

**TELEHEALTH: A CUTTING EDGE MEDICAL TOOL
FOR THE 21ST CENTURY**

HEARING
BEFORE THE
SUBCOMMITTEE ON
HEALTH AND ENVIRONMENT
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CONTENTS

	Page
Testimony of:	
Berenson, Robert A., Director, Center for Health Plans and Providers, Health Care Financing Administration	6
Burgiss, Sam, Project Director, Telemedicine, UTN Medical Center at Knoxville	50
Davis, Sally, Program Director, Telehealth and Management Develop- ment, Marquette General Health System	38
Grigsby, Jim, Study Manager, Center for Health Services and Policy Research, University of Colorado Health Sciences Center	70
Patrick, Mary R., Director of Quality Improvement, Blue Cross and Blue Shield of Montana	60
Reid, James, Director of Telemedicine and Network Services, West Rural Telemedicine Consortium, Mercy Hospital Foundation, on behalf of Center for Telemedicine Law	46
Rheuban, Karen, Medical Director, Office of Telemedicine, Professor of Pediatrics, University of Virginia Health System, accompanied by Lisa Hubbard and Alexandra Bartley	27
Ross-Lee, Barbara, Dean, Ohio University College of Osteopathic Medi- cine	53
Tracy, Joseph, Director of Telehealth, University of Missouri Health Sciences Center	43
Material submitted for the record by:	
Children's National Medical Center, prepared statement of	85
Thune, Hon. John R., a Representative in Congress from the State of South Dakota, prepared statement of	84

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THURSDAY, SEPTEMBER 7, 2000

HOUSE OF REPRESENTATIVES,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON HEALTH AND ENVIRONMENT,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2322, Rayburn House Office Building, Hon. Michael Bilirakis (chairman) presiding.

Members present: Representatives Bilirakis, Burr, Bilbray, Bryant, Brown, Stupak, Green, Strickland, Barrett, and Capps.

Staff present: Marc Wheat, majority counsel; Patrick Morrissey, majority counsel; Kristi Gillis, legislative clerk; Amy Droskoski, minority professional staff; and Bridgett Taylor, minority professional staff.

Mr. BILIRAKIS. This hearing will come to order.

My thanks to all of the witnesses who have taken the time to testify at this hearing on telemedicine and the role of technology in improving the quality of health care, and I also would like to particularly welcome little Alexandra Bartley, whose story will be shared with us today.

We live in a time where every aspect of our life is being transformed and improved by the convergence of technologies. Today's hearing will focus on the union of medicine, microelectronics and communications which promises to improve the health of many Americans, especially patients in geographically remote and medically underserved areas.

With more than a quarter of our Nation's elderly living in medically underserved areas, telemedicine could improve access to health care for many Medicare patients. This technology has significantly matured since 1997 when the first telemedicine Medicare reimbursement policies were signed into law, and I would like to add that Ron Wyden, who is now over in the Senate, formerly in the House, who had quite an interest in this subject. He and I spent many hours discussing telemedicine and, of course, some of the problems associated with it, which I guess we will get into here today.

So now it is time for Congress to re-examine current policies that may unfairly frustrate the development of this promising health care delivery method. Significant barriers to reimbursement of these services currently exist. For example, only limited reimbursement is available in areas which face a shortage of primary care physicians. While telemedicine is perhaps more commonly recog-

nized as a tool to increase access to specialty treatment, it can also play an important role in expanding access to primary care.

I hope that this hearing will illuminate some of the shortcomings of current Medicare reimbursement policies, and again I want to thank all of our witnesses who have taken the time to share their expertise with us today.

I apologize to my ranking member for starting without him, but Mr. Stupak was here, and I now yield to the gentleman from Ohio.

Mr. BROWN. Thank you, Mr. Chairman. I apologize for being a bit late.

I would like to thank Dr. Berenson and our other distinguished witnesses and especially Dr. Ross-Lee from Ohio. It is nice to see you again. Thank you.

I don't want to minimize the importance of this hearing. It clearly is appropriate and valuable for this subcommittee to become more educated about and to promote beneficial uses of telemedicine in the Medicare program. But we are taking up this issue in the context of further changes to the 1997 Balanced Budget Act. The fate of BBA changes likely will be determined over the next few years.

Our jurisdiction over Medicare and Medicaid, particularly, Mr. Chairman, our sole jurisdiction over Medicaid, demands that we play a direct and active role in that process. This subcommittee has held hearings on the BBA, the Plus Choice program, Medicare prescription drug coverage. The value of those hearings, like the value of our discussion today, depends on what we do in response.

I hope this hearing signals our commitment to participate fully and on a bipartisan basis in Medicare and Medicaid decision-making that will be critical to the providers and beneficiaries we represent; and in keeping with the beneficiary-oriented goals of this hearing, I hope this committee perceives this year's legislation not only as an opportunity to address inadequate reimbursement but as an opportunity to directly improve access and coverage for Medicare and Medicaid beneficiaries.

Promoting telehealth in Medicare is just one of those issues, but it is important for several reasons. Not only can telehealth serve the best interests of Medicare beneficiaries, but Medicare coverage policy sets a precedent for private coverage.

In his written testimony, Mr. Joseph Tracy from the University of Missouri makes a key observation. He said that telemedicine has not proven to be a vehicle for overutilization as some skeptics assumed it would be. Rather, it is serving as a vehicle for adequate utilization in medically underserved areas. He goes on to say that people living in these areas have as much right to Medicare benefits, obviously, as every other American. So Tracy has touched on a fundamental value in the Medicare program and the most compelling reason to support Medicare coverage for telehealth services, that Medicare is grounded in universality.

The fundamental objective is to provide the same level of quality care to all beneficiaries, regardless of location, regardless of income, regardless of health status. In some areas of the country, meeting that objective is especially problematic. There are areas of Ohio, which has some of the top health care in the country, where residents are literally hours away from the kind of basic health

care resources we take for granted, something that Dr. Ross-Lee knows a lot about in the part of State in which she is located.

All 50 States have areas where the number and diversity of health care providers is limited by geography or poverty or both. That is where telehealth comes in. The blending of health care and telecommunications technology has enabled health care providers to deliver care in new ways to new populations in the United States and internationally.

As we look at Medicare and telehealth, as we evaluate the impact of expanding coverage to include more providers and more services in more areas of the country and as we discuss other proposals like fees to help cover fixed costs, the fact that telehealth promotes access in a targeted population has bearing in two ways. The goal of equitable treatment for all Medicare beneficiaries should heighten our interest in promoting telehealth. The same goal should heighten our determination to know exactly what we are getting into when we change telehealth payment rules.

