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Telemedicine: The Invisible Legal Barriers to the Health Care of the Future

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INTRODUCTION

Worldwide, people living in rural, remote, and economically depressed areas struggle to access timely and quality medical care.[1] Residents of these areas often have substandard access to health care, with specialty care being particularly difficult to obtain.[2] During emergencies, a fast response time and access to specialists can mean the difference between life and death.[3] Fortunately, geographic borders are becoming less and less of an obstacle to obtaining quality health care. Innovations in computing and telecommunications technology allow the practice of medicine when the patient and health care provider are geographically separated.[4]

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1. *See* Paul M. Orbuch, *A Western States' Effort to Address Telemedicine Policy Barriers*, 73 N. DAK. L. REV. 35, 35 (1997) (noting that despite greater health care needs in rural areas, urban states in America still have 42% more physicians relative to population than rural states). *See also* Daniel McCarthy, Note, *The Virtual Health Economy: Telemedicine and the Supply of Primary Care Physicians in Rural America*, 21 AM. J.L. & MED. 111, 127 (1995) (discussing telemedicine's ability to address some physicians' more intangible concerns such as not wanting to be geographically or professionally isolated).

2. *See A Health Telematics Policy in Support of WHO's Health-For-All Strategy For Global Health Development*, 11-17 Dec., Geneva, 1997 (available at <http://www.who.int/ism-htp/s-rptm.html>); *Telehealth in British Columbia* (visited on Feb. 19, 1999) <http://www.hinetbc.org/telehealth/british.html> (discussing telemedicine's ability to eliminate distance barriers and improve access to services otherwise unavailable in rural communities). *See also What is Telemedicine* (visited on Oct. 20, 1998) <http://208.129.211.51/WhatIsTelemedicine.html> (noting that specialist physicians are more likely to be located in areas of concentrated population).

3. *See* U.S. Department of Commerce/National Telecommunications and Information Administration, Telemedicine Report to Congress, Executive Summary, Jan. 31, 1997 <http://www.nita.doc.gov/reports/telemed/execsum.htm>

4. *See* The Telemedicine Information Exchange (visited on Oct. 22, 1998) <http://208.129.211.51/Default.html#TIEHomeMenu>). *See also* Inger Sethov, The Wonders of Telemedicine, Reuters, Nov. 10, 1997 (available at <http://www.nando.net>) (quoting Dr. Steinar Pedersen, head of the telemedicine department at the University Hospital in Tromose, Norway: "Distance is not an issue any more.").

Telemedicine has the potential to dramatically change the lives of people worldwide by addressing flaws in the health care system. Particularly, in less developed countries, where distance from the urban health care centers, in both geographic and economic terms, is tremendous, telemedicine provides access to health care where little was available before.[5] In the future, telemedicine may remedy the uneven geographic distribution of health care resources.[6] It can also address the significant discrepancies in the quality of care available to members of different economic classes.[7] And unlike past innovations in medicine, telemedicine may help to contain the ever-increasing costs of health care.[8]

In the past, a number of forces hampered the delivery of health care services. But the technological revolution has made delivering services far simpler. Today, the barriers facing telemedicine today are no longer technological, but legal. Health care workers and organizations are reluctant to fully utilize the technological capabilities of telemedicine because of liability concerns.[9] Conversely, the availability of much of the technology is open to fraud and abuse.[10] Health care providers need to have a clear understanding of what their legal and ethi-

5. *See A Health Telematics Policy in Support of WHO's Health-For-All Strategy For Global Health Development*, 11-17 Dec., Geneva, 1997 <http://www.who.int/ismhtp/s-rptm.html>. *See also* Margaret Brady, *The Pulse That's Heard Around the Country*, NAT'L POST, Feb. 15, 1999, ("In regions where a simple trip to the doctor can take days, telemedicine technology is linking patients to medical centres.").

6. Dr. Hiroshi Nakajima, the Director-General of the World Health Organization (WHO), argues that "developing an adequate and affordable telecommunication infrastructure can help to close the gap between the haves and the have-nots in health care." *See WHO Director-General Highlights Potential of Telemedicine*, Press Release WHO/65, Sept. 16, 1997 <http://www.who.int/inf-pr-1997/en/pr97-65.html>. *See also Ghana Telemedicine/Telehealth Project* (visited on Feb. 19, 1999) <http://members.home.net:80/mlkmc/model.html> (discussing the benefits of a telemedicine network in Ghana).

7. *See id.*

8. *See* Jay H. Sanders, M.D. & Rashid L. Bashshur, Ph.D., *Challenges to the Implementation of Telemedicine*, in Telemedicine Report to Congress, U.S. Department of Commerce/National Telecommunications and Information Administration (Jan. 21, 1997), Appendix C, at 3 <http://www.nita.doc.gov/reports/telemed.html>. *See also* Julie Kearney, *Telemedicine: Ringing in a New Era of Health Care Delivery*, 5 COMMLAW CONSPECTUS 289, 290 (Summer 1997).

9. *See* Bill Siwicki, *Legal Issues Could Slow Growth*, HEALTH DATA MGMT., Apr. 1997, available in 1997 WL 8747843.

10. *See* Derek F. Meek, *Telemedicine: How an Apple (Or Another Computer) May Bring Your Doctor Closer*, 29 CUMB. L. REV. 173, 181 (1999) ("Right now, telemedicine is wide open for fraud and quackery." (quoting Senator Charles Walker of Georgia)).

cal responsibilities are. Similarly, patients must receive the protection of adequate standards of care and know that the person to whom they are entrusting their health has the proper qualifications.

This Note examines two legal obstacles to telemedicine: licensure and liability. Licensing laws and unclear liability rules result in formidable barriers to the expanded use of telemedicine. At the same time, these laws fail to provide sufficient patient protection. Unduly restrictive licensing laws create onerous burdens on health care providers while failing to protect the people for whose benefit they were supposedly enacted. Similarly, unclear liability rules expose both providers and consumers to the possibility of catastrophic losses. For the benefits of telemedicine to reach those most in need, mutual recognition of licensing laws coupled with a universal standard of care is necessary.

Part I of this Note defines telemedicine, discusses its common applications and significant benefits. Part II explores some of the general legal obstacles present in attempting to regulate activities whose very nature brings them into conflict with the laws of several nations. Parts III and IV analyze licensure and liability, the two major obstacles to telemedicine.[11]

I. Definitions, Applications and Potential

A. Telemedicine Defined

At the simplest level, telemedicine[12] is all health care practiced at a distance, ranging from the telephone call to remote

11. Other obstacles include funding, privacy and technological barriers. For an excellent discussion of the challenges involved in protecting patient confidentiality and telemedicine, see Christina M. Rackett, Note, *Telemedicine Today and Tomorrow: Why "Virtual" Privacy Is Not Enough*, 25 Fordham Urb. L.J. 167 (1997). Telemedicine requires significant capital outlays and without government cooperation and financial assistance few telemedicine programs would be in existence, much less flourishing. However, because funding in this area continues to be nation centered, this Note will not focus on monetary issues. Technological issues, such as equipment reliability, are not easily addressed through laws. To gain a greater appreciation for the technological side of telemedicine, see Douglas D. Bradham *et al.*, *The Information Superhighway and Telemedicine: Applications, Status and Issues*, 30 Wake Forest L. Rev. 145 (1995).

12. Various other terms to define telemedicine have also been coined, including: telehealth and health telematics. Such terms are designed to encompass a broader idea of health care. For instance, the WHO states that health telematics "is a composite term for health-related activities, services and systems, carried out over a distance by means of information and communications technologies, for the purposes of global health promotion, disease control and health care, as well as education, management,

surgery.[13] More specifically, telemedicine is the provision of health care consultation and education using telecommunication networks to transfer information.[14] The American Medical Association (AMA) has defined telemedicine as "medical practice across distance via telecommunications and interactive video technology."[15] The state of California defines telemedicine more broadly as the use of information technology to deliver medical services and information from one location to another.[16] Telemedicine is not a specific technique or piece of equipment; it is a process of delivering health care services.[17] It involves combining traditional medical care with the efficiency of current telecommunications technology to deliver health care on a global scale.[18] Despite the utility of these definitions, it is important to note that there is no universal consensus on what is telemedicine.[19]

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and research for health." *A Health Telematics Policy in Support of WHO's Health-For-All Strategy For Global Health Development*, 11-17 Dec., Geneva, 1997 <http://www.who.int/ism-htp/s-rptm.html>. However, since telemedicine is still the most commonly used term of art, and because this Note focuses on physician/patient care, the term telemedicine was selected.

13. Some definitions of telemedicine, most notably several statutory definitions, specifically exclude telephone consultations as being part of telemedicine. Perhaps, this is because of the practice's long use, or maybe it stems from the limited range of applications. *See* Delbert D. Smith, *Distant Doctors*, SATELLITE COMM., May 30, 1998, available in LEXIS, News Library.

14. *See* Kearney, *supra* note 8, at 289.

15. Conduct on Medical Education and Hospitals and Council on Medical Service and the American Medical Association, Joint Report, 1994. There are numerous definitions. The European Commission defines it as "rapid access to shared and remote medical expertise by means of telecommunications and information technologies, no matter where the patient or relevant information is." Ann K. Schooley, Note, *Allowing FDA Regulation of Communications Software Used in Telemedicine: A Potentially Fatal Misdiagnosis?*, 50 FED. COMM. L.J. 731, 736 (1998). Another useful definition: "telemedicine is the use of advanced telecommunication technologies to exchange health information and provide health care services across geographic, time, social and cultural barriers." Christopher J. Caryl, Note, *Malpractice and Other Legal Issues Preventing the Development of Telemedicine*, 12 J.L. & HEALTH 173 (1997/1998), *citing* JIM REID, PA-C, A TELEMEDICINE PRIMER: UNDERSTANDING THE ISSUES 10 (1996). *See also* Kathleen M. Vyborny, *Legal and Political Issues Facing Telemedicine*, 5 ANNALS HEALTH L. 61, 71 (1996).

16. *See* Lee S. Goldsmith, *Telemedicine and Changing Medical Law*, Trial at 49 (May 1998), discussing California Telemedicine Development Act of 1996, 1996 Cal. Stat. 864 § 1(d).

17. *See* Richard Wootton, *Telemedicine: A Cautious Welcome; Information in Practice*, 313 BRIT. MED. J. 1375 (1996).

