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CLOSING KEY NOTE ADDRESS
TELEMEDICINE: AN EMERGING TECHNOLOGY WITH
EXCITING OPPORTUNITIES FOR NORTH DAKOTA

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It is my pleasure to participate in the University of North Dakota School of Law's Symposium that explored an emerging technology which has exciting implications for North Dakota and all rural areas. Telemedicine has the potential to dramatically impact the health care industry. Although it is not a remedy for all, it can, and I believe will, change the way we as a society deliver health care to people in rural areas. It is, in my mind, one of the most exciting and substantive options on the health care horizon today.

Although telemedicine appears to be a very recent innovation, it actually began in the United States in the late 1950s. The University of Nebraska employed interactive television for tele-psychiatry consultations. They linked the Nebraska Psychiatric Institute in Omaha with Norfolk State Hospital, an isolated state mental facility 112 miles away.

In the 1970s and 1980s, limited telemedicine projects were instituted in the United States and Canada. With the exception of a twenty-year old program in Newfoundland, none of the programs that began before 1986 survived. The most significant reason for their failure was the inability to justify the programs on a cost-benefit basis.

With the development of national information infrastructure and the considerable technological advancements of the last decade, telemedicine is proving more viable. And, as was learned during this Symposium Conference, North Dakota is a leader in proving the benefits and power of telemedicine.

Two medical facilities in Bismarck, North Dakota—Medcenter One and St. Alexis Medical Center—currently perform telemedicine patient consultations in North Dakota. Residents in twenty-nine of our rural communities and their surrounding areas are receiving medical services via telemedicine. Patients consult with physicians in specialties such as orthopedics, emergency care, dermatology, or surgery.

Approximately 750 telemedicine consultations have been completed in North Dakota to date. In addition, several providers including MeritCare in Fargo, Radiology Consultants in Minot, and West River in Hettinger, are providing tele-radiology services to patients in outlying

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areas. These services are saving people time and money along with the hardship of traveling long distances to receive proper medical care.

Two years ago I featured telemedicine as part of my annual State of the State Address. I underwent a full telemedicine consultation and exam in the Chambers of the North Dakota House of Representatives during my speech. A doctor on site consulted with a doctor off site, who was visible on screen in the chambers *and* on statewide television. The exam was basic, but it gave people throughout North Dakota a glimpse of what telemedicine is, how it works, and what it can do. They examined my ear and my hand. Basically, the entire state got to see the inner workings of my head. Of course, my political opponents (and even my own staff) quipped that they were surprised the light did not shine right through my head and out my other ear!

Based on demographics and distribution of population in our state, North Dakota is perfectly suited for this technology. We can divide North Dakota into eight regions of almost equal size. Four of these regions would be considered populated, those surrounding our four major cities, and four regions unpopulated. The populated regions boast 147 total medical specialists and 221 surgical specialists. The unpopulated regions, on the other hand, only have six total medical specialists, and only thirty-three total surgical specialists.

Obviously, people living in the unpopulated regions of our state almost always have to drive a considerable distance to receive treatment from a specialist. Or, through telemedicine, they can just drive across town to their local doctor and consult with the necessary specialist in a major medical center a hundred miles away.

Countless examples exist to prove the value of telemedicine in North Dakota. Last year in Bowman, North Dakota, a young boy was thrown off a horse. His primary care physician was concerned about a fracture in his back or spine. Consulting with doctors 150 miles away in Bismarck, North Dakota, the initial plan was to airlift the boy to Bismarck. In the process, they decided to perform a telemedicine consultation with an emergency trauma physician, a neurosurgeon, and a radiologist. The specialists decided the injuries were not as serious as originally thought, and the boy could be treated at home in Bowman. This saved the family or their insurance company or both thousands of dollars, including \$5,000 for the airlift transport alone.

In another case, an eighty-eight year old woman living in a nursing home in Wishek, North Dakota, had surgery in Bismarck, North Dakota, to close several ulcers on her feet. All eight follow-up visits with a plastic surgeon were performed through telemedicine. It saved her the trauma and exhaustion of traveling nearly 180 miles round trip to the specialist.

Her nurses said it would take her three days to recover from these trips. Plus, her daughter did not have to take time off work to drive her to Bismarck. At last report, this elderly woman was back on her feet, and walking normally.

Clearly, these examples show the impact telemedicine is already having in North Dakota. They demonstrate just a hint of the potential this technology has for improving rural health care. The applications for this technology are incredible. In some states, telemedicine-type devices are being used by nurses to monitor patients with heart and lung problems, diabetes, or a host of other ailments. A nurse can check in with a patient at home to make sure their blood pressure, breathing, and other vital signs are okay.