When we expand access to underserved populations we should be careful to ensure that it is the proper care. Otherwise, we are simply creating a new inequity. Equity for Medicare beneficiaries must also be factored into the equation when we weigh the pros and cons of establishing a fee to cover the fixed costs associated with telehealth.

I look forward, Mr. Chairman, to hearing from our witnesses on the opportunities, the risks and the variables that we should consider as we look to expanding Medicare coverage for telehealth.

Mr. BILIRAKIS. I thank the gentleman.

Mr. Stupak for an opening statement.

Mr. STUPAK. Thank you, Mr. Chairman, and thank you very much for holding this hearing and thank you for inviting Sally Davis from Marquette, Michigan, to testify on the second panel.

Sally has been the director of telemedicine at Marquette General Hospital since the programs inception. Their program is the national leader and has really been a benefit to the Upper Peninsula by increasing the ability of people to receive quality health care from Mackinaw Island all the way up to the Keweenaw Peninsula.

In areas like the Upper Peninsula, people are expected to travel hours and hours to find specialty care. If they need highly specialized care, that requires usually a trip to Marquette General hospital. But if they can't provide it then they must go to Detroit, Milwaukee, Minneapolis, St. Paul or the Mayo Clinic. It requires at least one overnight stay and hours of traveling.

Telemedicine allows people in remote rural areas the ability to obtain first-rate health care without having traveled hours or days in a motel. Telemedicine allows people in Manistique, Michigan, to receive care from an expert, for example, in Mayo Clinic without ever leaving their community.

I am convinced that telemedicine is the future of health care in rural areas. I want to hear the witnesses explain their programs in ways we can improve telemedicine. However, I would like to make two quick comments to my colleagues and to Dr. Berenson.

First, Federal grant funding for the development of telemedicine networks is critical. Without this funding, many of the projects that we will hear about today would never have been started.

Second, HCFA needs to update its method for reimbursing on telemedicine. As Sally will point out, the current rules require a physician to present the patients case to a specialist before the visit is reimbursed. Clearly, HCFA does not require the primary care physician to walk you into the office of a specialist before the specialist visit is reimbursed. Likewise, a visit between a patient in Michigan and a specialist in Minnesota does not require a physician to be present in Michigan. A telemedicine transaction should be reimbursed just the same as a face-to-face visit.

Mr. Chairman, thank you again for holding this hearing. I look forward to the witnesses. Special welcome to Sally Davis, and I look forward to addressing the critical health care needs of rural America.

I yield back the balance of my time.

Mr. BILIRAKIS. I thank the gentleman for that; and I know that he particularly, more so than most of us, is interested in this subject principally because of the demographics of his district.

Ms. Capps for an opening statement.

Mrs. CAPPES. Yes. Good morning, Mr. Chairman, and I want to thank you also for holding this very important hearing this morning on an issue of great significance, I believe, to patients and providers across the country, telehealth. I also, along with my colleague Bart Stupak, represent a district that is predominantly rural; and, therefore, I am especially interested in the ways that this new technology can be utilized.

Telehealth is an exciting new way to deliver health services to people in underserved areas. Patients are able to receive specialty care that is not found in their own community. Providers can now instantly share information that previously would have taken hours or even days to access.

In my own district, Cottage Hospital in Santa Barbara has been home to a teleradiology facility for about 2 years now. So I went to them and found out exactly how this works.

Teleradiology is a method of distributing digital diagnostic images such as X-rays, ultrasonography, magnetic resonance and radio isotopes through local area or wide area networks between remotely located facilities. A well-planned teleradiology system can be a cost-effective and time-efficient method that allows users to capture, transmit, store and review patient studies.

In my own district a physician at a rural hospital such as Santa Ynez can now quickly and easily share images with Cottage Hospital in Santa Barbara, which is about 40 or 50 miles away, thus cutting down on travel time for patients and hastening their treatment regimen. In addition, providers can now sit at a computer screen and share images with patients, showing them a clear progression by easily clicking on present imaging and contrasting them with previously taken X-rays.

Only 5 percent of hospitals in the country offer such teleradiology services right now, and I believe it is our responsibility here in Congress to work to expand this and other telehealth capabilities across the Nation. That is interesting to me that we look to the military as being one area that brought this technology forward to us, and now we can, I believe, in this legislative body work to make that information and technology available across the country.

I understand that there are reimbursement issues surrounding telehealth, and I look forward to a discussion of how we can help to fund such groundbreaking technologies. And here, again, I believe it is our responsibility and those of the Federal agencies that we oversee to streamline our permitting processes and our funding processes to stay up to date with modern technology and not let that be the deterrent for really improved patient care, patient health and, in many instances, the difference between life and death.

As a nurse I am always interested in new and innovative technology as the bottom line which will ultimately benefit patient care. I commend the Chairman for holding this hearing and look forward to an informative discussion. Thank you very much.

Mr. BILIRAKIS. I thank the gentlewoman.

Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman.

I have no prepared remarks, but during our break I had the opportunity to be at the University of Texas medical branch in Galveston, Texas, which is about 50 miles from Houston and watched their telemedicine effort and the growth that they have; and it is a great example. A year ago I was at M.D. Anderson, a cancer center in Houston, and actually watched the telemedicine conference between M.D. Anderson in Houston and their facility in Orlando, Florida, and watched the doctors consult. The success we have, Texas Childrens Hospital and Texas Medical Center has the same capability.

Also, during the break, Congressman Nick Lampson—actually, we used the telemedicine facilities to have a press conference or really a town hall meeting from the University of Texas in Houston Health Science Center with Galveston, with Beaumont, Texas, and also with Washington with a representative from HCFA.

So the technology is there, and we just need to make sure that the reimbursement rates are there where you can, even though the doctors not physically there—and I know that is a problem across State lines and I would hope some of our witnesses today would recognize that and address that.

Mr. Chairman, I don't know if she is here, but I would also like to welcome Dr. Barbara Ross-Lee, the Dean of Ohio University College of Osteopathic Medicine. Now, you are going to wonder why a Texan is doing that. I happened to be there for the graduation ceremony this last spring for my son-in-law, who by the way is practicing his internship in Texas, but a great university that is there in Ted Stricklands district.

Thank you, Mr. Chairman.

Mr. BILIRAKIS. I thank the gentleman.

[Additional statement submitted for the record follows:]

PREPARED STATEMENT OF HON. TOM BLILEY, CHAIRMAN, COMMITTEE ON COMMERCE

Thank you, Mr. Chairman.