18. *See id.*

19. *See* James B. Rosenblum, *A Telemedicine Primer*, 45 NO. 3 PRAC. L. 23, 25 (1999). Even within the same circles, numerous definitions abound. Susan Harris in her review of Texas statutes concerning telemedicine found three distinct definitions

This method of practicing medicine is not new, as the telephone consultation has long been a standard practice in the health care field.[20] However, it is only within the past decade that physicians could practice medicine at a distance in a comprehensive way.[21] Telemedicine is no longer used exclusively in special situations where distance from traditional channels of health care is unavoidable, such as with space exploration or deep sea vessels.[22] At present, telemedicine is in a stage of "giddy adolescence" with the volume of services growing every year.[23] The quality and affordability of the technology has progressed to a point where practicing medicine is no longer geographically constrained. The idea that a physician in upstate New York could treat a patient anywhere in the world, is no longer purely hypothetical or experimental. Telemedicine is now a viable option with advantages over more traditional health care delivery methods.[24]

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were used by the state legislature in various bills. Susan Harris, *Telemedicine Law: Legal Constraints Hamper Gateways to Medical Care*, HOUSTON BUS. J., July 17, 1998.

20. *See* Judith Darr & Spencer Koerner, *Telemedicine: Legal and Practical Implications*, 19 WHITTIER L. REV. 3, 4 (1997) ("Since the time of Alexander Graham Bell, we have been practicing telemedicine."). Many place the birth of telemedicine in the 1960s when doctors first started to use two-way televisions to observe operations. *See* Fran O'Connell, *Telemedicine Creates New Dimensions of Risk*, NAT'L UNDERWRITER, Sept. 18, 1995, at 48.

21. For a more complete discussion of the progression of telemedicine see Telemedicine Information Exchange, *supra* note 4.

22. *See* Vyborny, *supra* note 15, at 62. *See also* Sharon R. Klein and William L. Manning, *Telemedicine and the Law*, originally printed in Healthcare Information Management: The Journal of the Healthcare Information and Management Systems Society, Summer 1995, updated version available from Netreach, <http://www.netreach.net/~wmanning/telemedar.htm ("Telemedicine is not medicine in the next millennium. It is here and now a swiftly growing trend.").

23. *Technology Can Increase Access to Care, But Political, Practical Issues Remain*, BNA HEALTH CARE DAILY, May 25, 1995, at 234. Telemedicine services have been provided in Scotland for many years to workers on oil rigs in the North Sea and to scientific staff in British Antarctic Territory. *See* J.R. Maclean *et al.*, *A Review of Scottish Telemedicine*, 1(1) JOURNAL OF TELEMEDICINE AND TELECARE 1-6 (1995). However, in recent years, the number of teleconsultations has skyrocketed. A recent survey by the Association of Telemedicine Service Providers found that there were 41,740 teleconsultations in 46 states in 1997. Joseph Goedert, *Survey Confirms Telemedicine Becoming More Widely Used*, HEALTH DATA MANAGEMENT, Feb. 1999. This number does include teleradiology and tele-home health. *Id.* It represents a 90% increase compared with 1996. *Id.*

24. *See* Woottin, *supra* note 17, at 1375 (noting that telemedicine is no longer being used simply because there is no alternative, that in many instances it is better than traditional medicine.)

B. Common Applications

Telemedicine is commonly divided into three broad categories of programs: store and forward technology, interactive video conferencing, and remote surgery.[25] Store and forward technology allows any image to be scanned and forwarded anywhere in the world.[26] A technician forwards X-rays and other patient test information to a medical expert who then reviews it and electronically delivers a diagnosis.[27] This technique is already widely available and many applications are inexpensive.[28] The use of store and forward technology is often the most convenient method.[29] Store and forward technology allows the receiving physician to review the movie whenever convenient.[30] This method accounts for over 80% of the telemedicine encounters in use today.[31]

Store and forward technology is obviously not suited for all situations. Live transmissions are often required.[32] Interactive video can link one emergency room with specialists in another.[33] This allows a local hospital in a disaster stricken area to consult immediately with physicians at a skilled trauma center located elsewhere.[34]

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25. For a more detailed discussion of telemedicine technology see Darr & Koerner, *supra* note 20, at 6-10. These categories also focus somewhat more on industry specific uses of telecommunications. Telemedicine also includes such mainline technology as video conferencing. *See* Vyborny, *supra* note 15, at 70.

26. This procedure is readily adaptable to fields which rely upon static imaging or single frame visual images such as radiology, pathology, and dermatology and it is currently the most utilized function of telemedicine. *See* Caryl, *supra* note 15, at 174. *See also* U.S. Department of Commerce/National Telecommunications and Information Administration, Telemedicine Report to Congress 71-72 (Jan. 31, 1997) <http://www.nita.doc.gov/reports/telemed.html>.

27. *See* Ruth Sorelle, *A Vision For The Future: Medicine on Screen*, HOUSTON CHRONICLE, July 5, 1998. Store and forward applications also do not present the scheduling difficulties of "real time" practice of medicine such as with video conferencing. This eases cross time zone applications.

28. *See* Harris, *supra* note 14. Not surprisingly, as the need for a higher level of resolution increases, this application becomes more expensive. *See* Sorelle, *supra* note 27.

29. *See Telemedicine, Hearing Before the Subcom. on Science, Technology, and Space of the Senate Comm. On Commerce, Science and Transportation*, 106th Cong. (1999) (report from the American Telemedicine Association).

30. *See* Barry B. Cepelewicz, *Can Foreign States Exercise Jurisdiction Based on Internet Use?*, 16 NO. 11 MED. MALPRACTICE L. & STRATEGY, Sept. 1999.

31. *See* Madanmohan Rao, Doctor on the Net, The Economic Times of India, July 15, 1999, available at 1999 WL 17697120.

32. *See id.*

33. *See* Caryl, *supra* note 15, at 174.

34. One American example of this occurred during the Red River flood in North Dakota. A rural hospital was linked with a trauma center in Grand Forks. Physicians

Remote surgery represents the cutting edge of telemedical applications. It involves video game-type technology where a surgeon can control an instrument in another location to perform the surgery.[35] As more "tools" become available and existing technology is refined, the number of procedures that can be conducted at a distance will continue to increase.[36]

C. *Telemedicine's Benefits*

The union of health care and telecommunications provides the opportunity to expand the availability and affordability of health care services, particularly access to specialists.[37] A recent U.S. congressional hearing characterized telemedicine as one of the most cost-effective and beneficial tools available to doctors today.[38] Telemedicine's benefits include: improved quality of care, more educational opportunities for health care providers, lower costs, and the potential for economic growth.

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at the rural hospital transmitted EKGs and X-rays to specialists in Grand Forks. *See Telemedicine's Success Stories are Hospital Industry's Best Kept Publicity Secrets*, HEALTHCARE PR & MKT. NEWS, June 26, 1997, available in 1997 WL 9972674. *See also* Dr. K. Ganapathy, *Telemedicine—Fact or Fiction*, THE HINDU, Jan. 31, 1999, available in LEXIS, News Library (noting the use of telemedicine during the 1988 earthquake in Armenia). A woman at a South Pole research center was able to both diagnose and treat herself for breast cancer with aid of telemedicine. John Davenport, *Nowhere To Go For Help*, NEWSWEEK, July 26, 1999, at 68. Telemedicine allowed her to begin treatment before she could be transported back to the United States. *See id.*

35. *See* Judy Siegel-Itzkovich, *Painless Way to Get a Second Opinion*, JERUSALEM POST, May 17, 1998, at 11 (discussing telemedicine as an "easy" way for Israelis to get a second opinion from abroad). This technique has also been utilized by the United States military in combat zones which lacked specialists. *See* Laura Meckler, *Telemedicine: Taking Health Care to Backroads and Byways*, Associated Press, Apr. 29, 1996.

36. *See* Sandy Campbell, *Will Telemedicine Become As Common As The Stethoscope?*, 13 HEALTH CARE STRATEGIC MGMT., Apr. 1, 1997.

37. *See* Christopher Guttman-McCabe, *Telemedicine's Imperilled Future? Funding, Reimbursement, Licensing and Privacy Hurdles Face A Developing Technology*, 14 J. CONTEMP. HEALTH L. & POL'Y 161 (1997). *See also* Darr & Koerner, *supra* note 20, at 4. The cost savings are seen as particularly significant when the return is viewed from a broader perspective. Telemedicine leads to faster, more accurate diagnosing which in turn means shorter, simpler and more cost-effective treatments. *See* Vera Tweed, *The Brave New Reality of Telemedicine*, BUSINESS & HEALTH, Sept. 1, 1998, available in LEXIS, News Library.

38. *See* House Commerce Committee Subcommittee on Health and the Environment, June 5, 1998 (testimony of Carla A. Anderson and Max E. Stachura). *See also* House Subcommittee Learns Benefits of Telemedicine, Promises to Address Barriers, BNA HEALTH CARE DAILY, June 8, 1998 (regarding the same testimony given on June 5, 1998 before the House Subcommittee on Health and the Environment).

1. Improved Quality of Care and Educational Benefits

In many parts of the world the issue is not that local providers are unskilled, the problem is that there are no health care providers.[39] Telemedicine can link health care professionals with those in need, regardless of location. Thus, telemedicine's greatest virtue is its ability to provide access to care. In its first four years of existence, an American telemedicine program in Tennessee, increased patient encounters with a physician by 178% each year.[40] Telemedicine is useful in both routine medical care situations and emergencies. In long term care situations, an isolated patient through use of a computer or interactive television can communicate with health care providers without leaving their homes.[41] The use of special stethoscopes and other monitoring devices allow physicians to make accurate diagnosis and continually monitor patients regardless of their location.[42] In emergency medical situations, telemedicine allows a patient prompt access to care. In Maryland, a rural hospital set up a link with an urban medical center to allow prompt evaluation of stroke patients.[43] Physicians praised the ability to make a quick diagnosis and care for the patient on site, rather than transporting the patient to another location. Geographic isolation no longer means isolation from medical care.

Access is not the only benefit stemming from the union of telecommunications technology and the practice of medicine. In certain respects, telemedicine represents an improvement over traditional channels of health care delivery. It makes the tracking and prevention of infectious diseases more successful because it allows for the rapid dissemination of information.[44]

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39. *See* Orbuch, *supra* note 1, at 35; *A Health Telematics Policy in Support of WHO's Health-For-All Strategy For Global Health Development*, 11-17 Dec., Geneva, 1997 (available at <http://www.who.int/ism-htp/s-rptm.html>).

