

**Statement of**

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**before the Senate Committee on Commerce  
Subcommittee on Science, Technology and Space**

**Telemedicine Technologies**

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Good Afternoon Chairman Frist and Subcommittee members. I am Aaron Waitz, Chief Technical Officer and Vice President of the Eastman Kodak Company Health Imaging Division. I am pleased to be here today to share our views on telemedicine and telehealth, a phenomenon that will transform the way healthcare is delivered.

Mr. Chairman, telemedicine and telehealth have the potential to transform the world of healthcare just as the Internet transformed the world of commerce. Within this decade, all of us witnessed the expansion of the Internet, from narrow applications to broad consumer acceptance and use. Once the capacity of the telecommunication system was matched with the convenience of access, the Internet exploded. The result is that, today, individuals are comfortable going on the Internet to seek out all sorts of information, including medical information. Tomorrow, individuals will turn on the telehealth product in their home to link with a healthcare provider, obtain medical images and information and manage their wellness program.

As background, Eastman Kodak Company is headquartered in Rochester, New York. We employ approximately 84,000 employees worldwide with over 44,000 of them in the United States. Moreover, as a purchaser of health care in the United States, we provide coverage for nearly 200,000 lives, of which approximately 70,000 are retirees and their families. The business of the Health Imaging Division of Kodak is medical pictures - integrated solutions that capture, process, present and print health-related images using a broad range of sophisticated technology. For over 100 years, Kodak's Health Imaging business, has served the needs of providers and recipients of healthcare. Kodak is a leading manufacturer of x-ray film and we are leading the development of electronic medical imaging products, including PACS (picture archiving and communications system), teleradiology and computed radiography. As a purchaser of health insurance and provider of health care products, Eastman Kodak understands the imperative of broad access to affordable quality health care that is not inhibited by distance or time.

Today's telemedicine products can bridge the distances separating practitioners in rural, underserved communities with health care providers in more concentrated medical service areas. Now it is possible to link health care professionals, regardless of location, and the result is improved access to high quality health care for some people. Closer patient monitoring results in decisions at earlier disease-states and earlier interventions result in fewer hospitalizations. Effective use of telemedicine and telehealth care results in lower costs throughout an entire health care system.

Kodak Health Imaging has been active in the field of telemedicine for several years, through our partnerships with public and private sector healthcare organizations. In Tennessee, our partnership with Mid-South Imaging covers radiology services for six Baptist Hospital facilities in Memphis, enabling the sharing of sub-specialty expertise and data. In Louisiana, Kodak and Schumpert Medical Center in Shreveport have in place an in-hospital primary reading system and an on-call teleradiology system, to facilitate remote diagnosis by on-call radiologists in their homes. In Texas, the Baylor Grapevine in San Antonio uses Kodak PACS to connect 30 mobile vans offering remote radiology services to a central reading site. .

In Colorado, Active Medical Inc. is using Kodak's computed radiography (CR) units to offer x-

rays in nursing facilities, instead of moving nursing home patients to hospitals. The images are captured on a storage phosphor screen and converted to viewable images. The image can be transmitted to remote Hsoft-copyF viewing locations or to laser printers for hard-copies. Not only does the x-ray technologist come to the patient for this procedure, but the image is transmitted to a nearby hospital where the radiologist reads the image and verbally reports back to the nursing home within 35 minutes. The nursing home patient does not have to worry about making a trip to the hospital, the productivity of the radiologists is increased, all while providing quality care.

In the future, telehealth technologies will link healthcare providers directly with their patients, improving opportunities for contact between the two and making telehealthcare a means through which patients are more directly involved in the maintaining their state of well-being. Kodak is looking ahead to the types of products that will enhance and expand the scope of that provider-patient contact and that patient-directed care. Telehealth applications in home health care could involve measurement of a patient's vital sign data and stethoscopic sounds by a device linked with a remote healthcare provider. Unlike the blood pressure device that we currently see in grocery or drug stores, this application of telemedicine would permit interaction between patient and provider. Our scientists and engineers are examining methods of linking the two, just as we now have the capacity to link two providers remotely, with devices that are user friendly for patients, provide the quality images and data that providers demand and offer valuable information that can achieve better outcomes.

