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Expanding Trade in Medical Care through Telemedicine

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EXECUTIVE SUMMARY

The Internet revolution has been disrupting traditional industries for years by enabling online provision of various services. The first industries to convert have been media services that can be digitized, such as journalism, music, and videos. But less obvious candidates for online provision are emerging. One of these is telemedicine, which is the delivery of health care services from one site to another via electronic communications.

Telemedicine is already being used in various ways to provide care to those who could not otherwise receive it. Among others, those benefiting are people in countries with a shortage of doctors, people in rural areas for whom access to medical facilities is difficult, and people who need immediate assistance in an emergency. Recently, online medical care has been expanding to the mainstream, as more routine services are being carried out online.

As medical treatment moves online, the potential for treating patients across borders grows. In the United States, medical treatment has typically been segregated along state lines. With the ease of access between patients and doctors in different jurisdictions, however, this is beginning to change. Regulations will need to be adjusted to allow interstate trade so that consumers can reap the benefits.

Similarly, at the international level, governments should adapt their national regulations to allow trade in these services. This can be done in part through a number of ongoing trade negotiations that address barriers to trade in services, including the Trans Pacific Partnership, the Transatlantic Trade and Investment Partnership, and the Trade in Services Agreement negotiation. By using these trade negotiations to remove barriers and promote more international trade in medical services, governments can bring new competitive forces to a sector that has traditionally been characterized by an oligopolistic structure.

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INTRODUCTION

As anyone who received medical care in the 20th century can tell you, that care was generally provided in a low-tech, highly inefficient way. Typically you would carve out a couple hours from your daily schedule, traipse over to your doctor's office, fill out some paper forms, wait a while, then eventually see a nurse or doctor. Thankfully, new technologies will soon mean this process is no longer the norm. For many health concerns, an online consultation will be possible, from your home, your office, or wherever you happen to be. This applies to more than just conversations with a medical professional; patients will be able to conduct actual medical tests, with the information passed on to the nurse or doctor.

In and of itself, the benefits of bringing online interaction to this field are enormous. Almost as important, however, are the gains that will come from the international trade that is now possible in this area. The ability to take advantage of a whole world full of nurses and doctors will increase competition, raising quality and lowering prices. And many people who previously had very limited access to care, and sometimes none at all, will now be able to consult leading experts from around the world.

Not surprisingly there is resistance, mainly from the professionals whose livelihoods are being disrupted, and who feel threatened by the prospective changes. Among other places, the resistance can be seen in trade negotiations, where interest groups have been working to maintain the status quo of restrictions on this type of trade. For example, in the negotiation between Canada and the European Union, the medical sector has been explicitly excluded from the liberalization process in several instances.

But with other important trade negotiations going on, including major U.S. initiatives in Europe and the Pacific region, and a plurilateral services negotiation in Geneva, it is time to make the case for liberalizing electronic trade in medical care. The opportunity is there for health care advocates to promote the use of new technologies that make people's

lives better through increased trade and competition. Access to affordable health care is clearly of great value to society. People in the health and trade communities need to recognize that, and encourage the industry to move in that direction.

WHAT IS TELEMEDICINE?

The idea of health care provided using telecommunications equipment has been around for a long time. Back in 1924, *Radio News*, an American magazine, had on its cover a patient at home consulting a doctor via a television link.¹ But it is the development of the Internet that has made telemedicine a realistic option.

As stated by the World Health Organization, telemedicine is “the delivery of health care services, where distance is a critical factor, by health care professionals using information and communications technologies for the exchange of valid information for diagnosis, treatment and prevention of diseases and injuries, research and evaluation, and for the continuing education of health care providers, all in the interest of advancing the health of individuals and their communities.”² Along the same lines, the American Telemedicine Association explains that telemedicine is “the use of medical information exchanged from one site to another via electronic communications.” The communication can take place through “two-way video, email, smart phones, wireless tools and other forms of telecommunications technology.”³ The U.S. Medicaid program defines it as “two-way, real time interactive communication between the patient, and the physician or practitioner at the distant site.”⁴

There are several categories of telemedicine.⁵ The primary focus of this paper is the direct provision of patient care by a doctor or other professional through remote means. This includes simple consultations through conversation, but also remote conduct of medical procedures.