40. *See Telemedicine Technology, Hearing Before the Subcomm. on Science, Technology, and Space of the Senate Comm. On Commerce, Science and Transportation*, 106th Cong. (1999) (statement of Sam Burgiss, Ph.D., manager of University of Tennessee Telemedicine Network).

41. *See* Lee S. Goldsmith, *Telemedicine and Changing Medical Law*, Trial at 49 (May 1998).

42. *See id.*

43. *See* Jessis Mangaliman, *Hospitals Video Link to Save Time*, WASHINGTON POST, Feb. 28, 1999, at M3.

44. E-mail is playing a pivotal role in the identification, tracking, research and discussion of the outbreak of Ebola fever in Zaire. *See The Current Outbreak of Ebola Fever in Zaire and the Rapid Dissemination of Information Via the Internet*, SateLife Press Release, May 11, 1995 <http://healthnet.org>. ProMed (Program for Monitoring Emerging Diseases) allows researchers, physicians and other health work-

Internet technology allows anyone to reach a wide audience at a low price. This is a particular help for the administration of public health programs, such as immunization campaigns, and also for providing medical training.[45] Another benefit is that telemedicine allows for the earlier intervention and treatment of health problems.[46] Many health problems necessitate quick medical intervention. The technology links health care providers worldwide and allows them to receive information that they otherwise could not access.[47] This benefits rural and isolated physicians in particular. They can now receive more up to date training and communicate better with their peers.[48] Technology allows health care providers in one community to export their expertise to a broader community while learning from local practitioners at the same time. In this sense, telemedicine also provides *pro bono* opportunities for physicians: from the comfort of their homes they can help diagnose and treat people in developing countries or provide disaster relief.[49]

Besides the economic disparity between the nations of the world, the distribution of skilled physicians is poor. In Russia, there is a sufficient supply of physicians in a numerical sense.

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ers to study, monitor, and share information about emerging diseases in developing countries. It was created to identify and quickly respond to unusual outbreaks of infectious diseases and provide help to affected areas. Quick response times are essential to both the region and the world. ProMed is available through SateLife. Internet sites containing general health medicine also falls under the rubric of telemedicine. However, this Note focuses on interaction between professionals rather than more passive forms of information distribution.

45. For instance, the Program for Collaboration Against AIDS and Related Epidemics (Procaare) maintains a continuing global electronic AIDS conference. *See* Glen Rifkin, *All Day, Every Day, A Global Forum on AIDS*, N.Y. TIMES, July 3, 1996, at C7.

46. *See* Ghana Telehealth/Telemedicine Project, *Uses of Telehealth/Telemedicine* (visited on Feb. 19, 1999) <http://members.home.net:80/mlkmc/useof.html>. *See also Telemedicine Technologies: Hearings Before The Subcomm. On Science, Technology and Space*, 106th Cong. (1999) (statement of Aaron S. Waitz).

47. *See* John Morrissey, *A Phone Call Away*, MODERN HEALTHCARE, May 4, 1998, at I18.

48. *See* Meek, *supra* note 10, at 178. A program at Johns Hopkins University provided mentoring for distant physicians. Inexperienced physicians at a distant facility were guided through laparoscopy surgery by the more experienced surgeons.

49. A clinical case of thallium poisoning suffered by a university student in Beijing was diagnosed via electronic mail that was broadcast over the internet. After physicians in China were unable to treat the student's symptoms effectively and she had become comatose, students at Beijing University sent out an e-mail requesting assistance from an international medical audience. An infectious disease specialist, Stephen O. Cunnion, M.D., of the Uniformed Services University, Bethesda, MD, diagnosed the problem, which Chinese physicians subsequently confirmed. *See* P. Gunby, *International Link Solves Medical Puzzle*, 274 J. AM. MED. ASS'N 1750 (1995).

However, the treatment centers of Moscow and St. Petersburg are a continent away from where millions of Russian citizens live.[50] Telemedicine offers the potential for the Moscow physicians to provide health care services to those living in the outermost republic. Similarly, for the oil rich economies of some Middle East nations such as Oman and Saudi Arabia, health care is not limited by ability to pay but by the ability to get experienced physicians to relocate.[51] Telemedicine permits health care professionals to export their skills without leaving home and provides patients with care in their home communities.[52]

Telemedicine is particularly attractive to non-Western states seeking to create a health infrastructure.[53] Rather than replicating the systems of United Kingdom or United States, many countries are turning to technology.[54] Establishing large institutions to train physicians and provide health care is often prohibitively expensive.[55] In contrast, telemedicine involves using technology to link people to pre-existing institutions, saving time and resources. Countries can now import the skill, separate from the physicians. Physicians receive an expanding market base. It once took years to elevate the level of care provided in a country.[56] Now, people can gain access to first quality medical care almost immediately. Technology allows institutions the world over to offer care on par with that available in the most established facilities.

As with any industry, there is a downside to the expansion of telemedicine. Developed countries already dominate the field of international health care.[57] Globalizing the industry further may expand this gap and perpetuate less developed countries'

50. *See* Morrissey, *supra* note 47.

51. *See* Marilyn Larkin, *Telemedicine Finds Its Place in the Real World*, THE LANCET, Aug. 30, 1997, available in LEXIS, News Library; Morissey, *supra* note 47. Newly rich United Arab Emirates (UAE) also found itself facing a new health care crisis, heart disease. Increases in fatty foods and sedentary lifestyles produced problems local physicians were not used to treating. Telemedicine afforded better opportunities for detection and treatment. *See* Ahmad Mardini, *Gulf Health: Sedentary Lifestyles Makes Heart Disease a Killer*, Inter Press Service, Oct. 23, 1996, available at 1996 WL 13588632.

52. *See Telemedicine, Hearing Before the Subcomm. on Science, Technology, and Space of the Senate Comm. On Commerce, Science and Transportation*, 106th Cong. (1999) (report from the American Telemedicine Association) (discussing how major U.S. medical centers could export their services worldwide).

53. *See* Larkin, *supra* note 51.

54. *Se* Morrissey, *supra* note 47.

55. *See id.*

56. *See id.*

57. *See* 7 IND. J. GLOBAL LEGAL STUD. 191, 207-209.

dependence on the developed world.[58] However, while the expansion of telemedicine may not be an economic boom for developing countries, its overall benefits outweigh the costs.

2. Cost Savings

In many countries, expenditures on health care account for a significant portion of gross domestic product.[59] Telemedicine has the potential to reduce over-all health care expenditures, or at least contain them, by allowing the delivery of superior health care at a lower price.[60] In the United States, where infrastructure costs are less, telemedicine could reduce U.S. health costs by as much as $36 billion.[61] Although initial outlays can be expensive, telemedicine offers economies of scale, transportation savings, productivity increases, and savings that stem from accurate diagnoses and treatment.[62] It also reduces the length of hospital stays because patients can be monitored while they remain at home.[63]

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58. *See id.*

59. Presently, the health care sector accounts for approximately eight percent of the European Union member states' gross domestic product. *See* Deborah R. Dakins, *Europe Invests in Telemedicine as High-Tech, Competitive Tool*, TELEMEDICINE, June 1, 1996, <http://www.telemedmag.com/db_area/archives/1996/9606lev.html>.

60. *See* Charles Arthur, *Telemedicine Could Save One in Four Beds*, THE INDEPENDENT (London), July 1, 1997, at 6. Cost savings associated with telemedicine often depend upon the application. A telemedicine project focusing on dermatology at the University of California at San Francisco/Stanford Health Care found that live teleconsultations were frequently prohibitively expensive. However, store and forward applications were found to be both efficient and practical. *See* Bill Siwicki, *You've Got Mail*, HEALTH DATA MGMT., Feb. 1999, available in LEXIS, News Library. *See also* Peder Andreas Halvorsen et al., *Radiology Services For Remote Communities: Cost Minimisation Study of Telemedicine*, 312 BRIT. MED. J. 1333 (1996). This study found cost savings varied depending on the size of the populations served, the utilization rates, and travel distances. In situations where, the cost savings were negligible, the authors found that the expense could easily be justified on equity and quality grounds.

61. *See* Robin Elizabeth Margolis, Law and Policy Barriers Hamper Growth of Telemedicine, 11 No. 10 HEALTHSPAN 14, Nov. 1994, at 14.

62. In the United States, the equipment required to make telemedicine consults can be less than $5000. For remote patient monitoring, the cost is less than $300. However, there are significant costs in training personal and integrating telemedicine into existing healthcare frameworks. *See Telemedicine, Hearing Before the Subcomm. on Science, Technology, and Space of the Senate Comm. On Commerce, Science and Transportation*, 106th Cong. (1999) (report from the American Telemedicine Association).

63. *See* Barry B. Capelewicz, *Malpractice Over the Phone?*, THE CONN. LAW TRIBUNE, Sept. 15, 1997, available in LEXIS, News. *See also* Ronny Fisher, *Healers in Cyberspace*, HARVARD HEALTH LETTER, Jan. 1997, at 9. A hard to quantify benefit is the satisfaction an individual and their family may gain from the patient's being able to remain at home or in their local community.

Telemedicine saves the expense of traveling to see providers and allows patients to stay at their local hospital.[64] Keeping patients locally benefits hospitals away from major metropolitan centers.[65] These facilities can keep patients who, absent telemedicine, would have been transported to other facilities. Local hospitals also provide peripheral services, such as carrying out the tests ordered. Telemedicine offers rural facilities and those in economically depressed communities a chance to compete with the major medical centers of the world.

While telemedicine saves these expenses, it also imposes some significant costs. Evaluating whether there is a net financial savings is difficult as the cost of telemedical programs varies widely. Some techniques, such as the store and forward technology discussed above, have reasonable start up and maintenance costs. Most e-mail programs allow for high quality photo transmissions and the high-end digital cameras, required to take the pictures, cost from $700-$2000.[66] Many facilities already have reliable e-mail systems.[67] When an operational computer system is already in place, the increase in infrastructure is not tremendous.[68] Naturally, as the range of services provided increases, so does the cost.[69]

Telemedicine programs provide an advertising benefit by allowing pre-existing institutions to make worldwide connections. New England Medical Center's telemedicine program, while not yet generating significant revenues, resulted in increased name recognition of the hospital.[70] When it becomes necessary for a foreign patient to travel in order to have an operation, they are more likely to choose a facility with which they have already dealt.[71] New England expects its percentage of foreign patients to increase from 3% to 5% due to the advertising benefit of its telemedicine program.[72] The Mayo Clinic of Rochester, Minne-

64. *See* Siwicki, *supra* note 60. It also saves the expense of health care providers traveling to underserved communities.

