated to any number of interests. Chances are that if you type the name of a disease into a search engine, there is a site wholly dedicated to that subject. Sites like WebMD.com and MayoClinic.com are just a few of a large number of online resources that provide massive amounts of medical information, including symptom searches and practitioner contacts.[104] Though much of this information may be of great value to an Internet user, incorrect diagnoses or inaccurate information is not likely to create liability for the provider.[105] The reason for this is that no patient-doctor relationship has been created by visiting the webpage. Without satisfying this initial element of a malpractice claim, any efforts to proceed with such an action would likely fail.

Certain recourse may exist where a provider is willfully attempting to deceive users or solicit money, but even in those cases, medical malpractice is an unlikely fit.[106] Additionally, the First Amendment will protect one's freedom of expression, should he or she wish to post

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103. *See* Barbara J. Tyler, *Cyberdoctors: The Virtual Housecall—The Actual Practice of Medicine on the Internet Is Here; Is It a Telemedical Accident Waiting To Happen?*, 31 IND. L. REV. 259, 263 (1998).

104. *See generally* WEBMD, http://www.webmd.com/ (last visited Oct. 30, 2011); MAYOCLINIC, http://www.mayoclinic.com (last visited Oct. 30, 2011); DIAGNOSISPRO, http://en.diagnosispro.com (last visited Oct. 30, 2011).

105. Tyler, *supra* note 103, at 263-65.

106. *Id.*

information about medical treatments.[107] Such action alone would not amount to a meaningful offense. For these reasons, educational and informational medical information does not pose a significant risk for malpractice liability.

2. Moderate-Risk Consultation and Advice

Consultation and advice involve real-time communication between a doctor and a client. The purposeful characterization of "client" as opposed to "patient" is to illustrate one of many ambiguities in telemedicine malpractice. If a doctor provides consultation services through the use of teleconferencing equipment, online chat, telephone or e-mail, has he established a doctor-patient relationship? The answer, of course, is maybe.

While there are no definitive rulings that can be applied to telemedicine, there have been decisions that may offer a starting point. For example, in 1993 a Texas court refused to impose liability on a doctor who had consulted with another doctor about his patient.[108] Another example involves a decision by the Supreme Court of New York in 1995, which held that a doctor was not deemed to have established a doctor-patient relationship when a dentist called him one morning and complained of back pain, then suffered a cardiac arrest later that day.[109] The defendant in that case advised the dentist to come and see him immediately, yet the dentist did not go to the doctor's office until later that day, at which time he suffered a heart attack in the waiting room.[110] Based on these facts, the court held that the communication was insufficient to create a doctor-client relationship, thus precluding a subsequent duty of care.[111]

Medical malpractice liability *can* be established with a phone call in some instances. In 1990, the Supreme Court of New York held that a telephone call to a physician for the purpose of initiating treatment could establish a doctor-client relationship, depending on the advice that was given to the patient at the time of the call.[112] In that case, the court ruled

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107. *See generally* Jack M. Baucin, *Free Speech in the Digital Age: The Future of Free Expression in a Digital Age*, 36 PEPP. L. REV. 427 (2009).

108. *See, e.g.*, Lopez v. Aziz, 852 S.W.2d 303 (Tex. App. 1993) (citing Salas v. Gambou, 760 S.W.2d 838 (Tex. App. 1988)).

109. *See* Miller v. Sullivan, 625 N.Y.S.2d 102 (App. Div. 1995).

110. *Id.*

111. *See id.*

112. Bienz v. Cent. Suffolk Hosp., 557 N.Y.S.2d 139 (N.Y. App. Div. 1990).

that the existence of a doctor-patient relationship was an issue of fact to be presented to the jury.[113]

The imposition of liability becomes more convoluted once a doctor-patient relationship is established. If an Internet user registers an account, and offers a credit card for payment, this action is considered sufficient to create a contractual relationship between the doctor and the patient.[114] Once the doctor-patient relationship has been established, questions of malpractice liability then turn to duty of care. So, what standard should a doctor be held to when administering medical advice over the Internet?

The determining factor when assessing malpractice liability for consultation and advice applications of telemedicine will likely turn on the reasonable understanding of the service limitations. If a patient reasonably believes that the service she is receiving will eliminate the need for traditional face-to-face medical treatment then the practitioner will probably be subjected to malpractice liability. While verbal and written disclaimers are not an end-all solution to avoidance of liability, an effective method of notice will be necessary to help physicians avoid malpractice liability when the intention is to provide limited services.