Telemedicine offers a number of benefits. Among other things, costs can be reduced, and more effective care can be provided where time is of the essence. To take some examples, emer-

gency room trips can be avoided; monitoring after a surgery can take place with the patient at home; the spread of disease can be contained if sick people can be treated without exposing others; and actual diagnosis can be done where the ailments are clearly visible (e.g., a rash).⁶

While consultation between a medical professional and a patient is one aspect, as noted, telemedicine can also go beyond mere conversation. Doctors can provide clinical, diagnostic, and monitoring services remotely. For example, medical devices can be used “to remotely collect and send data to a home health agency or a remote diagnostic testing facility (RDTF) for interpretation.” This can include specific vital signs, such as blood glucose or heart ECG,⁷ or reading MRIs and x-rays.⁸

The market for telemedicine is still in its infancy, but it is growing. A precise market value is hard to determine, but according to a 2012 report, the global telemedicine market grew from \$9.8 billion in 2010 to \$11.6 billion in 2011, and will almost triple to \$27.3 billion in 2016.⁹

The industry is still in the early stage of development, but market participants are emerging. A number of companies offer basic services through which doctors offer consultations direct to consumers via video chat for a low, flat fee. The doctor can provide general medical advice and fill prescriptions.¹⁰ In addition, the drug store Rite Aid plans to offer special in-store kiosks “where customers can video-chat with physicians about simple medical concerns, and use digital stethoscopes and other devices to measure vital signs.”¹¹ The service is designed to treat patients with minor conditions, including colds, flus, skin conditions, earaches and allergies, and usually costs between \$49 and \$79 per visit.

Beyond direct consultations, various private and university-affiliated hospitals offer specialized consultations services to doctors. The Mayo Clinic offers stroke evaluation;¹² specialists at the University of Virginia health system work with local physicians;¹³ and the Dignity Health Telemedicine Network partners with “spoke” hospitals that have limited access to specialized care.¹⁴

TELEMEDICINE UNDER DOMESTIC LAW

This emerging industry faces hurdles in domestic law. Existing regulation imposes a number of constraints on telemedicine, both by creating jurisdictional barriers and by putting significant burdens on the practice itself. The nature of the practice of medicine as well as its traditional regulation hinder the growth of telemedicine.

One particular problem is the requirement of licensing at the national or sub-national level.¹⁵ In the United States, individual states license doctors, and doctors must be licensed in each of the states where they have patients.¹⁶ Obviously, this makes it difficult to advise patients in multiple states (and, of course, in other countries).

A number of groups are trying to fix this. The U.S. industry has been working on ways to promote the interstate provision of these services, with the American Telemedicine Association developing an accreditation program for telehealth providers. In addition, new model legislation from the Federation of State Medical Boards aims at helping states make it easier for doctors to practice across state lines. The Interstate Medical Licensure Compact, released in September 2014, was developed in part to address concerns by physicians who have sought to offer telemedicine services to patients located in states other than where they are licensed.¹⁷ And federal legislators are trying to address these barriers as well. A number of bills have been introduced recently in Congress to create federal telecare standards or otherwise expand the use of telemedicine.¹⁸

Beyond the internal jurisdictional issues, some state laws require that before doctors consult with patients or prescribe medicine online or over the phone, they form a relationship through means like a physical examination.¹⁹ Such a requirement effectively prohibits much of the possible use of telemedicine, even within a state. It is certainly nice to be able to talk to your existing doctor online. However, the possibility of consulting additional doctors provides significant benefits, too. Standards have been proposed to address this issue.²⁰

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In other parts of the world, similar efforts are being undertaken. China's National Health and Family Planning Commission issued an opinion on the promotion and administration of telemedicine services.²¹ And in Europe, with its integrated market, *The Economist* reports that “countries may not pass laws that would stop doctors practicing telemedicine, and doctors need only be licensed in one country to practice in all.”²² While the EU market is technically open, the actual practice of telemedicine has not developed as rapidly as in the United States.