65. *See Telemedicine Technology, Hearing Before the Subcomm. on Science, Technology, and Space of the Senate Comm. On Commerce, Science and Transportation*, 106th Cong. (1999) (statement of Dr. James Brick).

66. *See* Siwicki, *supra* note 60.

67. *See* Madanmohan Rao, *Doctor on the Net, The Economic Times of India*, July 15, 1999 available at 1999 WL 17697120.

68. *See* Siwicki, *supra* note 60.

69. *See id.*

70. *See* Morrissey, *supra* note 47.

71. *See id.*

72. *See id.*

sota is attempting to capitalize on the world market for telemedicine patients. The Clinic already has an active relationship with two hospitals in Jordan and is looking to establish more such programs.[73]

An examination of the cost savings of telemedicine is often complicated when little, or no, health-care is presently available. In a poor community with no access to health care, an examination of the "savings" must evaluate the productivity losses caused by sickness and the loss of human capital resulting from premature death. While data on the savings in this type of situation is more difficult to obtain, there is certainly a broad societal value in treating the sick.

For developing nations, some argue that shifting meager resources into telemedicine programs may undermine programs which address basic health care concerns such as nutrition and sanitation.[74] However, telemedicine can thrive even without an influx of government money. It is a viable self-sustaining industry.[75] The government resources which are essential are those needed to create the legal and regulatory regime which allows the industry to exist.

3. The Spawning of a New Industry

Since telemedicine cannot exist without equipment, the practice has spawned a high technology industry of its own.[76] Telemedicine is expected to generate almost $2 billion in telecommunications-carrier revenue by next year.[77] This estimate does not include revenue from equipment and software needed for telemedicine applications.[78] Australia, Malaysia and Singapore developed aggressive strategies to capture the telemedicine market.[79] These nations view the field as an essential part of

73. *See* Lee S. Goldsmith, *Telemedicine and Changing Medical Law*, Trial at 49 (May 1998).

74. *See* 7 IND. J. GLOBAL LEGAL STUD. 191, 208.

75. *See infra* "The Spawning of New Industry."

76. Teleheath has been identified as one of the European Union's key growth areas. *See* Dakins, *supra* note 59.

77. *See* Margaret Ryan, *"Distance Health Care" Is Latest Medicine*, EE TIMES, SEC. EMERGING MARKETS: ANNUAL REPORT, Issue 899, Apr. 29, 1996, <http://www.techweb.com/se/directlink.cgi?EET19960429S0059>.

78. *See id.*

79. *See* Helen Meredith, *Exporting Skills Good Medicine For Health Care*, AUSTRALIAN FIN. REV, July 17, 1998, at 22. Australia-wide, telemedicine as a business is expected to grow from the $36 million in 1997 to $54 million in 1998, with expectations of $4 billion within a decade, accounting for 10% of total health expenditures. *See* Datuk Seri Dr. Mahathir Mohamad, *The Destiny of Malaysia Lies in Our Own*

their economic future.[80] In launching its telemedicine development plan, the Singapore Trade Board noted that, with 3.2 billion people Asia's market for health care is staggering.[81]

Telemedicine offers the twin benefits of better health care at a lower price. Thus, the barriers to expanding applications generally are not economic, medical, or technological, but legal. Legal uncertainty presents a cost that is hard to quantify, but one that is addressable. This next section examines the difficulties inherent in regulating the new range of activities made possible by advances in telecommunications technology.

II. TELEMEDICINE'S CHALLENGE TO THE TRADITIONAL LEGAL FRAMEWORK

Precisely what makes telemedicine so advantageous is also what presents the most significant legal challenges to its utilization on a broader scale. Telemedicine does not neatly respect international borders. Its very nature makes physical location largely irrelevant.[82] Since none of the traditional physical barriers are present, governments cannot stop electronic communications from coming across their borders.[83]

Under international law, persons within a geographic area are the ultimate source of law making power for actions within that area.[84] Telemedicine upsets this traditional framework in two ways. First, its nature makes it difficult for a state to regulate

Hands, THE NEW STRAITS TIMES, Oct. 24, 1998. Malaysia has targeted telemedicine to become a flagship industry in its pursuit of developing a high-tech industrial base. *See Malaysia Aims To Be Regional Centre For Telemedicine*, ASIA PULSE, Jan. 16, 1997. *See also* Malaysia Telemedicine Act of 1997, available at <http://www.cert.org.my/telemed.html.>.

80. *See id.*

81. *See Singapore Seeks Foreign Partners to Enter Asia's Health Care Industry*, BNA INTL. BUS. & F. DAILY, Mar. 21, 1997.

82. *See* David R. Johnson and David Post, *Law and Borders—The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367, 1370-1376 (1996). *See also Cyberlaws International Enforcement Needs Common Approach*, ASIA PULSE, Aug. 6, 1997, available in 1997 WL 11803631.

83. *See* Johnson & Post, *supra* note 82, at 1390.

84. Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States in Accordance with the Charter of the United Nations, G.A. Res. 2625, U.N. GAOR 6th Comm., 25th Sess., Agenda Item 85, at 121 (1970). *See also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 402 (1987) ("A state has jurisdiction to prescribe the law with respect to (1)(a) conduct that, wholly or in substantial part, takes place within its territory; (b) the status of persons, or interests in things, present within its territory; (c) conduct outside its territory that has or is intended to have substantial effect within its territory . . . .").

activity originating within its geographic borders as well as those actions taking place without its borders but having an internal effect. Second, the multi-border effects of telemedicine require supra-national agreement. However, obtaining such supra-national agreement is notoriously difficult.[85] To do so, the social and economic benefits of international regulation must outweigh the deep-seeded distaste for ceding power and control.

Similar to other areas involving technological advances, telemedicine laws lag behind the pace of the science. The absence of an international agreement, or even consensus, on the intertwined issues of licensure and liability impedes the further development of telemedicine.[86] The lack of legal guidance hinders the world's ability to improve health care by capitalizing on the advances in telecommunications technology.

The next section examines the licensure issues and evaluates alternative approaches to licensure.

III. Licensure: Antiquated Barrier or Essential Safety Net

Regulating the practice of medicine has always been within the exclusive purview of each nation.[87] Juxtaposed against this framework is telemedicine's ability to make the remote patient diagnosis a perfectly viable form of care and render boundaries meaningless.[88] With these contradictions in play, both physicians and patients are at risk. Those who practice telemedicine may be subject to civil and criminal sanctions depending on

85. Obviously, agreeing to elements of supra-national control are not infrequent—the entire European Union is premised on this idea. However, even in the same country, local control of the practice of medicine is tightly maintained. *See* Telemedicine Report to Congress, *supra*, note 3 (noting the difficulty in negotiating bilateral or multilateral agreements between various states).

86. *See* Lynette A. Herscha, Note, *Is There a Doctor in the House? Licensing and Malpractice Issues Involved in Telemedicine*, 2 B.U. J. Sci. & Tech. L. 8, 23 (1996) (discussing some of the obstacles presented by the lack of agreement among various U.S. states). Although other issues, most notably privacy, also present obstacles for fully utilizing the power of telemedicine, these problems more clearly represent an addressable obstacle. Moreover, for many medical ailments, privacy is not a key issue. Doubtlessly, many would prefer to forgo a bit of privacy if it meant access to better and more affordable care, particularly when the ailment involved does not have a social stigma attached to it.

87. In the United States, each state licenses health professionals and regulates the practice of medicine. There is no nation-wide creditionaling of healthcare practitioners. *See* Telemedicine Report to Congress, January 31, 1997, *supra* at note 3. However, there is universal cross-state licensure within the Department of Veteran Affairs and the Indian Health Service. *See* Campbell, *supra* note 36.

88. *See generally* Tweed, *supra* note 37.

where the doctor and patient reside.[89] Although licensing laws cannot prevent people from traveling to see foreign physicians, they restrict the ability of patients to travel electronically.[90]

Licensing serves the essential purpose of ensuring that physicians meet academic and clinical competence standards.[91] This helps to protect the public from unfit or impaired practitioners. Licensing also helps to enforce continuing standards. Most licensing programs evaluate physicians on a regular basis and revoke the licenses of unfit practitioners. However, the present disjointed system prevents the sharing of information amongst licensing entities. There is often no way for a state to know if a physician is licensed at all, under suspension, or has lost his license to practice in a given state.[92]

Not all licensing laws are enacted to protect the public. They can also be used as an anti-competitive device to protect the business interests of local providers.[93] Particularly in the face of new technology, many physicians fear becoming obsolete.[94] These fears are misplaced. Competition may effect the distribution of health care jobs. However, the need for skilled providers is not going to disappear. Furthermore, licensure restrictions on

89. *See* Alissa Spielberg, *On Call and On Line*, J. OF AM. MED. ASS'N, Oct. 21, 1998; Adam Katz-Stone, *E-medicine: Bedside manner can be miles away*, WASH. BUS. J., Dec. 18, 1998, at 30.

90. *See* Tweed, *supra* note 37. *See also* American Telemedicine Association (ATA), Report to the ATA Board of Directors from the ATA State Medical Licensure Committee, Dec. 11, 1998, at 5 (visited Jan. 20, 1999) <http://www.atmeda.org/news/policy/html> (hereafter ATA report). Similarly, it seems arbitrary that in an era of telecommunications technology which allows a person seeking medical advice to receive it from anywhere in the world to restrict an individual's choice to only those physicians licensed by his or her state. *See* Orbuch, *supra* note 1, at 46.

91. *See* Telemedicine Report to Congress, *supra* note 3, at 27, 33. *See also* Kearney, *supra* note 8, at 297.

92. *See* Lee S. Goldsmith, *Telemedicine and Changing Medical Law*, Trial at 49 (May 1998).

93. *See* Linda C. Fentiman, *The Legal Questions from Tele-Medicine: Five Major Issues Emerge*, N.Y. LAW J., Aug. 3, 1998 at 7; Sorelle, *supra* note 27, at 15 ("requirements for telemedicine by state medical boards are protectionist and threaten the spread of telemedicine throughout the nation"). States also have an economic interest in protecting the state by state system of regulation. Most states receive revenue from both initial licensing and annual renewals. *See* Telemedicine Information Exchange, *Interstate Licensure for the Practice of Medicine* (visited on Feb. 20, 1999) <http://208.129.211.51/InterstateLicensure.asp>.