I am pleased that the Health and Environment Subcommittee is holding this hearing today. Given our Committee's strong interest in both information technology and the delivery of high-quality health care to seniors, it is critical for us to examine the potential of telemedicine—a promising tool for the 21st Century.

It is a sad fact that many of our seniors today lack adequate access to first rate medical facilities. Approximately 25% of seniors currently live in areas that are

medically underserved. This country offers the best medical technology in the world, yet many seniors in rural and inner city areas don't have enough access to services.

Today, we are examining one innovative delivery mechanism which may help. Telemedicine may not be a panacea to all of the access problems, but it could be an important first step.

During this hearing, our Committee will look at barriers impeding the use of telemedicine in the Medicare Program. It is my goal to use this hearing to help refine legislation which may be advanced by this Committee during the final weeks of this session of Congress.

Folks seeking access to the use of telemedicine face many barriers. However, I would like to focus on eight measures that I believe would immediately increase access to telemedicine services. I would appreciate it if our witnesses can focus their testimony on these issues as well as any other legislative barriers which hamper the development of telemedicine. These measures are as follows:

- Eliminating the provider "fee sharing requirement";
- Eliminating the requirement for a "telepresenter";
- Allowing limited reimbursement for referring clinics to recover the cost of their services;
- Expanding telemedicine services to non-metropolitan service areas;
- Making all providers eligible for HCFA reimbursement for services delivered via telemedicine;
- Creating a federal demonstration project that permits telemedicine reimbursement for "store and forward" consultations; and
- Permitting tele-home-care technologies to be used in prospective payment system.

Mr. Chairman, I believe that these changes would have an extremely positive impact on the delivery of health care to seniors, especially in rural and underserved areas. Without these barriers, rural patients may be able to travel shorter distances to "see" their specialists. Additionally, services provided to patients in home health care settings may prove more cost-effective to provide if performed through a telecommunications system.

Mr. Chairman, the potential for linking information technology to the delivery of health care services holds great promise for our nation's seniors. This fall, our Committee can do a great deal to make that a reality.

I look forward to hearing our witnesses speak on this important subject. Furthermore, I would like to welcome Karen Rheuban, the director of telemedicine at the University of Virginia. She has been a strong advocate for this new service in my home state and I would like to thank her for her work.

Mr. BILIRAKIS. Dr. Robert Berenson is our first panelist. He is the Director of the Center for Health Plans and Providers with HCFA. Dr. Berenson, welcome to our committee again. It is always good to see you, sir. Please proceed and take all the time you might feel you need, but hopefully not exceeding 10 minutes. Please proceed, sir.

STATEMENT OF ROBERT A. BERENSON, DIRECTOR, CENTER FOR HEALTH PLANS AND PROVIDERS, HEALTH CARE FINANCING ADMINISTRATION

Mr. BERENSON. Thank you, Mr. Chairman. And Congressman Brown, distinguished subcommittee members, thank you for inviting me here to discuss Medicare coverage of telemedicine which, as you pointed out, is an important issue and one that is a cutting-edge issue in terms of how we provide medical care to senior citizens and others in this country.

I have provided written comments, and I just want to briefly summarize some of the high points.

HCFA believes that telemedicine holds great promise for extending access to care in rural and other medically underserved areas. We understand that rural beneficiaries face unique challenges in accessing the medical care they need, particularly access to specialists. Helping them is a high priority for us, and we share the Sec-

retary's personal commitment to promoting telemedicine where it is appropriate.

We worked together with Congress in the Balanced Budget Act to move forward and expand coverage, but we did so cautiously. Strict limits were placed on what could be covered, where it could be provided and who could provide it. The caution was well intended because there was and even now remains very little published peer-reviewed scientific data available on when telemedicine or telehealth is medically appropriate. It is difficult to project potential cost implications, and there are potential program integrity issues that should be addressed proactively.

But the result is that today telemedicine usage in Medicare has been limited, too limited. The field is moving very fast, and we are moving very slowly. And I actually read the testimony of all of the witnesses but in particular would point to testimony from Dr. Grigsby who points out that the technology that we basically tested and thought was going to be the basis for telemedicine, the interactive video consultation, is already somewhat outdated and the technology has moved much faster than we have been able to keep up. Our demos were based on a certain technology, and nobody came to the party, in essence.

So we will have to figure out how to make policy judgments to some extent in the absence of bona fide scientific findings from good, peer-reviewed studies and at the same time remain cautious in this area because of quality as well as program integrity concerns that we will talk about.

And we are continuing to conduct research, will modify our research given the constraints that your experts will talk about in the form of several demonstration projects that we now have ongoing.

We want to determine which health care providers are clinically appropriate for telemedicine presentations. We want to explore the potential uses and abuses of "store-and-forward" technology in which there is no real-time interaction between patient and provider, and we want to understand rural physicians' perceived barriers to utilizing telemedicine. This research is essential as we work to reach firm conclusions and make responsible recommendations.

However, preliminary indications from our ongoing work suggest there may well be additional clinical circumstances beyond those paid under current Medicaid law where telemedicine is appropriate. There also may well be additional health care personnel, especially nurses, who are perfectly capable to make telemedicine presentations.

Facility fees and fee splitting may warrant reconsideration, and we may want to reconsider new demonstration projects looking at telemedicine in underserved urban settings as well. And right now we have a unique opportunity to look at the use of telemedicine for home health services, especially in relationship to our anticipated for October 1 implementation of prospective payment for home health services.

We will soon be compiling our findings in a report that will make firm recommendations, and we are absolutely eager to work with Congress as we proceed.

I thank you for again holding this hearing, and I will now be happy to respond to questions. Thank you very much.

[The prepared statement of Robert A. Berenson follows:]

PREPARED STATEMENT OF ROBERT A. BERENSON, DIRECTOR, CENTER FOR HEALTH PLANS & PROVIDERS, HEALTH CARE FINANCING ADMINISTRATION

Chairman Bilirakis, Congressman Brown, distinguished Subcommittee members, thank you for inviting me to discuss Medicare coverage of telemedicine. Telemedicine, with its ability to provide medical services via telecommunications systems, holds great promise for extending access to care in rural and other medically underserved areas. We understand that rural beneficiaries face unique challenges in accessing the medical care they need, particularly access to specialists. Helping them is a high priority for us. And we share the Secretary's commitment to promoting telemedicine where appropriate.