THE BENEFITS OF TRADE IN MEDICAL CARE

Allowing telemedicine on a domestic basis would be of great value. Allowing it internationally would have additional benefits. This is true for every country, but it is especially important for smaller countries or those lacking in sufficient medical professionals of their own.

Cross-border trade in medical care might seem like an obscure and rarely needed service. In truth, there are many times when it will save lives; and more generally it will make medical care better and more widely available. There are many situations where trade is useful, including for specialists, emergencies, convenience, and general shortages of medical professionals.

With regard to specialists, while there are many common ailments (the flu, a broken leg), there are also many obscure diseases and health concerns that few doctors know anything about. For example, if there are only a handful of world-renowned Marfan syndrome specialists, it would be of great value to put those few people afflicted in contact with the experts, wherever they are located. That specialized knowledge should be spread as widely as possible. In addition, with globalization, diseases are making their way around the world more quickly. Some that are well-known in one part of the world are not understood in others.²³ Advice from local experts is useful in these situations.

As to emergency care, if it is 3:00 a.m., and your young child is throwing up, you may not want to take him to the emergency room just

yet, but some advice on the seriousness of the problem would be helpful. Rather than contact a sleep-deprived American doctor, why not Skype with an Australian doctor who is in the middle of a regular shift? And if there is simply a shortage of doctors and nurses in your area, some degree of emergency care can be provided via the Internet.

Many health consultations are not about emergencies, but nevertheless flexibility and convenience are important. Fitting consultations into a busy day can be difficult. If you have a quick question about, say, a rash, a Canadian doctor is just as qualified to weigh in as an American doctor. Why not create a pool of all available doctors, to speed up the process?

Beyond these emergencies, there are many communities, including pockets in rich countries, where people are underserved in their medical care.²⁴ There is a general shortage of professionals to serve these communities. Telemedicine can bring medical care to poor communities around the world. As *The Economist* recently reported, doctors at the Cleveland Clinic are evaluating tumors in patients from several African countries.²⁵ If there is a flood in a remote part of India,²⁶ or an outbreak of Ebola in Africa,²⁷ the necessary doctors and nurses are unlikely to be close by. In these situations, consultations with medical teams located abroad are extremely valuable. Such consultations are already happening, and the practice should be encouraged and expanded.

Beyond these specific uses, we can all benefit more generally from increased competition in the medical care industry. More competition will improve quality and bring prices down. Prices in this sector have risen far beyond the inflation rate in recent decades,²⁸ due in large part to anti-competitive aspects of the industry. Bringing more competition to the industry is the best way to put a check on prices. As things stand now, in many countries the medical profession is something like a cartel, with many barriers to entry and constraints on competition. This leads to limited choices for consumers. Allowing competition from all over the world for at least some kinds of medical care means more choice for consumers and better services.

Of course, fear of competition is the source of the resistance to more trade in this area, which makes change difficult. But this is no different from traditional protectionist trade barriers for trade in goods, like with tariffs on automobiles. To deal with that problem, the world trading system has spent decades on mutually agreed-upon reductions in tariffs, bringing average tariff rates on industrial products down to less than 5 percent.²⁹ The same can be done now with trade in medical services. The following sections consider how the issue has been handled in past trade agreements and its prospects in some ongoing trade negotiations.

GATS COMMITMENTS

The General Agreement on Trade in Services (GATS)³⁰ provides a multilateral set of trade in services rules as part of the World Trade Organization (WTO). Negotiated during the late 1980s and early 1990s, the negotiators could not have had a very clear idea of how medical services might one day be traded over the Internet. But as we found out with the U.S.-Gambling case, the lack of such foresight by trade negotiators is no bar to a ruling that services barriers violate WTO rules, as legal language on this issue in the GATS, which was clearly not designed by the drafters to deal with Internet gambling, was applied in a way that made it subject to GATS rules.³¹ So it is possible that existing GATS rules could be relevant to telemedicine.