94. This fear is not groundless. In the field of radiology, for instance, several hospitals have completely out-sourced this function. *See* Meek, *supra* note 10, at 175. Rather than being employed directly by hospitals, speciality firms employ radiologists who may examine x-rays from numerous facilities. *See id.*

the practice of medicine are particularly detrimental when there are no local physician jobs to protect.

While some licensing laws are designed to protect providers, the system of licensure as a whole exposes them to a serious risk of civil and criminal liability. Every nation has established its own rules regarding the educational and performance standards which must be met. With each country regulating and even defining the provision of health care differently, the potential liability stemming from the unauthorized practice of medicine increases exponentially with the expansion of telemedicine.[95] What constitutes the practice of medicine also implicates the activities of non-physician assistants. The range of tasks which nurses and other assistants may legally provide varies widely. Assistants may unwittingly engage in the unauthorized practice of medicine simply because of differences in the allowable scope of their duties.[96] This lack of uniformity in the licensing system impedes the ability of telemedicine to render distance irrelevant.[97]

Presently, there are no licensure standards or guidelines for the practice of international telemedicine.[98] Part A of this section discusses five models for addressing the licensure issue: (1) licensing by endorsement; (2) mutual recognition and reciprocity of licenses; (3) consultation exceptions; (4) health care worker registration; (5) creating an international telemedicine

95. *See* Guttman-McCabe, *supra* note 37, at 170. *See also* American Telemedicine Association (ATA) State Medical Licensure Committee Draft Report to ATA Board of Directors, Dec. 11, 1998, American Telemedicine Association (visited on Jan. 20, 1999) <http://www.atmeda.org/news/policy.html> ("The requirement for full and unrestricted licenses in each state is already having a chilling effect on telemedicine and places unacceptable and unreasonable economic, administrative and political burdens on existing and potential telemedicine providers."). *See also* Katz-Stone, *supra* note 89.

96. *See* Cepelwicz, *supra* note 63.

97. *See* Kearney, *supra* note 8, at 297 ("The risk of unauthorized practice limits telemedicine's potentially broad reach.").

98. *See* Linda Gobis, *An Overview of State Laws and Approaches to Minimize Licensure Barriers*, TELEMEDICINE TODAY (visited on Jan. 20, 1999) <http://www.telemedtoday.com/mainpages/Statelaw.html.>. Further, under the American, state based licensing system, physicians must obtain a license from each state in which they practice. *See* Herscha, *supra* note 86, at 25. In some respects, the lack of international licensure guidelines for the practice of telemedicine is a chicken and egg question. There are few cross nation telemedicine projects. Are there no standards because there are few projects? Or, are there few projects because there is no regulatory framework? *See Telemedicine Report to Congress, Legal Issues—Licensure and Telemedicine*, Jan. 31, 1997 (visited on Jan. 20, 1999) <http://www.nita.gov/reports/telemed/legal.html>. Either way, the licensure and liability questions must be answered in order to reap the benefits of telemedicine.

license. Part B of this section, advocates expanding the use of mutual recognition. While telemedicine licensure issues are far from settled, there is widespread agreement that the existing system needs an overhaul to accommodate the new technologies.[99]

A. Licensure Models

To be effective, any licensing framework must satisfy two constituent groups: health care providers and consumers.[100] Imposing large burdens on physicians will hinder the expansion of telemedicine, because providers will choose not to participate or create programs.[101] Similarly, the public needs protection from incompetent or unscrupulous providers. Licensure systems must have the standards and resources to ensure that health professionals are both clinically competent and mentally and physically fit to render services to the public.[102] Further, licensing policies need to identify impaired health professionals, resolve patient complaints, and prosecute professional misconduct.[103]

Presently, application requirements, inconsistencies in the laws applicable to health care providers, and the lack of coordination make licensing an effective barrier to the expansion of telemedicine.[104] Many of these inconsistencies stem from bureaucratic rather than substantive differences. In the United States, administrative differences between the various states persist. However, in the past thirty years there has been a strong convergence of the requirements used.[105] This coming to-

99. *See* Robert F. Pendrak & R. Peter Ericson, *Telemedicine May Spawn Long-Distance Lawsuits*, NAT'L UNDERWRITER, Nov. 4, 1996, at 44.

100. *See* Linda C. Fentiman, *The Legal Questions from Tele-Medicine: Five Major Issues Emerge*, N.Y. LAW J., Aug. 3, 1998, at 7.

101. *See Telemedicine Report to Congress, Legal Issues—Licensure and Telemedicine*, Jan. 31, 1997 <http://www.nita.doc.gov/reports/telemed/legal.html>. A simple cost benefit analysis explains physicians' reluctance to embrace this new technology: If the costs associated with increased insurance premiums and the possibility of facing an unknown amount of liability outweigh the benefits the physician will receive, few will venture to engage in this kind of practice.

102. *See id.*

103. *See id.*

104. *See* Center For Telemedicine Law, *Telemedicine and Interstate Licensure: Findings and Recommendations of the CTL Licensure Task Force*, Feb. 12, 1997 (visited on Oct. 24, 1998) <http://www.ctl.org/ctlwhite.html>.

105. *See* American Telemedicine Association (ATA), *Report to the ATA Board of Directors from the ATA State Medical Licensure Committee*, Dec. 11, 1998, (visited on Jan. 20, 1999) <http://www.atmeda.org/news/policy.html>. All fifty states recognize the United States Medical Licensing Examination (USMLE). All recognize appropri-

gether on requirements can serve as a model for international agreement on licensing issues. Creating a stable framework is necessary to reap the benefits of combining the practice of medicine with modern telecommunications.

1. Licensing by Endorsement

Licensing by endorsement involves government boards granting licenses to health professionals who are already licensed to practice in other countries with equivalent standards.[106] A health professional must apply for a license by endorsement from each nation in which he or she seeks to practice.[107] Countries could require additional qualifications or documentation before endorsing a license issued by a foreign authority.

While this system allows for close regulation of health care providers, it is cumbersome.[108] It does not really remove any administrative hurdles. Countries easily could thwart the effectiveness of this system by requiring numerous additional qualifications.[109] Similarly, even if the additional requirements were minimal or nonexistent, a bureaucratized or costly process might impinge participation.[110]

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ate credentials from nationally accredited medical schools and residency programs regardless of location. All specialty board certification is conferred by national organizations. The differences between the states primarily relates to how many times an applicant can take the USMLE (the range is from three to unlimited attempts) and the number of postgraduate training years required (ranging from zero to three years). The ATA report concluded that the differences in licensure requirements are much more similar than different and that there was little, if any, data to support the claim that the physicians of one state are more proficient than those of another. *See id.* However, the report did not compare foreign requirements and only looked at the differences within the United States.

106. *See* Telemedicine Report to Congress, *supra* note 98. *See also* Kearney, *supra* note 8, at 299.

107. *See* Telemedicine Report to Congress, *supra* note 98.

108. *See* Howard J. Young & Robert J. Waters, *Licensure Barriers to the Interstate Use of Telemedicine*, Arent Fox (visited on Oct. 24, 1998) <http://www.arentfox.com/telemed/articles.html> (discussing the costly and time consuming process of obtaining state licenses even when educational and testing requirements are met). The Center for Telemedicine Law described state requirements for "licensing by endorsement" as: "time-consuming, costly, and confusing. The requirements vary so much that, in some cases, it may be impossible for a qualified physician to obtain a license in that state without retaking the licensing exam and/or undergoing burdensome procedural requirements." *See* Center For Telemedicine Law, *Telemedicine and Interstate Licensure*, (visited on Oct. 24, 1998) <http://www.ctl.org/ctlwhite.html>.

109. For instance, France could require a degree issued by a French institution.

110. *See* Herscha, *supra* note 86, at 23 (stating that multiple licensing requirements place a discouraging burden on physicians making them unlikely to participate in telemedicine until the requirements change).

2. Mutual Recognition

Mutual recognition is a system in which licensing authorities voluntarily agree to legally accept the policies and processes of a licensee's home state.[111] Under this framework, the health professional obtains a license in his or her home state but is not required to obtain additional licenses to practice elsewhere.[112] Mutual recognition avoids the application process required by the endorsement method of licensing.

A system similar to mutual recognition is reciprocity, which requires the licensing authorities of each state to negotiate and agree to recognize licenses issued by the other state without further review of individual credentials.[113] The only significant difference between mutual recognition and reciprocity is that reciprocity is a direct *quid pro quo* whereby State A must accept the licenses of State B and vice versa. With mutual recognition, State A could accept State B's licenses, but State B would not have to accept State A's. From a public health and safety perspective, mutual recognition is superior to reciprocity because it allows nations to maintain differing standards of care.[114]

Mutual recognition avoids the specter of unauthorized practice liability because a health care provider can easily discover whether a particular state accepts her license. The European Union and Australia adopted this approach to facilitate the cross border practice of medicine.[115] Thus far, it has been successful.[116]

However, mutual recognition minimizes a state's role in regulating the practice of medicine. It also poses the potential for an unseemly race to the bottom, as it allows the least competent health professionals to relocate to the state with the lowest standards.[117] Just as nations, such as the Cayman Islands, have

111. *See* Telemedicine Report to Congress, *supra* note 98, at 5.

112. *See id.*

113. Telemedicine Report to Congress, *supra* note 98. The driver's license is an example of automatic reciprocity, in which the holder of a license in one state can legally drive in any other state.

114. For example, with mutual recognition Haiti could agree to accept a British health care license, but a hospital in London would not be required to accept a Haitian license. With reciprocity, both nations would have to agree to accept the qualifications of the other.

115. *See* Telemedicine Report to Congress, *supra* note 98.

116. *See id.*

117. *See* Kearney, *supra* note 8, at 300. It also requires states to relinquish some control over licensing systems, a difficult task even when standards are quite similar. *See* Spielberg, *supra* note 89.

changed their monetary laws to attract foreign investments, some countries may eagerly relax their liability standards in order to attract health care providers and the revenues generated by the health care industry. This may be a particularly attractive option for previously under-served communities. An effective system of mutual recognition requires constant monitoring of the examination and disciplinary proceedings of foreign countries.