The future of telehealth in physical therapy could involve remote rehabilitation of extremities, such as the hand or ankle. Rather than a patient traveling to a central facility, potentially requiring time off from work, the patient could take a telehealth product and receive remote therapy in the convenience of their home. Rehabilitation exercise could be performed on the home device and monitored remotely by a physical therapist. During the manipulation of the extremity, the telehealth product could measure strength or range of motion while proceeding through a series of rehabilitation exercises. In this example, a therapist linked remotely to the patient would monitor the movements made and the progress between sessions. The incentives for applications of this rehabilitation device would be present in remote areas or more urban, larger facilities with many patients, through timely access, higher quality care and reduced costs.

Technology exists today to allow continuous monitoring of patients via wearable or ingestible biosensors. In the future, tests ordered will no longer require the patient to travel to a diagnostic laboratory, as is the case today. Instead, data could be continuously recorded and uploaded via the Internet to a healthcare provider for analysis.

Just as telemedicine products move the delivery point of care from the hospital to a freestanding community facility to the home, future telehealth products will move the field away from monitoring a patient after an episode of illness to self-monitoring that ensures maintenance of health, while continuing to offer care in locations of the patient's and provider's choosing. If these advances are combined with others in medical imaging, such as miniaturization or improvements in computer aided diagnosis, the result is a dramatic improvement in the quality of care available in telemedicine and telehealth. Add expansions in web-based technology and the

result is an explosion of possible applications for telemedicine and telehealth products.

This Subcommittee and the entire Congress play an important role in ensuring that the current and future generation of telehealth products reach patients in healthcare provider shortage areas and throughout the country. We are seeing in practice throughout the country that telemedicine and telehealth broadens access to care, reduces health care costs and provides a better quality of care for patients. The challenge is to strike the appropriate balance so that government policies do not restrict the integration and growth of telehealth technology in healthcare. There are several areas that Kodak believes are important:

The regulatory and statutory barriers that impede acceptance of remote consultation across geographic boundaries. Examining a patient in another state or recommending treatment may be tantamount to practicing without a license.

Appropriate reimbursement for providers using telehealth. Existing legislation was developed at a time when telemedicine was synonymous with teleconferencing, restricting reimbursement to provider-to-provider transactions. It does not reflect the technological advances and resulting dramatic cost reductions that allow new paradigms of interaction. For example, direct patient-provider interaction.

A national high-speed Internet. The increase in bandwidth throughout our national infrastructure, coupled with advances in image compression technology, enables cost-effective transmission of large high quality diagnostic images. Telehealth consultations then become the beneficiaries of this increased bandwidth.

Achieving the correct balance between the desire to secure a patient's medical information and the inability of remote providers or patients and providers to interact. A balance must be reached between protecting sensitive information and facilitating the coordination of information in high quality healthcare networks. The use of telemedicine in these networks to facilitate disease management and health promotion will depend upon the ability of the healthcare networks to gather and exchange medical information.

Standardization of electronic medical records and communication protocols. The development of uniform federal standards will accelerate interoperability among the vast number of medical image and information systems.

Current healthcare systems with experience with telemedicine and telehealth, whether private insurers or national healthcare systems like the Veterans Administration or Medicare, can offer data that address concerns about efficacy and cost and remove the potential barriers to product integration. As a partner with providers of health care, Kodak has information on the success story of telehealth. We want to partner with you to address potential issue areas in a way that ultimately benefits users and practitioners of healthcare. If the system that delivers healthcare lags behind the technical capability of the next generation of telemedicine and telehealth products, then patients and the entire healthcare system will be the losers.

In conclusion Mr. Chairman and Subcommittee members, Eastman Kodak believes the future of telemedicine and telehealth is brimming with possibilities. We believe the next generation of products will have broad applications that will profoundly change the current healthcare paradigm. The new millennium will be one in which quality healthcare will be accessible to millions of people in settings more numerous than those available today. Kodak is excited at the

prospect of taking medical imaging to a place where the barriers of distance and time are removed. We have a long history of breaking new ground in healthcare, from our 1896 development of the first product designed to capture x-ray images. Telehealth products represent the next phase in the process of designing products that help providers detect, diagnose and treat their patients. We applaud the leadership of this committee in discussing the challenges and potential of this technology and we stand ready to work with you. Thank you.