In terms of commitments made by WTO members in relation to cross-border trade in medical services, surveys show that a few members made full commitments, whereas others made it explicit that they were not binding themselves to anything. For example, Switzerland entered “none” in its schedule for the sector “Medical and dental services” (CPC 9312) for mode 1 (cross-border supply), in relation to both national treatment and market access, meaning there were no limitations on national treatment or market access;³² whereas the United States did not include this sector in its schedule, meaning it promised nothing.³³ Overall, relatively few commitments have been made in this sector.³⁴

While there is a chance that commitments made in this earlier era could have implications for cross-border trade in medical services, the more interesting issue is how current negotiations, taking place in the Internet era, will address an issue that negotiators are, or should be, aware of now.

CETA: A MIXED BAG (FROM WHAT WE KNOW SO FAR)

The Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union is a major new bilateral trade initiative that is currently in the final stages of negotiations. A review of the liberalization commitments on services shows that the negotiators are well aware of the possibility of cross-border trade in medical services, as some governments have unfortunately carved them out of the liberalization commitments. Others, however, seem not to have excluded them, although uncertainty remains as to exactly how government regulations in this sector would be treated under the CETA services obligations.

The clearest carve-out comes from Germany. In three services sectors related to the medical profession, Germany has entered the following reservation in its schedule: “Telemedicine may only be provided in the context of a primary treatment involving the prior physical presence of a doctor.”³⁵ This exclusion would prevent nearly all cross-border trade in medical, dental, midwife, and even veterinary services, as it would not be possible for a German to consult a doctor or nurse online where that person had not previously been consulted in person.

In contrast, other governments seem not to have made such explicit exclusions for telemedicine, although in some sectors there are broader reservations that might prevent it. For example, one Canadian province has set out a general reservation for veterinary services based on residency/citizenship.³⁶ Presumably, that would mean online trade in such services has not been liberalized. On the other hand, for the other medical service sectors where Germany excludes telemedicine, there is no such reservation. Does this mean online

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medical services trade is liberalized in these sectors? Perhaps, although it is possible Canada has in mind that restrictions and regulations on the provision of medical services by non-Canadians could be justified on other grounds.³⁷

LIBERALIZATION THROUGH TTIP, TPP, AND THE TISA

Whereas CETA already carves online medical services out to some extent, there are three major ongoing trade negotiations where there is an opportunity to liberalize this area. In each of these, trade negotiators should embrace binding commitments to liberalize cross-border trade in medical services.

The United States has its own trade negotiation with the EU, known as the Transatlantic Trade and Investment Partnership (TTIP). Services are an important part of this negotiation. The U.S. market for health care is more open than Canada's, which could mean that there is a real possibility of freer trade in medical care services. Whereas some Canadians fear having their government's role in the provision of care undermined by market forces, many Americans are eager to promote more competition in this area. A strong push by the United States and the more market-oriented EU member states could make liberalization a realistic goal.

Similarly, in the Trans Pacific Partnership (TPP) talks, services are also under discussion. These talks are further along than the TTIP, so big changes at this point may be difficult, but we should keep a close eye on what has been done in the area of medical services.

Finally, there is an entire negotiation focused on services taking place in Geneva, known as the Trade in Services Agreement (TISA), with 50 participants involved.³⁸ There is no better place to explore the possibility of setting out an innovative framework for liberalization of new services than a multilateral effort involving people with the most expertise in this area.

Trade negotiators should not repeat the CETA mistake of excluding this sector. These trade agreements should liberalize medical care to the greatest extent possible. Obviously, such a policy choice is not solely up to

the trade experts. People in the medical world need to support the effort. As things stand now, though, some of them are resisting.

TEXAS STATE BOARD OF VETERINARY MEDICAL EXAMINERS CASE

Regardless of what happens in the world of international trade, the reform process is already underway in domestic law. In the United States, a Texas veterinarian who was providing online advice is suing the state medical board that fined him for his actions, alleging that the First Amendment allows him to provide care this way.³⁹ If this case succeeds, the landscape of online medical advice could radically change in the United States.