3. Consultation Exceptions

With a consulting exception, a physician who is not licensed in a particular state can practice in that state at the request of and in consultation with a referring physician.[118] Having an in-state licensed physician work in connection with an out-of-state physician, ensures patients of some level of regulated care.[119] The process is also administratively simple. In the United States and internationally, licensure statutes traditionally exempt physicians who consult with the patient's local doctor.[120] Recently, however, several states have limited the scope of consulting exceptions, making them less useful.[121]

Consultation exceptions are analogous to lawyers practicing law *pro hac vice*. Admission *pro hac vice* (literally, "for this turn only") is an extremely simple process whereby a lawyer admitted to the bar in one state can appear before the courts of another in a single matter.[122] Generally, there are no examinations, application forms, or character checks.[123] How-

118. *See* Telemedicine Report to Congress, *supra* note 98, at 4. In the United States, some states have consulting exceptions. However, many require the physician to be licensed in the state where the patient is located in order to consult electronically with either the patient or the patient's local physician. *See* Tweed, *supra* note 37.

119. *See* Guttman-McCabe, *supra* note 37 (arguing for expanded use of consultation exceptions).

120. *See* Center For Telemedicine Law, *Telemedicine and Interstate Licensure: Findings and Recommendations of the CTL Licensure Task Force*, Feb. 12, 1997 (visited on Oct. 24, 1998) <http://www.ctl.org/ctlwhite.html>.

121. *See id. See also* Cepelewicz, *supra* note 63 (arguing that many states see telemedicine as a threat to their local specialists and have thus restricted their consultation exceptions).

122. *See* Geoffrey C. Hazard, Jr., *et al.*, THE LAW OF ETHICS OF LAWYERING 995 (2nd ed. 1994).

123. *See generally* Note, *Due Process and Pro Hac Vice Appearances by Attorneys: Does Any Protection Remain?*, 29 BUFF. L. REV. 133 (1980) (suggesting standards for handling pro hac vice applications). Generally, pro hac vice admission cannot be denied without substantial cause. *See* Comment, *Leis v. Flynt: Retaining a Nonresident Attorney for Litigation*, 79 COLUM. L. REV. 572 (1979).

ever, admission *pro hac vice* may require a motion to the court or the association with locally admitted counsel.[124]

The American Telemedicine Association (ATA), a non-profit group supporting the expansion of telemedicine, advocates creating a similar system of exceptions for the practice of telemedicine.[125] Qualified out-of-state physicians could practice, via telemedicine, within the patient's home state. The ATA proposes a local license should be unnecessary when the following criteria are met: (1) Telemedicine request originates from a physician that is fully licensed in the patient's state; (2) The patient and requesting physician have a real physician-patient relationship; (3) The patient and the requesting physician have a face-to-face meeting; (4) The out-of-state physician is fully licensed in the state where he or she is located; (5) The responsibility of medical care for the patient remains with the requesting physician (i.e., care never transfers to the out-of-state physician as the requesting physician remains the attending physician).[126] This framework effectively eliminates the difficulty of competing licensure systems. It protects the states' role in regulating the provision of health care because the local physician retains the responsibility for patient care. Consultation exceptions also have the appeal of administrative ease and clarity. Making the rules straight-forward reduces confusion on what is and what is not acceptable behavior.

However, consulting exceptions are ill-suited to routine telemedicine applications. They are granted on a case by case basis. Consultation exceptions are limited in duration and scope, making them inconvenient for regular use. The limited scope ties the hands of the physician practicing telemedicine. Under certain consultation exceptions, physicians can only recommend certain remedies while treating patients.[127] This may lead to inadequate care. In addition, recent legislation in many American states, clouded, rather than clarified, the excep-

124. *See generally* Samuel J. Branch and Wallace D. Loh, *Regulating the Multistate Practice of Law*, 50 WASH. L. REV. 699 (1975).

125. *See* American Telemedicine Association (ATA), *Report to the ATA Board of Directors from the ATA State Medical Licensure Committee*, Dec. 11, 1998, at 5 (visited on Jan. 20, 1999) <http://www.atmeda.org/news/policy/html>.

126. *See* ATA Report, *supra* note 90, at 6. The Report also presents the possibility that the above framework could be supplemented with a registration system to that discussed below.

127. *See* Meek, *supra* note 10, at 184.

tions.[128] The experience with the difficulty of getting states to create a unified telemedicine exception suggests, that in order for an effective system of consultation exceptions to be put in place, there would need to be some supra national agreement. If each state just enacts its own criteria, it could be as burdensome as the present system. Furthermore, as telemedicine moves away from the physician to physician context, it will be unclear with whom the distant doctor is consulting.

4. Registration

Under a registration system, a health professional licensed in one state informs the authorities of other states that she wants to practice part-time therein.[129] By registering, the practitioner submits to the legal authority and jurisdiction of the other state.[130] While the health professional would not have to meet entrance requirements in the host state, she would be held accountable for breaches of professional conduct in any state in which she is registered.[131]

A registration process addresses conflict of laws and jurisdictional issues, but it does not grant states additional authority to regulate the practice of medicine within its borders. For a state genuinely concerned about the level of care provided to its citizens, simply being informed that Dr. X wishes to practice in the state does little to achieve this goal. Additionally, in the inter-

128. *See* Robert Waters, *Physicians Grapple With State Statutes, Liability Concerns*, Arent Fox (visited Oct. 24, 1998) <http://www.arentfox.com/telemed/articles/interslicense.html>. *See also Telemedicine and Interstate Licensure: Findings and Recommendations of the CTL Licensure Task Force*, Feb. 12, 1997, Center For Telemedicine Law (visited Oct. 24, 1998) <http://www.ctl.org/ctlwhite.html>. *See e.g.*, Ariz. Rev. Stat. Ann. §§ 32-1401, 31-1421 (1997); Ariz. Rev. Stat. Ann. §§ 36-3601, 36-3603 (requiring a license for the provision of all patient care and multiple or frequent consultations); Conn. Gen. Stat. Ann. § 20-9, An Act Concerning Telemedicine Licensure (requiring "regular" telemedicine practitioners to be licensed in Connecticut) (West 1998); Ga. Code Ann. § 43-34-31.1 (1997) (requiring a Georgia license for the provision of all patient care and regular or routine consultations); Haw. Rev. Stat. 453-2 (1997) (Out-of-state telemedicine consultation exception only if the physician licensed in Hawaii retains control and remains responsible for the patient's care); Ind. Code §§ 25-22.5-1-1.1, 25-22.5-1-2 (1996) (exception from licensure requirements for second opinions between physicians or by patient request); Nev. Rev. Stat. §§ 630.020, 630.047 (1995) (exception from licensure requirements only when the consultations occur on an irregular basis).

129. *See generally* Telemedicine Report to Congress, *supra* note 98. In 1997, California authorized its state medical boards to establish a registration program. The board has yet to establish such a program. *See also* Cepelewicz, *supra* note 63.

130. *See* Telemedicine Report to Congress, *supra* note 98.

131. *See id.*

national context, knowing whose law applies is an easier task than bringing an individual to trial.

5. International Telemedicine Licenses

Special purpose licenses allow practitioners to deliver a specific scope of health services under a defined set of circumstances.[132] Unlike traditional licenses, the focus of an international telemedicine license is on the scope and nature of medical practice rather than the duration.[133] This licensing model requires a physician practicing medicine across international borders to obtain a license to practice medicine electronically. The limited license does not allow physicians to practice medicine in the other nations if they are physically located there.[134]

The telemedicine license could require the possession of a state license as well as additional qualifications, whether in the form of completing a standardized test or otherwise demonstrating competence in the practice of telemedicine.[135] These additional requirements could ensure competency in the practice of telemedicine, rather than just traditional medical knowledge.[136] There could be local responsibility for monitoring and enforcement of the quality of telemedicine services.[137] Because the license has a limited scope, this framework would fully preserve the right of each state to regulate medicine in the traditional face to face physical setting.[138] It allows states to continue to play a strong role in the protection of the public health. By not

132. Telemedicine Report to Congress, *supra* note 98. *See also* Gobis, *supra* note 98. Texas has a special purpose telemedicine license. To practice telemedicine in Texas, a physician must have a license in good standing in his or her home state, be certified in a medical specialty and have passed a special exam on Texas medical law. The license is not available to foreign doctors. *See* Ruth Sorelle, *Vision for the Future: The Pain of Licensure*, HOUSTON CHRON., July 5, 1998, at 15.

133. Telemedicine Report to Congress, *supra* note 98.

134. Related to a system of international licensing, is the Model Act Approach. While this allows countries to retain regulatory authority, it sacrifices the benefit of having the same law apply everywhere. It also requires a international consensus to develop such an act and also to have nations adopt it.

135. *See* Herscha, *supra* note 86, at 31.

136. *See* Meek, *supra* note 10, at 185. A physician could be completely competent in the face-to-face context, but unfamiliarity with the equipment could cause drastic errors.

137. *See* Center For Telemedicine Law, *Telemedicine and Interstate Licensure: Findings and Recommendations of the CTL Licensure Task Force*, Feb. 12, 1997 (visited on Oct. 24, 1998) <http://www.ctl.org/ctlwhite.html>.

138. *See* ATA Report, *supra* note 90, at 5 (advocating that ATA should work to preserve this right).

upsetting this traditional right of states, the telemedicine license may be somewhat easier to sell politically.

Developing a telemedicine license is advantageous because it protects both consumers and providers. Consumers of telemedical services benefit because of the establishment of practice standards.[139] Health practitioners desiring to engage in telemedicine would only have to comply with one set of regulations. Issuing telemedicine licenses allows for uniform standards and regulation.[140] Such a licensure system helps to ensure standards of care because obtaining the license could have its own prerequisites, which may be more extensive than those in place in the licensee's home state.[141] It terms of disciplinary oversight for teledoctors, having a single system allows for tighter control. Finally, requiring an international telemedicine license is essentially an expansion of the present system. Just as certain physicians choose to specialize in family health or geriatrics, doctors could choose to specialize in telemedicine.

While implementing such an international system has many benefits, it also presents significant, and perhaps insurmountable, obstacles. Creating an international agency to regulate telemedical activities requires reaching consensus and a continuing commitment to a bureaucratic entity. Second, as the technology improves, the line drawing becomes arbitrary and suspect. For instance, a radiologist with a telemedicine license could practice in a foreign country via the computer, but she could not do the exact same thing if she were physically present in the same foreign country. Third, nations may be unwilling to turn over the protection of the public health to an external entity.[142] Thus, while an international license can address the pri-

139. Assuming that there were some requirements for obtaining the telemedicine license.

140. Presently, thirteen Caribbean nations participate in a multinational nursing licensure system. In 1989, these countries agreed on a core set of nursing courses to be taught at the undergraduate level and adopted a uniform licensure exam for all countries. *See* Gobis, *supra* note 98.