Telemedicine applications can also utilize an at-home computer hooked up to a nurse's station in a hospital. At the appropriate time during the day, the computer tells the patient to take their medicine, and repeats the message regularly until the person either touches the "yes" square on the screen or until a nurse calls the patient to make sure the pills are swallowed on schedule.

In addition to improving medical services to patients, the technology has many other applications and benefits. It enables rural health professionals to be more connected to their medical colleagues, eliminating some of the isolation that often discourages doctors from practicing in small towns. Telemedicine also provides a great tool for continuing education. The Med Star program at the University of North Dakota (UND) links the school to hospitals throughout the state via an audio-video network. Through this network, physicians, nurses, physical therapists, and other health care professionals can take a wide variety of continuing education courses taught by professors at the UND School of Medicine and Health Sciences.

With benefits like this, telemedicine holds promise for improving recruitment and retention of health professionals in rural areas. Some hospitals in North Dakota are also using telemedicine for internal communications, to train or inform staff living and working at satellite offices hundreds of miles away.

North Dakota recently earned an exciting program involving a public and private partnership. In January of 1996, the Rural Utilities Service of the U.S. Department of Agriculture awarded \$330,000 under the Distance Learning and Telemedicine Grant Program to the Good Samaritan Society (GSS) for the development of a telemedicine program in western North Dakota. This program will allow seven Good Samaritan Centers in underserved rural western North Dakota to be connected via a high speed server based at the Trinity Medical Center in Minot. The

network will provide telemedicine services to patients in Crosby, Noonan, Mohall, Bottineau, New Town, Parshall, and Velva, North Dakota.

The provision of telemedicine to these skilled nursing and long term care centers can overcome difficulties in getting medical service to their residents, who often do not have close access to a full range of medical providers, and for whom travel for medical services can be difficult or impossible because of age, frailty, cost, weather, and lack of transportation.

As exciting as these programs are, we are not over the hump yet. Nationally, and even in North Dakota, which is at the front of the pack, we are in the early stages of implementing telemedicine and realizing its full potential. About thirty percent of rural hospitals nationally were expected to use some sort of telemedicine technology by the end of 1996, and more than forty percent of existing programs have been operating for less than a year.

Numerous barriers and challenges exist. Costs, licensure, infrastructure demands, privacy, and malpractice issues are just a few. According to telemedicine providers in North Dakota, the costs of the system and the initial cash outlays required are substantial. The basic cost for a single-site set up is \$90,000. This does not include any extra scopes, which providers in our state are frequently finding to be unnecessary considering their cost of \$15,000 per scope.

One significant barrier for telemedicine in many states nationwide is infrastructure. This is one key area where North Dakota is ahead of the game. Our outstanding statewide telecommunication infrastructure is better, faster, and stronger than most other states, and provides a solid foundation for telemedicine. It has paved the way for reaching our small communities. North Dakota was the first state to be entirely fiber-optically linked. Telephone companies provide T-1 lines statewide, extending to even the most remote areas. In many states, T-1 lines do not yet extend to the rural corners that are the target for telemedicine. Without this digital circuitry, telemedicine is impossible to deliver.

Reimbursement is another major sticking point. Blue Cross Blue Shield of North Dakota has just recently developed a telemedicine reimbursement procedure. I believe hospitals are still in the process of reviewing the procedure codes, so the insurance company has not paid any bills yet. But it is exciting to see this advancement. To their credit, hospitals in North Dakota have not been charging patients, insurance companies, or anyone for telemedicine consultations with specialists. They have been providing this as a service to rural areas while the reimbursement procedures become developed.

Officials in the United States Department of Health are also being urged to re-examine their policies that allow Medicaid reimbursement for telemedicine consultations, but not Medicare. In this high-tech age, we need to adapt new regulations that get beyond the somewhat outdated standards that require face to face and hands on visits.

We know telemedicine saves money, but solid data regarding specific cost savings does not yet exist. *The New York Times* recently reported that a two-way telemedicine visit in rural Kansas costs sixty percent less than a traditional office visit. Another study shows that telemedicine allows nurses who pay home visits to visit ten or more patients a day compared to five or six visits by car. Part of the problem with determining cost savings is that many of the costs involved are difficult to quantify. How can you measure the cost of time spent traveling or the cost of wear and tear from travel on older, frail patients?