3. High-Risk Diagnosis, Treatment, and Prescriptions

"Physicians who staff Virtual Housecalls and prescribe medication and treatment over the Internet could be prime candidates for lawsuits."[115] In these situations, a doctor is assuming the risk of administering medical expertise and treatment to a patient that he has never seen in person. While this form of treatment may be sufficient for common ailments, a missed diagnosis could create serious liability.

As discussed previously, a patient who has established an account and provided consideration has created an easily identifiable relationship between herself and the online medical service provider.[116] Therefore, determination of liability will once again depend on the duty of care standard that is applied. Should physicians in this case be subjected to the same standard as traditional medical services? Perhaps an even higher standard may be appropriate.

Whatever the case, it is clear that a telemedicine provider who offers diagnoses, treatments or prescriptions, should not be held to the same standard as a traditional doctor. In *Greenberg v. Perkins*, the court set

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113. *Id.*

114. Tyler, *supra* note 103, at 287 (citing JOHN D. CALAMARI & JOSEPH M. PERILLO, CONTRACTS—BLACK LETTER SERIES (1983)).

115. *Id.* at 286.

116. *Id.* at 286-87.

forth a nonexhaustive list of factors to be considered where a patient was injured during tests performed by a third-party physician referred to her by her doctor.[117] The court held that no single factor was determinative, and that the duty of care turned on "fairness under contemporary standards—that is, would a reasonable person recognize and agree that a duty of care exists."[118]

Based on this subjective standard, two contradictory interpretations of duty of care could potentially be applied to telemedicine malpractice cases: telemedicine doctors have a greater duty of care than traditional doctors; or alternatively, a less stringent duty. It could be argued that telemedicine practitioners should have a greater duty of care than traditional doctors because of the increased risk of misdiagnosis where the practitioner never personally encounters the patient. Under this interpretation, courts would not likely be influenced by the use of general disclaimers.

On the other hand, a court could rationalize that the patient assumes the risk by submitting to treatment over the Internet. This second interpretation would presuppose that Internet users are generally savvy enough to understand the risks that would exist. Furthermore, courts may be unsympathetic to patients that have misrepresented their symptoms or failed to seek the recommended treatment.

Finally, regarding the practice of prescribing drugs online, the federal government has specifically addressed this issue.[119] The Ryan Haight Online Pharmacy Consumer Protection Act of 2008 became effective on April 6th, 2009.[120] This new law specifically addressed several telemedicine issues regarding the online distribution of drugs, and prohibited certain chemicals from being prescribed without a face-to-face visit.[121] While the Act was intended to protect the well-being of law abiding citizens, in addition to thwarting the efforts of substance abusers and traffickers, the effects may hinder the efforts of legitimate telemedicine practices.

Interpreting telemedicine negligence standards is not the only malpractice dilemma that the industry is facing. The availability of medical professional liability (MPL) insurance coverage could also affect the widespread growth of the telemedicine industry. [122] Because the case

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117. Greenburg v. Perkins, 845 P.2d 530, 536 (Colo. 1993).
118. *Id.*
119. 21 U.S.C. § 829 (2006).
120. *Id.*
121. *Id.*
122. *See* Roundtable, *supra* note 25.

law in this area is lacking, it is unclear the extent to which liability will be imposed on telemedicine providers. According to the Director of Research at the Physician Insurance Association of America, "[w]ith any medical advancement, exposure to risk must be understood to prepare for potential pitfalls; the same is true for telemedicine."[123] Unique challenges for MPL insurers may include issues of litigation, quality of medicine, quality of technology, and training.[124]

A survey performed in 1999 of nineteen Physician Insurers Association of America member companies indicated that eighteen of the nineteen offered MPL coverage for telemedicine services.[125] More revealing however, thirteen of the eighteen companies selectively denied MPL coverage.[126] Reasons for denial included: the patient or service provided was not located in the state where the insurer was located; and the physician or exposure created an above average risk.[127] The overall results of the survey indicated a distinct lack of confidence pertaining to potential legal treatment and liability exposure related to the practice of telemedicine.

VI. CONCLUSION

Telemedicine has evolved from a futuristic fantasy into a rapidly growing industry. The technological obstacles that once prevented the maturation of this industry are no longer an impediment. The communication resources available to the average consumer can fully support the demands of comprehensive telemedicine services. Grants and incentives continue to swell from a variety of government agencies to help push this industry forward in hopes of realizing greater quality of care and economic efficiencies. Rural regions that have historically been out of view from modern medicine are being equipped with the necessary infrastructure to communicate at the same speed that most urban inhabitants take for granted. With access to this modernized network comes the ability to administer specialized and high-quality medical treatments to those who would not otherwise have access to such services.