141. In some instances, requiring additional technological understanding is essential. A doctor might be fully competent to see a patient in person, but if unskilled at equipment use, she could make a mistake easily.

142. An increase in teledoctors also means less business for local practitioners. In June 1996, the American Medical Association House of Delegates voted to adopt a policy that "states and medical boards should require a full and unrestricted license for all physicians practicing telemedicine within a state." This differed from that recommended by the Joint Report of the Councils on Medical Education and Medical services which proposed that states should adopt a limited telemedicine license. *See* Telemedicine Report to Congress, *supra* note 98.

mary concern behind any licensing system, that being the protection of public health, there are significant administrative hurdles to cross before such a license could exist.[143]

B. A Call for the Expanded Use of Mutual Recognition

In those countries with health care systems which are of the same high quality, mutual recognition of physician qualification effectively addresses licensure concerns and is administratively simple. There are, of course, a few shortcomings to this approach. Establishing uniform standards of care is difficult when each country must separately decide which foreign licenses it is going to recognize.[144] Providers cannot be assured that if they possess certain qualifications they can practice in any particular country. Therefore, to protect patients, countries participating in a mutual recognition system must have certain core standards. Further, in order to assuage concerns about the unauthorized practice of medicine, countries need to spread awareness about their mutual recognition procedures.[145]

Despite these obstacles, expanding the use of mutual recognition has key advantages. It has already been adopted by several countries and expanding its use may be easier than trying to impose another system. Further, it combats some of the flaws in

143. *See* Spielberg, *supra* note 89.

144. In the United States, when various states attempted to regulate telemedicine activities, they often created rather than eliminated barriers. Although, the Federation of State Medical Boards drafted a Model Act calling for a limited license to practice telemedicine, few states have adopted it, and none without revision. In the past three years eleven states modified their licensure requirements. In general, they narrowed the consultation exception and required all out-of-state physicians to possess a state license in order to provide diagnostic or therapeutic services directly on an ongoing basis to patients located in the state. *See* Robert Waters, *Physicians Grapple With State Statutes, Liability Concerns*, Arent Fox (visited on Oct. 24, 1998) <http://www.arentfox.com/telemed/articles/interslicense.html>. *See also Telemedicine and Interstate Licensure: Findings and Recommendations of the CTL Licensure Task Force*, Feb. 12, 1997, Center For Telemedicine Law (visited on Oct. 24, 1998) <http://www.ctl.org/ctlwhite.html>. The following states all require telemedicine practitioners to carry a full license to practice telemedicine in their state: Arizona, Arkansas, Connecticut, Georgia, Hawaii, Illinois, Iowa, Kansas, Maine, Massachusetts, Mississippi, Nebraska, Nevada, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, and Texas. *See* Telemedicine Information Exchange, *Interstate Licensure for the Practice of Telemedicine* (visited on Feb. 20, 1999) <http://208.129.211.51/InterstateLicensure.asp>.

145. Technology could facilitate increasing awareness about the procedures. Each participating country could be required to maintain an internet site with the standards in multiple languages. Alternatively, an international agency could establish a data bank with easily accessible information on the requirements for practicing telemedicine in each state.

the other licensing models. Licensing by endorsement can be as time consuming and costly as the present system. Consultation exceptions are too narrow to accommodate routine uses of telemedicine. Further, the scope of such exceptions is often uncertain.[146] A registration system is unlikely to provide sufficient oversight for telemedicine activities. An international telemedicine license presents the most significant administrative hurdles of all the models.

Eliminating the specter of unauthorized practice of medicine and archaic bureaucratic licensing procedures only partly clears the path to the expanded use of telemedicine. The same issues regarding protecting people from substandard health care providers while maintaining a flexible regulatory system are also at the center of debate concerning liability stemming from telemedical activities. The following section addresses perhaps one of the greatest concerns of providers—and their insurers—the issue of liability.

IV. The Blame Game: Medical Malpractice and Telemedicine

The issues of licensure and malpractice liability are significantly intertwined. Licensure laws ensure patients that health care providers are competent while malpractice liability compensates the injured for substandard care.[147] Medical malpractice claims, or the threat of such claims, hinders the development of telemedicine.[148] Physicians, uncertain about facing liability in a distant locale, may choose not to participate in telemedicine programs.[149] Likewise, malpractice insurers do not know how to assess the risk of such activities and therefore

146. Even long-established consulting relationships are facing tighter regulation in the United States. *See* Center for Telemedicine Law, *Telemedicine and Interstate Licensure: Findings and Recommendations of the CTL Licensure Task Force*, reprinted in 73 N. Dak. L. Rev. 109, 122 (1997)(New state laws inhibit both telemedicine consultations and also more traditional physician to physician communications.).

147. *See Telemedicine Report to Congress, Legal Issues—Licensure and Telemedicine*, Jan. 31, 1997 (visited on Jan. 20, 1999) <http://www.nita.doc.gov/reports/telemed/legal.html>.

148. *See* Caryl, *supra* note 15, at 188.

149. *See* Caryl, *supra* note 15, at 189. Ironically, as the technology becomes more commonplace, those with access to the appropriate technology may face liability for failing to seek the expertise of a distant specialist. *See* Berkeley Rice, *Will Telemedicine Get You Sued?*, Med. Econ., Nov. 24, 1997, at 56. *See also* Cepelewicz, *supra* note 63 (arguing that because telemedicine makes a strong physician-patient relationship less likely, patient's willingness to sue may be greater).

may not provide coverage.[150] The present treatment of medical malpractice liability does not adequately address the nature of telemedicine. For telemedicine to thrive, thorny issues of liability must be settled.

Presently, there is little legislative or judicial law involving telemedicine malpractice cases.[151] Under the traditional malpractice framework, a plaintiff seeking to establish negligence must prove the elements of: (1) a duty by physician to act according to certain standards; (2) a breach of this standard of care; (3) an injury; and (4) causation between the breach of care and the patient's injury.[152] Telemedicine presents new questions for this traditional framework. First, how do you show a duty of care been established? Then, if there is a duty, how does a court examine what the standard of care should be?

In the traditional world of medical malpractice settled law governed these questions. However, telemedicine, with its ability to link numerous individuals in varying capacities, complicates the issue of when a duty of care arises. Telemedicine also raises questions about where suit can be brought: Where is the patient? Where is the doctor? Where is the equipment provider located? Finally, there are issues surrounding who can be held liable.

Part A of this section suggests a framework balancing patients need for a convenient forum while allowing physicians to control liability risks. Liability should attach to both the technology service providers and the health care practitioners, whether they are at the patients' locations or elsewhere. Part B calls for a universal standard of care for the practice of telemedicine. As

150. *See* Pendrak & Ericson, *supra* note 99, at 44. Physicians fearing lawsuits may be reluctant to engage in telemedical activities because of the professional consequences of being sued. Unsurprisingly, this fear is likely to be greater when the doctor is faced with the prospect of not only facing a lawsuit, but also having to bear the cost of defending it and paying any damage award.

151. There are no reported decisions concerning malpractice cases focusing on the use of telemedicine in the United States as of Jan. 21, 1999. This is not entirely surprising since a Feb. 1997 survey found that "more than 40 percent of telemedicine programs surveyed had been in operation for one year or less." *Telemedicine*, BNA's HEALTH CARE POL'Y REP., Mar. 3, 1997. *See Telemedicine Poses Malpractice Risks for Physicians*, PUBLIC HEALTH REPORTS, May/June 1997, at 185-186 ("To date there is no case law to clarify the role of the telephysician for his [or her] potential liability when acting in that capacity."). *See also* Pendrak & Ericson, *supra* note 99, at 44.

152. *See* Meek, *supra* note 10, at 186; Derek F. Meek, *Telemedicine: How an Apple (Or Another Computer) May Bring Your Doctor Closer*, 29 CUMB. L. REV. 173, 184 (1998-1999).

the practice of healthcare becomes more global, so should standards of care.

A. Jurisdiction and Liability

Telemedicine involves two distant locales: the patient's location and the provider's location. Presently, most telemedicine projects involve the patient's doctor consulting with other professionals elsewhere. In this context, the patient's local physician should be the ultimate decision making authority who is responsible for the care of her patient.[153] The referring physician, the consultant, and the equipment provider should define the responsibility for the encounter amongst themselves.[154] The virtual world of telemedicine facilitates the use of numerous consultants, some of whom may never directly interact with the patient.[155] These professionals, because of their professional status, are in a better position to contract on the issue of liability. This model protects the teledoctors from unknowingly facing liability in a distant place and follows traditional norms of vicarious liability.[156] It also conforms to traditional notions of medical malpractice actions which require the existence of a doctor-patient relationship as the basis for a physician's legal duty toward a patient.[157]

As technology progresses, however, the physician to physician consultation will be a less likely scenario.[158] Telemedicine encounters are likely to fall primarily into two types. In one category there will be those situations in which a patient contacts a distant doctor directly without the use of any intermediaries.

153. California allows out-of-state physicians to practice within its borders only in actual consultation with a Californian licensed practioner and prohibits the out-of-state practitioner from having ultimate authority over the patient located within California. *See also* Phylliss Forrester Granade, *Medical Malpractice Issues Related to the Use of Telemedicine*, 73 N. DAK. L. REV. 65, 71 (1997).

154. *See* Kearney, *supra* note 8, at 301.

155. *See* Patricia C. Kuszler, *Telemedicine and Integrated Health Care Delivery: Compounding Malpractice Liability*, 25 AM. J.L. & MED. 297, 310 (1999).

156. *See* Kearney, *supra* note 8, at 301 (also noting that it crucial for the referring physician to know the identity of the teleconsultant and his or her qualifications). *See generally*, Center For Telemedicine Law Newsletter, *Jurisdiction in Cyberspace*, June 1997, available at Center For Telemedicine Law (visited on Jan. 21, 1999) <http://www.ctl.org/news/jun97/cyberspace.html> (analogizing law suits involving liability from websites to telemedical activities).

157. *See* Allissa R. Spielberg, *Online Without A Net: Physician-Patient Communication By Electronic Mail*, 25 AM. J.L. & MED. 267, 292 (1999).