The Western Governors' Association (WGA) completed a Telemedicine Action Report in June of 1995. In it we identified six barriers to expanding inter- and intrastate use of telemedicine:

- 1) Infrastructure Planning and Development;
- 2) Telecommunications Regulation;
- 3) Lack of Reimbursement for Telemedicine Services;
- 4) Licensure and Credentialing of Physicians and Other Health Care Practitioners;
- 5) Medical Malpractice Liability; and
- 6) Confidentiality.

The report also makes recommendations to governors on how to reduce the barriers within the state and regionally. It has been distributed to over 1500 individuals and institutions and it appears on numerous web pages. Since the report was published, WGA has made some progress on a number of the barriers.

I. INTERSTATE LICENSURE

The WGA has focused on interstate licensure of physicians. The Federation of State Medical Boards developed a Model State Act that would provide a limited telemedicine license to ease the burden on physicians and others that want to practice telemedicine across state boundaries.

Although I and other WGA members support their objective, we do not agree with the Federation's approach. Rather than promoting uniform state definitions and standards, the Federation's proposal allows Medical Boards in each state to individually define critical terms. If this proposal were to be adopted by states, the present jumble of state

licensure requirements that prevent interstate telemedicine may actually increase.

I have written to the Executive Vice President of the Federation asking him to revisit the Model Act, and make some improvements to it. I support a model regulatory statute that establishes a special license limited to the practice of telemedicine across state lines, and that helps to standardize states' licensure requirements. And, I would encourage my WGA colleagues to do the same.

An effective Model Act on Licensure adopted by states would help resolve the administrative and legal burdens that currently prohibit telemedicine practitioners from providing care to under-served rural areas across state lines.

II. CONFIDENTIALITY

Another issue WGA has taken up is confidentiality. Telemedicine consultations might involve personal medical records being shipped over computer lines to other regions of the country. This can be a frightening proposition, which obviously is not unique to telemedicine. It will occur with even greater frequency as the health information infrastructure comes on line. We need to find a way to ensure citizens that their personal medical records will not become accessible to the public or to a talented computer hacker.

Senator Bennett of Utah introduced Senate Bill 1360, The Medical Records Confidentiality Act of 1995. This bill ultimately died in committee at the close of the 104th Congress. However, establishing federal privacy protections for personally identifiable health information in paper or electronic form could be the way to address privacy concerns.

The present patchwork of state laws on privacy may not be suited to the health information infrastructure that ignores state boundaries, and Senator Bennett's bill would have preempted many of those state laws. The State of North Dakota and the WGA are studying such a bill's ramifications in order to develop a western state position.

III. TELEMEDICINE REGULATION

In passing the Telecommunications Act of 1996 (Act), Congress specified that telecommunications should be used to enhance health care in America. Key language in the Act gives health care providers the right to "rates that are reasonably comparable to rates charged for similar services in urban areas in that State."

This presents many questions, including: How should the health care rates be calculated? Is the "comparable" standard enough to make telemedicine feasible for the long term? Whose rates are "comparable?"

The Act also mandates discounted rates for health care providers, schools and libraries, and says special incentive rates and terms should be given to "public or nonprofit health care providers that serve people living in rural areas in that state."

In writing the policies and definitions to implement the legislation, the Federal Communications Commission (FCC) and the Federal-State Joint Board on Universal Service (Board) used language and terms that decrease the efficiency and flexibility of the available funds. This action does not seem in step with the clear intent of the law. For example, the Board recommended that the health care providers serving people who reside in rural areas must also be physically located in rural areas, which immediately disqualifies most telemedicine providers. As Chairman of the Western Governors' Association, I am working with my colleagues and WGA staff to try to convince the FCC to revise some of these regulations.

Much of the progress of telemedicine in North Dakota is the result of efforts by private companies. This is appropriate, and I commend these medical providers who are paving the way in this area. At the same time, if we are going to overcome some of the barriers to maximum use and benefit of this technology, the state must provide some leadership and direction. I have asked Dr. Jon Rice, State Health Officer, to lead a task force that will outline a plan and direction for implementing telemedicine in North Dakota.

The task force will be a broad-based group of health care providers, telecommunication providers, medical school staff, and interested state officials. Their mission is to develop North Dakota's telemedicine philosophy and strategy for developing an infrastructure capable of delivering and providing access to quality health and wellness services. Among other things, the committee is taking inventory of current projects, existing uses, and talking to physicians and hospital administrators in rural areas about their needs. They are also looking at current and future technology and infrastructure to make sure we are positioning ourselves as a state to make use of this technology.

Time and input from all who are involved on this issue is extremely important. I hope you will continue working to help overcome some of the challenges we face in capitalizing on the incredible benefits this technology can have for people throughout our rural state. Your continued involvement will pay dividends for many generations to come.