To date, telemedicine usage in Medicare has been limited. The Balanced Budget Act (BBA) of 1997 expanded coverage options, but also included several restrictions that preclude telemedicine's use under conditions where it is commonly being used outside of Medicare. We are concerned that this is limiting the potential of telemedicine in Medicare. However, we also have a number of concerns regarding broader implementation of telemedicine. There is very little published, peer-reviewed scientific data available on when telemedicine use is medically appropriate. It is difficult to project potential cost implications. And there are potential program integrity issues that should be addressed proactively.

To help address these concerns, we are conducting extensive research and several demonstration projects. We are particularly interested in learning more about:

- specific clinical circumstances when telemedicine is medically appropriate;
- which health care providers are clinically appropriate for telemedicine presentations; and,
- the potential uses and abuses of "store-and-forward" technology, in which there is no real-time interaction between patient and provider.

We are conducting demonstration projects specifically examining:

- the feasibility, acceptability, cost, and quality of teleconsultation services;
- the potential role of telemedicine in diabetes management; and,
- rural physicians' perceived barriers to utilizing telemedicine.

We also are consulting with academic and military experts who are using telemedicine in situations beyond those now allowed under the Medicare statute. We are working with other Department of Health and Human Services agencies, including the Health Resources and Services Administration's Office of Rural Health Policy and Office for the Advancement of Telehealth, as well as the Agency for Healthcare Research and Quality. In addition, the Department's Assistant Secretary for Planning and Evaluation has commissioned a study on assessing approaches to evaluating telemedicine, which should further enlighten our work.

These efforts are ongoing, and we are not yet able to reach firm conclusions or make responsible recommendations. As mentioned above, there is very little published, peer-reviewed scientific data in this field, which makes our current research efforts all the more critical for determining how telemedicine coverage should be expanded. However, preliminary indications from our ongoing work suggest there may well be additional clinical circumstances, beyond those paid under current Medicare law, where telemedicine is appropriate. There also may well be additional health care personnel able, but not allowed under current law, to make telemedicine presentations. We will continue our telemedicine research efforts and compile findings in a report that will make firm recommendations on how the benefit should be expanded and what program integrity protections may be needed. We want to work with Congress as we proceed to develop the data necessary for responsible decisions about how to expand the use of telemedicine in Medicare.

To further help us in all our efforts to better serve rural beneficiaries and providers, including the use of telemedicine services, we have established a Rural Health Initiative within our agency. This Initiative includes senior agency leaders and a direct rural contact staffer in each of our Regional Offices to increase and coordinate attention to rural issues and closely monitor how laws and regulations governing our programs affect rural beneficiaries and providers.

Background

The BBA significantly expanded Medicare's authority to cover telemedicine. Previously, telemedicine coverage in Medicare was limited to situations in which no face-to-face contact between patient and provider is generally necessary; for exam-

ple, in radiologic interpretation of x-rays. However, the BBA expansion continued to place strict limits on telemedicine coverage. For example:

- Telemedicine services may only be provided to a beneficiary in a rural health professional shortage area (HPSA);
- Telemedicine services are limited to “consultations” for which payment currently may be made under Medicare. This is a key limitation, as the American Medical Association Physicians’ Current Procedure Terminology (CPT) defines consultation as a “face-to-face” physician and patient encounter, meaning that the patient must be present at the time of the consultation. Therefore, a Medicare “teleconsultation,” is a medical examination under the control of the consulting practitioner, in lieu of an actual face-to-face encounter, that must take place via an interactive audio-video telecommunications system;
- Only physicians or practitioners described in section 1842(b)(18)(C) of the Social Security Act may provide teleconsultations. This also is a key limitation, as registered nurses and other medical professionals not recognized as practitioners under this section of the Medicare statute may not receive payment for a teleconsultation, even though they commonly serve as telepresenter outside of Medicare. Additional health care professionals, such as clinical psychologists, clinical social workers, and physical, occupational, or speech therapists who are able to receive Medicare payment in limited circumstances, but are not specifically listed in the statute as Medicare providers, also are precluded from receiving payment for teleconsultation; and,
- The law specifically prohibits payment for line charges or for facility fees, and mandates that consulting and referring practitioners share payments.

On November 2, 1998, we published a final rule in the *Federal Register* implementing the telemedicine provisions of the BBA. The rule explains the geographic limits for reimbursement, the practitioners that are eligible to present patients and act as consultants, the teleconsultative services and technologies that are covered, and how payment will be made.

Regarding the mandate that consulting and referring practitioners must share payments, the rule stipulates that 75 percent of the fee go to the consultant and the remaining 25 percent go to the referring practitioners. This split is based on the relative work for practitioners at both ends of the consultation and an inherent recognition that different consultations call for different levels of effort. As a result, the fee split reflects the projected level of new work done by each practitioner over the course of various teleconsultations.

The rule also specifies that the eligible CPT codes for consultations that can be covered under the statute can be used for a number of medical specialties, such as cardiology, dermatology, gastroenterology, neurology, pulmonary, and psychiatry. We will cover additional consultations for the same or a new problem if the attending physician or practitioner requests the consultation, and if it is documented in the medical records of the beneficiary.

Telemedicine in Other Settings

Outside of Medicare, telemedicine is being used in many circumstances not allowed under current Medicare law. Again, there is a paucity of published, peer-reviewed literature on the appropriateness of many of these uses. However, telemedicine is being used for much more than interactive consultations. These include evaluation and management services that are common in physician office visits, psychotherapy, pharmacologic management, sleep studies, physical and occupational therapy evaluation, and speech therapy.

“Store-and-forward” technology also is being used in which there is no real-time interaction between patient and provider. Instead, a referring provider will examine a patient and then send a video clip or a photographic scan, along with the patient’s medical record, to a distant consulting practitioner. The consulting practitioner will then review the file and make a diagnosis. Military and academic health care providers, in particular, are having apparent success with “store-and-forward” for diagnosing dermatology cases. And it is being used for several other specialties, such as ophthalmology, cardiology, nuclear medicine, and sleep.

Also, outside of Medicare, telemedicine presentations are commonly made by health care professionals, especially registered nurses and licensed practical nurses, who are not allowed to make such presentations under current Medicare law. Some telemedicine programs use nurses for virtually all telepresentations, with generally high satisfaction ratings from both patients and physicians. And we are examining this through one of our demonstration projects where we are allowing registered nurses to make telemedicine presentations.