158. *See* Kuszler, *supra* note 155, at 318. Kuszler discusses how the infrastructure required to support telemedicine is most likely to be found in larger integrated health care networks.

For example, a patient logs onto his personal computer and communicates over the internet to a particular health care provider. In the other, non-physician assistants facilitate the encounter. An example of this is where a patient enters a local facility and then with the assistance of a technical worker consults with the health care provider. The following sections discuss how to resolve jurisdictional questions in these types of situations.

1. Encounters with Only One Patient and One Distant Provider

For purposes of determining when a physician-patient relationship is established, the patient should be treated no differently than if he walked through the door of a physician's office. When no telecommunications technology is involved, a physician-patient relationship arises when the individual practitioner becomes involved with the particular patient, regardless of whether that involvement is providing a consultation, performing an examination or making a decision.[159] When these activities occur with the aid of telecommunications, there is no need to alter long standing principles of law. However, determining when a duty of care arises does not resolve the liability question. There is also a conflict of laws problem: Should the liability rules of the patient's state or those of the provider's state be applied? Some view telemedicine as electronically transporting patients to the provider's home state.[160] From this perspective, arguably, the provider's location, rather than the patient's location, should govern the issue of liability.[161] This presents the problem of forum shopping and may start a race to the bottom.[162] Physicians could locate in the state or country with the

159. *See* Lee S. Goldsmith, *Telemedicine and Changing Medical Law*, Trial at 49 (May 1998).

160. *See* Brian Darer, *Telemedicine: A State-Based Answer to Health Care in America*, 3 VA. J.L. & TECH. 4, 22 (1998); Guttman-McCabe, *supra* note 37, at 173.

161. *See* Darer, *supra* note 160, at 22. Guttman-McCabe, *supra* note 37, at 173. Kathleen Vyborny takes the converse view: doctors virtually visiting the patients' state. *See* Vyborny, *supra* note 15, at 93. This view provides more patient protection to seek redress under the laws of their state. However, physicians, and perhaps more importantly, liability insurers, may see telemedicine as prohibitively risky because of the possibility of facing liability in a distant place.

162. *See* Rice, *supra* note 149, at 56. Even within the same state, lawyers can file in the community likely to have a more sympathetic jury. *Id.* In the cross state context, suits could be brought in either the referring physicians or the teleconsultants state, whichever has higher limits on damages. *Id.* Plaintiffs attorneys are to file suit wherever there are the best odds for their client. *See also* Cepelewicz, *supra* note 63.

most favorable liability laws. For this reason, the laws of the patient's state should govern. However, providers should be able, via contract, to limit their risk of having to defend a suit at the patient's location. Thus, while they could be held liable to the patient, the provider could avoid having to defend a suit in an inconvenient forum. Forum selection clauses are routine elements of many contracts. While they may impede some litigation, or alter the distribution of costs, they do not allow a physician's mistakes to go unredressed. Forum selection clauses also help to balance the risks and benefits of telemedicine. If potential liability costs are not contained, providers, and more importantly, their insurers, will be discouraged from utilizing this new technology.

2. Encounters Where a Patient Interacts with a Physician via Intermediaries

When only one health care professional is involved, liability should attach to the service providers at the patient's location and to the distant consultants. Patients should be able to seek redress from both the institution that provided the telemedicine consultation and the actual health care provider.[163] This follows traditional norms of vicarious and direct liability.[164] The threat of liability ensures that both the provider and the institution will adequately protect patient health and safety.

The local institution should be governed by the liability laws of the state where it is located while the laws of the physician's location determines her liability. Product liability laws can address issues surrounding the proper functioning of equipment.[165] This framework would allocate risk and responsibility among all three parties involved: the clinic providing the connection, the equipment suppliers and the health care professionals. This model provides incentives for local hospitals, universities, or corporations to ensure that the physicians they choose to establish telemedicine consultations with are competent. It assures the providers that while they may have to defend a lawsuit, they will not be governed by foreign laws, and they can insist that it

163. *See* Mark Crane, *Malpractice: Emerging Liability, More to Worry About*, MED. ECON., Jan. 11, 1999, at 50.

164. *See* Kuszler, *supra* note 155, at 319-320. Vicarious liability allows a court to find a principle liable when an agent acted on the principle's behalf. *See* W. Page Keeton *et al.*, PROSSER AND KEETON ON THE LAW OF TORTS § 69, at 500 (5th ed. 1984).

165. *See* O'Connell, *supra* note 20, at 48.

be filed locally.[166] Allowing patients to hold the local institution liable addresses the fact that telemedicine is likely to benefit rural people who may not have the resources to seek redress from a distant doctor.[167]

As with the type of encounters discussed above, providers in these situations should be able to contract amongst themselves to allocate the risks associated with the encounter.

B. The Need for an International Standard of Care for the Practice of Telemedicine

Telemedicine provides access to knowledgeable and experienced physicians without significant delays due to time, weather or other circumstances. It renders the need for local standards and practices for the provision of health care less relevant. Telemedicine is a new and different way of practicing medicine, and courts should judge teledoctors in comparison with others in the same speciality.[168] The technology does not obey geographic borders, and neither should standards of care.[169] Geography is irrelevant in the world telemedicine.

Presently, a threshold question in determining the presence of medical malpractice liability is whether the physician met the requisite level of skill and knowledge according to the standard of care applicable in that jurisdiction.[170] In the United States, courts historically applied a locality test to examine whether the proper standard of care was met. Under this test, the standard of care is the knowledge, skill and care of a physician with similar training in a similar situation, including a similar community.[171] Over time, the borders of the "community" expanded.[172] Courts now, commonly evaluate the proper level of care by

166. *See* Caryl, *supra* note 15, at 197 ("In order to develop an interstate telemedicine system, physicians must know whether or not they will be judged by the laws of their state or residence or the other states in which they may teleconsult.").

167. *See generally* Granade, *supra* note 153.

168. *See* Herscha, *supra* note 86, at 41.

169. *See* Jay H. Sanders & Rashid L. Bashshur, *Challenges to the Implementation of Telemedicine*, 1 TELEMEDICINE J. 115, 120 (1995) (discussing the effect of telemedicine on the standard of care and the impact of an objective record detailing medical interventions).

170. *See* Granade, *supra* note 153, at 74.

171. *See* Ann Davis Roberts, *Telemedicine: The Cure for Central California's Rural Health Care Crisis?*, 9 SAN JOAQUIN J. AGRIC. L. 141, 187 (1999).

172. *See* Patricia C. Kuszler, *Telemedicine and Integrated Health Care Delivery: Compounding Malpractice Liability*, 25 AM. J.L. & MED. 297, 315 (1999). *See also* Granade, *supra* note 153, at 75.

looking at the nation as a whole.[173] The nationalization of education and advancements in communications render many of the justifications of the locality rule obsolete.[174]

An international standard would compare physicians and providers to that standard exhibited by all those practicing telemedicine. Physicians and providers in the same field would be responsible for a similar base of knowledge and skill.[175] A uniform standard of care ensures uniformity of practice and avoids the uncertainty and inconsistency created if courts held telemedicine practitioners to varying standards of care.[176] If local standards of care govern the evaluation of the provider's performance, physicians could locate where laws best protected them. Providers should not be able to escape liability by locating where standards are lower. Such a system would not adequately protect patients.

Determining the exact standard level of care for the practice of telemedicine will not be an easy task. Some telemedicine procedures, such as teleradiology, are virtually identical to the traditional medical procedures, so standards can follow prevailing practice.[177] Newer applications involve a number of often unknown risks, and evolving standards of care are necessary. An international licensure system could facilitate providing local courts and legislatures with what standards are reasonable in the field.

V. CONCLUSION

> The human body is the same throughout the world, laws are different. I see no reason why a good licensed physician cannot consult on patients anywhere in the world. I see many reasons why bad physicians should practice nowhere (whether licensed or not).[178]

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173. *Id.*

174. *Id. See also* Shilkret v. Annapolis Emergency Hospital Association, 349 A.2d 245 (Md. 1975).

175. *See* Meek, *supra* note 10 at 191 (discussing a national standard for the practice of telemedicine within the United States).

176. *See* Herscha, *supra* note 86, at 52.

177. There is no significant difference between the way physicians traditionally examine x-rays and the way a telemedicine consultant reads an x-ray. *See* Caryl, *supra* note 15, at 194.

178. Julie M. Kearney, *Telemedicine: Ringing in a New Era of Health Care Delivery*, 5 COMMLAW CONSPECTUS 289, 301 (1997) (quoting Jordan C. Stern, M.D., Assistant Professor, Director, Head and Neck Service, Department of Otolayrngology, The New York Eye and Ear Infirmary).

There is more agreement on the nature of the problems facing telemedicine than on the solutions. Unfortunately, those likely to benefit most significantly from telemedicine, the poor and the isolated, have little political clout. Those who presently monopolize the industry have a vested economic interest in controlling competition. Arguably, this may be sufficiently offset by highly qualified practicians who would like to expand their client base.

Licensure laws serve an essential role in protecting the public health. However, when they are used to preserve market monopolies, consumers suffer. Particularly those in remote areas are forced to pay more for lower quality care. Mutual recognition ensures a level of care and facilitates the worldwide practice of medicine. Telemedicine will never achieve its full potential until laws are changed to permit physicians to easily consult with other health care providers in other states.[179]

Liability laws are also a necessary part of ensuring proper health care. With telemedicine, the geographic distance between patient and provider presents a great difficulty for both. Patients may have difficulty bringing a teledoctor to justice. Likewise, physicians and their insurers may be wary of exposing themselves to liability in a distant venue under unfamiliar laws. Allowing patients to hold both their local institution and the distant doctor liable for substandard care, protects those wrongly injured. Providers, and their insurers, will also know the set of rules they are playing under.

Telemedicine has the potential to transform the world healthcare just as the Internet transformed the world of commerce.[180] While telemedicine is still in its youth, some experts in the medical field predict that in five years telemedicine will be routine in a variety of clinical settings.[181] This will be beneficial for the public health both in terms of the availability and quality of services. However, seizing the advantages of this technology requires legal guidance.

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179. *See* Siwicki, *supra* note 9.

180. *See Telemedicine Technology, Hearing Before the Subcomm. on Science, Technology, and Space of the Senate Comm. On Commerce, Science and Transportation*, 106th Cong. (1999) (statement of Aaron S. Waitz).

181. *See* Katz-Stone, *supra* note 89, at 30.