Starting in 2002, Dr. Ron Hines, a retired Texas-licensed veterinarian, used the Internet to advise pet owners from all over the country and around the world, either for free or for a \$58 flat fee. However, in 2013, the Texas State Board of Veterinary Medical Examiners put a stop to his work, suspending his license, fining him, and making him retake portions of the veterinary licensing exam.⁴⁰

In response, Hines filed a complaint in U.S. district court asserting violations of the First Amendment, the Fourteenth Amendment under substantive due process, and the Fourteenth Amendment under the equal protection clause. Specifically, Hines challenged the portions of the Texas statute and any associated regulations “that require a veterinarian to examine the animal before providing veterinary advice and that prohibit the establishment of a veterinarian-client-patient relationship by electronic means.”⁴¹ The complaint is still in its early stages, but the court issued a ruling which found that the First Amendment applies to the professional regulations at issue in this case, and that the regulations, as applied to Hines's professional speech, are subject to heightened scrutiny and must be shown to be “reasonable.” Therefore, the court denied the motion to dismiss Hines's First Amendment claims. (However, it dismissed the due process and equal protection claims.)⁴²

It should be noted that there are limitations to this complaint. This challenge is designed

to protect Dr. Hines's rights. However, it protects neither the rights of foreign consumers to hire him nor the rights of U.S. consumers to access foreign medical advice. Thus, foreign laws might prevent Dr. Hines from offering cross-border services or U.S. consumers from using the services of foreign medical professionals. To ensure that international trade in these services is permitted to take place, an international recognition process is probably necessary.

CONCLUSION

Reform is coming to the field of medical services. Telemedicine can never completely replace in-person care, of course, but it will be a common and widely used method in the near future. Governments are beginning to recognize this, and domestic regulatory systems will have to be changed to accommodate it.

With doctors and nurses providing medical advice online, the idea that their advice can or should be restricted to people within their borders seems arbitrary. Concerns about quality of care can be addressed through licensing and qualification requirements, which are firmly entrenched already in this profession. The only point of restrictions on cross-border trade seems to be to protect medical professionals from competition. Consumers would be much better off with more options to choose from.

Regulators should recognize this and push reform along, rather than digging in their heels to try to stop the inevitable. Instead of resisting, governments should be actively promoting cross-border trade in medical services through trade negotiations, along with mutual recognition agreements to make sure that telemedicine care is available to the widest extent possible. In the United States, an Interstate Medical Licensure Compact has been put forward as a way to enhance domestic trade in these services. An international equivalent would be of value.⁴³

NOTES

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[revolution-may-last-be-about-arrive-stuck-waiting](http://www.economist.com/news/international/21623710-long-touted-health-care-revolution-may-last-be-about-arrive-stuck-waiting).

2. World Health Organization, "Telemedicine: Opportunities and Development in Member States," *Global Observatory for eHealth*, vol. 2 (Geneva: WHO, 2010), p. 8.

3. "What is Telemedicine?" American Telemedicine Association, <http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.VBhEjPldVWY>.

4. "Telemedicine," Medicaid.gov, <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html>.

5. Matthew Yeo sets out four categories: (1) doctor-to-doctor exchanges; (2) remote clinical, diagnostic, and monitoring services; (3) direct provision of patient care by remote means; and (4) outsourcing hospital and claims management. I focus here on categories 2 and 3. Matthew Yeo, "Distance Health Service under the General Agreement on Trade in Services," *Journal of Health Law* 35 (2002): 85–87, <http://www.steptoec.com/assets/attachments/56.pdf>.

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9. Nicole Lewis, "Global Telemedicine Market Headed for \$27 Billion," *InformationWeek*, March 21, 2012, [http://www.informationweek.com/mobile/global-telemedicine-market-headed-for-\\$27-billion/d/d-id/1103463?](http://www.informationweek.com/mobile/global-telemedicine-market-headed-for-$27-billion/d/d-id/1103463?)