Before we can realize the full capacity of telemedicine, several important changes must take place within our legal system. Antiquated laws intended to manage the segregated and autonomous health-care

123. *Id.* at 34.
124. *Id.*
125. *Id.* at 33.
126. *Id.*
127. *Id.*

models of the past must now evolve to recognize the impending globalization of medicine. Besides the obvious benefits to the average patient, telemedicine has the potential to reduce government spending, provide treatment to millions of impoverished or uninsured patients, and create access to the best doctors in the world.

For telemedicine to flourish, a licensing solution must be established whereby doctors can freely practice in any state they so choose. While states currently resist relinquishing power over health-care decisions, the solution can be achieved without eliminating states' power. Although nationalization of telemedical licensing would eliminate many obstacles, attempts to federalize this process would only further stagnate telemedicine growth. This is because states will fight relentlessly to maintain their powers over licensure. A practical and realistic solution would provide standardization of telemedicine licensure elements to reduce redundancy and administrative hassle. Furthermore, concerns of losing licensure revenue is premature. Not only could each state maintain its regular revenue, but the growth of telemedicine could produce significantly more income as doctors begin to license in multiple states.

Trade protectionism is another problem. States that take measures to protect local doctors from outside competition will not be able to sustain those practices as other states adopt telemedicine licensure legislation. States that intend to resist reciprocity of telemedicine licensure will eventually be lacking modernized medical resources produced from widespread telemedicine adoption. Additionally, such actions would present a considerable disservice to the citizens of that state.

Credentialing and privileging regulations currently pose another setback for telemedicine. However, considering the resources expended by the U.S. government in support of telemedicine, it is unlikely these issues will remain unresolved. Changes to the CMS regulations appear to be a challenge for control. Previous actions on the part of the Joint Commission have allowed hospitals to bypass CMS regulations for years, which likely provoked the rule change. Now that the Joint Commission has lost its statutorily conferred powers of authority, it would not be surprising if the proposed CoPs amendment was approved.

Malpractice liability and MPL insurance coverage is another major roadblock for telemedicine. Remotely administered medical services present a new and untested challenge for current liability standards. Additionally, institutional providers face an ever-increasing risk of liability from the growth of modern medicine. With the increasing

number of specialists and services, hospitals have been exposed to additional liability under theories of respondeat superior and ostensible agency. Depending on the courts' treatment of telemedicine practice, hospitals may be subjected to even greater liability.

Potentially, individual practitioners also face added liability for providing home-based treatment. Again, this depends on the courts' interpretation of current standards as applied to telemedicine. The clear solution to this problem is telemedicine-specific legislation. Although many solutions have been proffered, it is unlikely that the federal government is going to interfere with state policy. While some states have begun to make minor adoptive changes, no standards have been created regarding malpractice liability. Subsequently, when telemedicine cases begin to appear before state courts, legal treatment from state to state will likely remain inconsistent and unpredictable. Without statutory guidance, these issues will become increasingly problematic, and matters of jurisdiction and venue will add further complications.

This lack of clarity and confidence regarding legal treatment of malpractice liability is unsettling to MPL insurers. Reluctance to insure these service providers will continue to be another hurdle for the telemedicine industry. Separate telemedicine policies may be a solution, but it is likely that pricing will be inflated until there is more certainty regarding liability. In spite of these hurdles, these types of concerns are not unusual for a new industry. In time, when MPL insurers gain confidence, they will realize the benefit that they can derive from telemedicine and begin competing for contracts.

In addition to the major impediments discussed herein, there are numerous other legal issues that must be considered. Privacy and security of medical records, fraud, and intellectual property considerations are also topics that require attention. Generally speaking, communication technology has created numerous legal sink-holes in the modern world. In fact, apportionment of liability, protection of privacy, fraud, and intellectual property are currently concerns with many new Internet technologies. As these general problems are resolved, courts and lawmakers will be better able to apply similar standards to telemedicine.

In the modern medical world, there are no quick changes. Potentially life-saving drugs will undergo exhaustive testing for many years before ever reaching the public. Other valuable avenues for discovery, such as stem-cell research, remain stifled by political and ethical debates. Historically speaking, significant shifts in technology and industry threaten political and economic balances. The same holds true for telemedicine. The question is less about the benefits that man-

kind could realize, and more about issues of increased competition, rights to licensing fees, and uncertainty as to liability.

This promising new application of communication technology seeks to broaden what was once considered a finite boundary. With this new ability to reach health-care providers from around the globe, the quality and access to medical treatments could increase dramatically. However, technology has once again preceded legal feasibility. Accordingly, issues such as liability, risk, and licensure will have to be addressed before the benefits of telemedicine can be fully realized.