In Medicaid, at least 17 States (Arkansas, California, Georgia, Iowa, Illinois, Kansas, Louisiana, Montana, Nebraska, North Carolina, North Dakota, Oklahoma,

South Dakota, Texas, Utah, Virginia, and West Virginia) are covering telemedicine, often under circumstances not now allowed under Medicare law. States must satisfy Federal requirements of efficiency, economy, and quality in telemedicine coverage, but generally are encouraged to use the flexibility inherent in Federal law to create innovative payment methodologies for telemedicine. For example, States are not required to split fees as in Medicare, and may make separate reimbursements to both the referring physician for an office visit and to the consulting physician for a consultation. States also can cover network line charges, facility fees, technical support, depreciation on equipment, and other costs not allowed under Medicare law, as long as the payment is consistent with the requirements of efficiency, economy, and quality of care.

Current Research

We recognize the potential benefits these additional telemedicine uses may offer in Medicare. But we feel compelled to proceed with due caution because of the paucity of published, peer-reviewed scientific literature on when and where these other uses are clinically appropriate. We also are concerned about the effect of telemedicine on quality of care, the potential for abuse, and the difficulty in establishing program integrity parameters without the kinds of solid, scientific, evidence we generally rely on in determining when a given service is medically appropriate.

To address these outstanding concerns, we are conducting extensive research and demonstration projects, and developing a report that will include specific recommendations on how to expand the Medicare telemedicine benefit. To collect data on these issues, we have worked with telehealth projects receiving grant funding through the Office for the Advancement of Telehealth at the Health Resources and Services Administration. We also received data from the telemedicine directorate at the Walter Reed Army Medical Center and the Telemedicine Center at Ohio State University Medical Center.

Also, in conjunction with the Agency for Healthcare Research and Quality, we have contracted with the Oregon Health Sciences University to evaluate several issues pertaining to Medicare coverage policy. These efforts have helped us understand how telemedicine is being used outside Medicare. This study involved an assessment of the clinical and scientific literature dealing with the cost-effectiveness of telemedicine, specifically looking into the areas of “store-and-forward” technology, patient self-testing and monitoring, and potential telemedicine applications for non-surgical medical services.

Within Medicare, we are conducting research demonstration projects to help us better understand telemedicine. We are working through Columbia University to conduct the Informatics, Telemedicine, and Education Demonstration Project, as required by the BBA. This randomized, controlled study will explore whether the use of advanced telemedicine technology improves clinical outcomes for diabetics in New York City and rural, upstate New York.

Another demonstration to assess the feasibility, acceptability, cost, and quality of teleconsultation services involves 110 Medicare-certified facilities in North Carolina, Iowa, West Virginia, and Georgia. It also includes a bundled payment rate that is negotiated to cover both the facility and physician fees for telemedicine services. Utilization of telemedicine in the project so far has been limited. And we are now considering whether to remove the bundled payment feature, which may be contributing to the low utilization levels, from the project. To better understand usage patterns, we also are examining rural providers’ perceived barriers to telemedicine.

We also are examining whether it is appropriate to provide payments for teleconsultation to beneficiaries in homebound settings. And we also are working with the Center for Health Policy Research at the University of Colorado to evaluate the impact of telemedicine coverage on access to, and quality of, care, and to analyze rural physicians’ perceived barriers to telemedicine.

A key concern for us as we work with Congress in exploring possible expansions is how to ensure that telemedicine is used appropriately. There is significant potential for over-utilization that would be difficult to monitor and prevent, since we have so little data to guide us in determining when telemedicine is, in fact, medically appropriate. “Store-and-forward” technology, in particular, has the potential to substantially increase the number of consultations billed to Medicare without regard to medical necessity.

Another key concern is the difficulty in projecting costs for telemedicine expansions. There are, as yet, no good data on the extent to which expanded coverage for telemedicine would increase claims. There are no reliable data on the extent to which additional claims would represent appropriate care that should be, but is not now, being delivered. And there are no reliable data on the extent to which expanded coverage would invite inappropriate claims or other abuse. The lack of data,

as well as program and payment experience, in these areas warrants a careful, measured approach as we proceed. Issues such as scope of coverage and expansion of eligible areas need to be carefully studied and considered. And we need reliable evidence to determine when telemedicine is an appropriate substitute for services that traditionally require the physical presence of a patient.

Rural Initiative

Telemedicine is only one part of our efforts to improve access and services for rural beneficiaries. We are redoubling our efforts to more clearly understand, and actively address, the special circumstances of rural providers and beneficiaries. Last year we launched a new Rural Health Initiative and are meeting with rural providers, visiting rural facilities, reviewing the impact of our regulations on rural health care providers, and conducting more research on rural health care issues. We are participating in regularly scheduled meetings with the Health Resources and Services Administration's Office of Rural Health Policy to make sure that we stay abreast of emerging rural issues. And we are working directly with the National Rural Health Association to evaluate rural access to care and the impact of recent policy changes.

Our goal is to engage in more dialogue with rural providers and ensure that we are considering all possible ways of making sure rural beneficiaries get the care they need, including use of telemedicine. We are looking at best practices and areas where research and demonstration projects are warranted. We want to hear from those who are providing services to rural beneficiaries about what steps we can take to ensure they get the care they need.

We have put together a team for this rural initiative that includes senior staff in our Central and Regional Offices and dedicated personnel around the country. The work group is co-chaired by Linda Ruiz in our Seattle regional office and Tom Hoyer in our central office headquarters in Baltimore. Each of our ten regional offices now has a rural issues point person that you and your rural provider constituents can call directly to raise and discuss issues, ideas, and concerns. A list of these contacts and their respective States is attached to my testimony.

Conclusion

Telemedicine holds great promise for improving access to care, particularly for beneficiaries in rural and other underserved areas. Our ongoing research efforts should help address the lack of scientific data on its appropriate uses. That will help us understand whether and how current restrictions on Medicare coverage for telemedicine should be changed.

We are very grateful for this opportunity to discuss our efforts to help rural providers and beneficiaries, and to explore further actions we might take to address their concerns in a prompt and fiscally prudent manner. I thank you again for holding this hearing, and I am happy to answer your questions.

Mr. BILIRAKIS. Thank you, Doctor.

Dr. Berenson, you have referred to them, virtually every opening statement has, the barriers to the use of telemedicine, particularly those involving Medicare but let us say barriers in general. You have worked with it, and I am sure you are familiar with many of those barriers. Can you share with us what some of those barriers may be, how they might be eliminated? Can some of them be eliminated administratively by HCFA? Will it take legislation to do that?

This, I think we all agree, has the potential of being a tremendous health care delivery vehicle, particularly in the rural areas, Mr. Stupak's area and some others. So I think it is significant that we concentrate and focus on this area in addition to all the other things that we do, but we need some help from HCFA, too. We need some recommendations from HCFA in terms of certain areas where you might need us to act legislatively and what areas you can cover. Proceed.