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- americanwell.com/), and MD Live (www.mdlive.com/).
11. Mohana Ravindranath, "Rite Aid to Pilot Virtual Care Kiosks in Ohio," *Washington Post*, November 10, 2014, http://www.washingtonpost.com/business/on-it/rite-aid-to-pilot-virtual-care-kiosks-in-ohio/2014/11/10/4c65929a-6904-11e4-a31c-77759f1eacc_story.html.
 12. "In stroke telemedicine, also called telestroke, doctors who have advanced training in the nervous system (neurologists) remotely evaluate people who've had acute strokes and make diagnoses and treatment recommendations to emergency medicine doctors at other sites. Doctors communicate using digital video cameras, Internet telecommunications, robotic telepresence, smartphones and other technology." "Stroke Telemedicine," Mayo Clinic, <http://www.mayoclinic.org/tests-procedures/stroke-telemedicine/basics/definition/prc-20021080>.
 13. "Clinical Services," Center for Telehealth of University of Virginia Health System, <http://www.healthsystem.virginia.edu/pub/office-of-telemedicine/office-of-telemedicine/clinical-services>.
 14. "Telemedicine Network: Your Direct Connection to Specialized Care," Dignity Health, <https://www.dignityhealth.org/sacramento/services/telehealth-network>.
 15. Yeo, p. 88.
 16. "Stuck in the Waiting Room."
 17. Kendra Casey Plank, "Telemedicine Debate Continues amid New Guidance, Reports," Bloomberg BNA, September 12, 2014, <http://www.bna.com/telemedicine-debate-continues-b17179894876/>; "Interstate Medical Licensure Compact," Federation of State Medical Boards, [http://www.fsmb.org/Media/Default/PDF/Advocacy/Interstate%20Medical%20Licensure%20Compact%20\(FINAL\).pdf](http://www.fsmb.org/Media/Default/PDF/Advocacy/Interstate%20Medical%20Licensure%20Compact%20(FINAL).pdf).
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- Uses Telemedicine to Treat Ebola Virus Patient,” *MEDCITY News*, September 15, 2014, <http://medcitynews.com/2014/09/nebraska-medical-center-uses-telemedicine-treat-ebola-virus-patient/>.
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34. Rudolf Adlung, “Trade in Healthcare and Health Insurance Services: The GATS as a Supporting Actor (?),” World Trade Organization, 2009, pp. 10–11; Rudolf Adlung and Antonia Carzaniga, “Health Services under the General Agreement on Trade in Services,” *Bulletin of the World Health Organization: The International Journal of Public Health* 79, no. 4: (2001): 356–61; Yeo, p. 94.
35. The three areas are: medical and dental services, midwives services, and services provided by nurses (CPC 9312, CPC 93191); human health and social care services, hospitals, ambulance services, and rescue services (CPC 931, 933); and veterinary services (CPC 932), Unpublished agreement between the EU and Canada, “Comprehensive Economic and Trade Agreement,” http://trade.ec.europa.eu/doclib/docs/2014/september/tradoc_152806.pdf.
36. “Only a Canadian citizen or permanent resident, or another status under the Immigration Act (Canada) consistent with the class of license for which the application is made, is eligible to be licensed to practice veterinary medicine in Ontario.” *Ibid.*, p. 928.
37. WTO jurisprudence in this area does provide some opportunities for technical legal arguments that could be used as a defense. For example, Canada might consider that a general prohibition on the on-line provision of medical services does not violate the national treatment obligation, because it is not “like” in-person services, or that a prohibition on medical professionals not licensed to practice in Canada is permissible under CETA services obligations and would effectively keep out such services. Or it may view such services as those “supplied in the exercise of governmental authority,” to which the chapter does not apply. Finally, it may believe that one of the CETA general exceptions would apply to such measures.
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42. *Ibid.*, pp. 4–14.
43. Trade lawyer Matthew Yeo has suggested that the WTO take up work on a “set of rules to prevent licensing standards from serving as unnecessary barriers to trade.” Yeo, p. 97.

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