Mr. BERENSON. I would defer to some of your other experts on some of the sort of culture of medicine barriers about the sort of willingness of physicians and other professionals to participate. But, clearly, there are some reimbursement issues that HCFA has

or Medicare, the Medicare statute precludes or influences in a profound way, which deserve attention; and, as I indicated, we are about to issue recommendations on some of those changes.

But, preliminarily, we would think that there could be an expansion beyond the BBA definition of a teleconsultation which has a fairly narrow meaning. It basically—and I think that meaning at the time made some sense or the intent, but the consultation, as defined in the AMA CPT manual, which we follow for our policy, makes it clear that a consultant doesn't have overall responsibility for the management of a patient. A consultant provides advice to the physician, and it makes some sense when you are dealing with somebody many miles away. At least initially it made sense to restrict to a consultation, because there would be a physician on the ground who ultimately was accountable.

It turns out that many of the grantees who HRSA has funded to do telemedicine finds applications for telemedicine that go beyond just consultations, and we have not had a lot of billings for consultations. Some other kinds of evaluation are management services. Other specific kinds of services that are akin, for example, to radiology or EKG readings which have been done for a while perhaps in the area of pulmonary testing or sleep studies. I mean, there are some specific areas in the field that some of the people in the field might be ready for expansion in this area.

We are limited again by the lack of either scientific peer-reviewed studies or even consensus standards by the profession themselves, and I think some of the witnesses will point out that you have to get down into the details as to which kinds of services are fully amenable to this telemedicine where you don't need the patient and the practitioner in the same room and which ones would raise concerns.

But, in any case, expanding the definition of consultation is one area that we think should be considered and clearly the area of presenter. The BBA contemplated pretty explicitly that there would be a physician presenting to another physician, and many of the grantees who use this, the Walter Reed Medical Center and others, Ohio State, who have active telemedicine programs find that RNs and LPNs in some situations are fully capable to make presentations, and the way—

Mr. BILIRAKIS. Are they able to under the current law?

Mr. BERENSON. They are not able to under the current requirements, and the organization of health care in rural areas doesn't permit—another example is we have said that, and the law contemplated, that employees of physicians should be presenting, either the physician or employees. Well, it may well be that the RNs are at the hospital, that may be where the equipment is, and the personal physician may be somewhere else. We need to look for more flexibility in this area of presentation.

Mr. BILIRAKIS. If you have a physician in point A presenting to a physician in point B, 2 or 3,000 miles away, are both physicians reimbursed by Medicare?

Mr. BERENSON. Right now, again, the law actually called for fee splitting, and I know there have been some concerns by some physicians about whether this might run afoul of Stark. When it is leg-

islatively prescribed it really doesn't, but I think there is a perception problem. There is still an issue.

Our systems were such that we said that the receiving physician would receive the fee and would have to somehow compensate the presenting physician. That is administratively cumbersome, doesn't happen very well, and I think we need to revisit this issue of the fee splitting. Both for conceptual and as well as practical reasons, it doesn't work very well, and I don't think it is really necessary, but especially if we expand—

Mr. BILIRAKIS. Is that something that can be revisited by HCFA administratively?

Mr. BERENSON. Yes—no. As I understand it, the requirement for the fee to be shared is legislative. What we did administratively was not split the fee ourself and send the apportionment to each one. We asked the consultant physician to basically be responsible for sharing the fee with the presenting physician and that we do have authority over. But we want to look more broadly at whether we even need to do the fee splitting at all, although it is in the statute, especially if we move to expanding who the presenters are.

Again, I think it is fair to say that we all moved cautiously, perhaps too cautiously, in the BBA, starting with a concept of a consultation with a physician in one room, a physician in a room somewhere far off, and it all made sense in that construct. As we expand services and recognize that there are other presenters who are fully capable of presenting I think we can change some of these rules that are barriers to the use of telemedicine.

Mr. BILIRAKIS. Thank you, Doctor.

My time has long expired. Mr. Brown.

Mr. BROWN. Thank you, Mr. Chairman.

Dr. Berenson, as you said, there isn't much clinical evidence about the safety and effectiveness of telehealth services. Run through, if you would, so at least I better understand, I think other members of the subcommittee, the process—run through the process by which HCFA would gather evidence to expand services that only Medicare would pay for. If you would sort of run through that, how you gather the evidence, what evidence you will gather, how you make those final decisions based on congressional direction on what you will cover.

Mr. BERENSON. Yes. Well, we have a number of studies ongoing. In fact, it is the Office of the Advancement of Telehealth at HRSA that have a number of grantees, and we are systematically collecting information from them about their experiences. In fact, it is somewhat based on those experiences, as well, I should add, the Telemedicine Center at Walter Reed, the Telemedicine Center at Ohio State, and then working with researchers at Oregon State Medical Center. We are trying to compile what the findings are. So, for example, it turns out that most of the grantees do use telemedicine beyond just consultation for a couple of very specific visits, such as other medical visits and such as evaluation/management visits. But very few of them have expanded into some other areas that have been recommended by some.

So we would sort of look at that experience, collect some consensus around those experiences, try to get some outcome studies, although that is very difficult. And, again, some of the experts you

will hear are more familiar with the methodological barriers in doing those studies.

We would also look to specialty societies themselves to begin to develop some standards and tell us what they are based on. Ultimately, coverage decisions might require us to submit the evidence to the new coverage process that HCFA does have with a panel of experts who do look at the evidence and do make judgments about coverage. I think it is fair to say that we are relatively early in this process of actually having good evidence to assure us that broad expansion is warranted.

We are just putting again, as I said, the final touches on a report on some of these issues. For example, in the area of dermatology, which is one of the very promising areas where it makes sense that you need images, where experts in a place can look at an image and help make a diagnosis, well, it turns out for discrete lesions it seems to work pretty well. For diffuse lesions it is very difficult for a consultant somewhere else to look at even 6 or 8 images that have been provided and make an accurate diagnosis.

So that is the kind of detail one needs to get into. It is hard to say it is going to be covered for dermatology or not, when in fact the clinical information is that for certain situations it is perfectly reasonable and for certain situations it is not. Mostly in medicine we rely on the profession itself to develop standards and to provide that kind of guidance.

To date, you know, that is in its beginning stages. So at this moment we do have—again, I think we should be proceeding somewhat cautiously—so we want to expand these demonstrations, and I think it is reasonable, if we are focused on health manpower shortage areas in rural areas, to do those expansions that we had talked about and then look to see how that is playing out. I don't have a neat road map. All of that is sort of in play at the moment.

Mr. BILIRAKIS. If the gentleman would yield maybe for a quick follow-up to that.

Elections take place every 4 years. We don't know what is going to happen in November. If there is a change in administrations, for instance, or maybe even in the sense the same party controlling, God forbid, but—I had to say that. Forgive me, I had to say that. But my point is you have these studies taking place. Are they just interrupted right smack in the middle of the studies? I mean, do they continue—what happens from a practical standpoint? They are important studies.

Mr. BROWN. One reason not to change.

Mr. BERENSON. Clearly certain high-level policy calls can be put on hold when there is a change in administrations, but these studies are ongoing. They are committed. We are making some corrections, some improvements in some of these demos because we are not getting enough volume in the original construction of them.

This is an opportunity to say one other thing. I actually was—I am sure you are aware that the President's proposal on Medicare reform included a modernization piece, and I actually had the privilege of chairing an activity this spring within HCFA to look at where we need to modernize. We talked centers of excellence and PPOs and other things like that. One thing that became very clear was that modern medicine wants to use new technology. When I

was an internist practicing, I used the telephone; that is what was available, but actually, that is a form of telemedicine which I wasn't adequately reimbursed for.

Right now I know that some physicians spend a third of their time on the Internet, and we need to figure out not only for rural underserved areas but for the basic functioning of the program how to incorporate some of these new technologies to improve efficiency, communication, quality, but it is very difficult in a fee-for-service construct. I mean, one of the reasons I am sure HCFA didn't reimburse me for telephone calls was that the cost of billing would be more than the reimbursement for a 2-minute phone call.

So we in that process were looking at other funding mechanisms, other reimbursement mechanisms. Actually, these two activities need to come together, the specific focus on rural underserved populations and modernizing the program, and certainly my recommendation to the new administrator will be to give very high priority to both and see them related.

Mr. BILIRAKIS. But you would anticipate, though, this continuing on?

Mr. BERENSON. These studies will absolutely continue, and I think part of the function of hearings like this is to give more vigor and light on some of these studies, and I think you have gotten some of our attention.

Mr. BILIRAKIS. Thank you, Dr. Berenson.

I appreciate the gentleman yielding the balance his time.

Mr. Stupak.

Mr. STUPAK. Thank you, Mr. Chairman, a good segue into my questions.

Doctor, would HCFA support congressional language supporting reimbursement in telemedicine in the same way that person-to-person transaction? I indicated before that you don't reimburse now unless your general doctor or your family doctor does the introduction. That is really a hindrance on telemedicine. Why do we need this introduction if we are trying to save costs and everything else? Would you support changes like that so it could be doctor to patient or I should say patient to specialist without an intervening doctor needing to be there?

Mr. BERENSON. I guess we will have recommendations in this report that is due soon, but it looks like many of the successful programs use RNs. I think we would be a little reluctant, at this point, to having the patients present themselves without any intermediary do the presentation, but I don't believe it needs to be a physician. So I think we are looking at an expansion for RNs and perhaps LPNs, in some circumstances, but that kind of modification we would look favorably upon.

Mr. STUPAK. What we are concerned about is there almost has to be a hand-off like to a specialist for every transaction. Couldn't there just be the recommendation from your physician to do it? And if you live three blocks away from Marquette General Hospital, it seems like you should be able to go there, get in telecommunication—

Mr. BERENSON. We would like to know if that works. I would be concerned about coordination of care in that kind of situation. In general, I mean if, in fact, there is a system where the consultant—

the specialist knows exactly who the responsible physician is and provides a report as consultations tend to happen, I think we could be going in that direction. I think the first step would be to make sure it is safe and effective with nonphysicians, and we would look toward that other approach down the road.

Mr. STUPAK. I mean, I am sure you would agree that I just can't walk into Marquette General and boot up the telemedicine and start talking to guys in Mayo Clinic. It is just not going to work that way. I am going to have some kind of referral, some kind of code, access to get in. They are using their equipment all the time. I am sure they are just not going to let anyone do it. There would almost have to be that referral already established.

What we are hearing is every time you want to do it, it can't be billed, this specialist time can't be billed. So we are going through this shell game just to get the money there, which seems like a lot of duplication—

Mr. BERENSON. There is no question that under the current system, we have very few claims for these services. It is not working right now so we would be looking to expand it. I would defer to some of the other witnesses about exactly how that could work.

Mr. STUPAK. Okay. Let me ask you this question and I know the Chairman started along these lines, and let me ask you this if I can. As I understand it, current Medicare policy does not allow certain practitioners, you mentioned nurses, to participate in provision of telehealth services. A number of witnesses on the next panel will mention how this limitation is hindering the spread of telemedicine in Medicare. What is the policy rationale for the limitation?

Mr. BERENSON. Again, I think it was an initial caution that—encapsulated in the language of BBA that teleconsultations would be the initial focus of this activity. The fact that it explicitly talked about a fee-splitting arrangement suggests that the BBA contemplated that there would be two physicians involved, and I think it just was an initial caution in a new area where we appropriately should be concerned about patient safety. But I think the experience is such that we now probably can move off of that caution, but that caution is really captured in the BBA language.

Mr. STUPAK. And I think you said it well in your opening statement. The technology is moving so quickly, the cautions we have that probably make them sort of outdated. In order to have a remedy there, would you need a legislative fix or would rules and regulations within HCFA probably take care of it?

Mr. BERENSON. I believe we need a legislative fix for that; and, again, we would work with the committee on that.

Mr. STUPAK. And you certainly—and I am sure from your testimony you have sort of indicated RNs would be a logical place where we would start to allow them to participate in telehealth programs.

Mr. BERENSON. I think that is right.

Mr. STUPAK. Thank you, Mr. Chairman.

Mr. BILIRAKIS. I thank the gentleman.

So the recommendation from HCFA is that possibly LPNs, et cetera, ought to be—RNs, should be reimbursed and that there should be changes made to the bill?

Mr. BERENSON. Well, reimbursement is a separate issue. I think we are—and, again, it is a little awkward because we don't have our final report done, but at least the preliminary findings and where we are likely to come out—it hasn't been through the Department yet—is that our current restriction to physicians is too restrictive, and we should expand that. It is a different question about reimbursement to the presenter from a restriction as to who can present; that is a separate issue.

Mr. BILIRAKIS. Ms. Capps to inquire.

Mrs. CAPPS. Thank you for your testimony, Dr. Berenson. I am going to ask you to talk to us and give some discussion to the need for national standards in the provision of telehealth. We have standards in hospitals and nursing homes, but I can't resist beginning with some of the comments—responding to some of the comments you have made already in that you said that we are in a timeframe now where the progress and technology is so astronomical that by the time HCFA rules or Medicare makes—the rules are changed that it is already obsolete. And underlying a lot of my concern about where we are in health care now is this huge gap between the science advances and the regulating agencies that have always been conservative or have always been cautious and concerned about quality and program integrity but that the paradigms, the framework is so dramatically different.

Before, you talked about a discrepancy in telephone use. We are talking about I think rather revolutionary changes in medicine and the gap, the lag results in almost a disconnect and that creates a climate in the practice where practitioners know the level of response to patients' needs that could be made and yet they are constrained by really an archaic—what is becoming an archaic system, and I wish—I mean, when you said that you are looking to specialists for coming with standards and they are not as forthcoming as you want, where are the incentives that can be given to practitioners to help to address this rather than seeing the whole process from Medicare's side as dampening and delaying and onerous, if you will, where they almost want to get out of it because they can't do what they know they are equipped and capable of doing? And I am talking not just about doctors but all kinds of practitioners.

And I am looking for how we can help in the legislative body, because we are not the experts, and I submit that the experts are out in the field, and you are constrained—you as representing Medicare or HCFA—by the BBA. You talk about that.

So maybe that is where I will stop my diatribe and let you respond. You said in response to the previous question, perhaps there is legislation required to give impetus for bridging some of this gap, and if you would address also—perhaps do that in the framework of how we can get standards there that can guide us.

Mr. BERENSON. That is a very sort of broad set of questions there.

I guess what I am going to suggest is that medicine has always assumed a personal interaction. If you look at the AMA CPT definition of an office visit, it has three components. They are the history, the physical examination and medical decisionmaking; and a lot of doctors spend a lot of time valuing those various components. The personal, hands-on as part of a medical interaction has been

considered necessary, but it may not always be the case that that physical hands-on is necessary.

There is also the potential for a surrogate doing the hands-on for somebody at some distance. So, No. 1 is really understanding when safety and quality can permit a nonface-to-face encounter.

Mrs. CAPPS. But haven't we moved—isn't it clear that we had moved past that?

Mr. BERENSON. In some areas we have.

Mrs. CAPPS. I go to get a mammogram, and the person who gives it to me doesn't read it. I know that. I have to trust somebody else, and this is not telemedicine.

Mr. BERENSON. For some specific technologies we have. And I think one of the issues, and again I am not in the field, but I think there is some controversy about mental health visits with a psychiatrist, whether you need an actual physical presence to establish a relationship or whether it is just as effective to be doing it via telemedicine. And I think there is a particularly compelling case for underserved rural areas where the absence of the perfect may be nothing. I wanted to raise the issue that there are serious quality concerns, and I don't think it has gotten yet enough attention. I think the Congress, HCFA and organized medicine needs to tackle this at a little higher level.

The other thing is serious concern about cost. One of the protections that we have for our cost problem is relying on is some cost associated with that face-to-face encounter. People don't frivolously go to the doctor, at least most people, and hang around for an hour or 2, and we rely to some extent in a fee-for-service environment for the fact that a visit is a physical encounter. If we make it very easy for communication back and forth, at any time, about any problem, although that potentially is improving quality, it potentially is no limit on associated cost.

And so that is why, again, within capitated environments, within bundled global payment environments, it makes perfect sense and why I come back to home health as a perfect place to begin to understand it. In a fee-for-service environment, when you don't require a face-to-face encounter, the potential for astronomical increases in utilization is there, and we really need to understand and have some standards in place as to when it is appropriate and when it is not appropriate.

Mrs. CAPPS. I grant you that. But just by your saying that the standard for care is the face-to-face encounter between the provider and the patient, I would submit that is almost nonexistent, even in highly served areas, because of the complexity of health care; and we need then to work together to figure out a different standard that will be embracing of what you—I know my colleague wants to jump in—but we have got to get this at some point because—

Mr. BERENSON. I think that is right, but at the same time one of the complaints patients do have is that they don't have enough time to talk to their physician.

Mrs. CAPPS. That is another issue. That is another kind of issue. And I think we have got to—if we are looking at if HCFA calls face-to-face encounter the standard of care and how far are we

from that, then I submit to you that we need to reframe the whole relationship.

Mr. BERENSON. HCFA is doing it, but it is the profession right now. The standard that the AMA and others have established is this face-to-face requirement. So we are doing this with other parties.

Mrs. CAPPS. Yes. And then the profession has to be allowed to come up with different criteria.

Mr. STUPAK. And that is the point I was going to make. I think we need the professionals in helping us out, as opposed to HCFA and Congress trying to do it. I really think we need their input. Because I agree with some of the things you are saying, but, at the same time, we are making rules that affect them but we are not getting their input. And I know you practiced for a while. I am sure you would have some input in it, but I think we also need professions in there.

Mrs. CAPPS. And we also need—

Mr. BILIRAKIS. We are well over.

Mrs. CAPPS. There has got to be—

Mr. BILIRAKIS. We have gone over with everybody. Why don't you sum up, Lois?

Mrs. CAPPS. All right.

Mr. BILIRAKIS. You want to sum up?

Mrs. CAPPS. I just want to say that delay also carries a price.

Mr. BILIRAKIS. Mr. Bilbray to inquire.

Mr. BILBRAY. Thank you, and I appreciate my colleague from California pointing out, I guess the term is a lack of treatment sometimes is the worst treatment or at least it can be as lethal as the wrong type of action.

Doctor, we can hold these hearings and we can talk about use of the technology and we can talk about all the opportunities out there, but if our structure does not allow utilizing new technology, if our bureaucratic barriers—if I may use a derogatory term—but let us just say our regulatory safeguards are such that innovative opportunities cannot be utilized, then all we are doing is sitting here and playing a nice game of what if, how great it could be, without actually providing the product to the consumer.

I want to get back to this issue. What barriers can be eliminated by HCFA to be able to make not only the use of this approach possible but to encourage it when practical and when essential? And is HCFA predisposed to be able to change its procedures or modify its procedures or accommodate these new challenges and opportunities? I would like to know basically what barriers right now need to be eliminated so these opportunities can be utilized.

Mr. BERENSON. I think the couple that we have talked about include the definition in the BBA of a teleconsultation limiting the application to a fairly narrow set of services, and there can be an expansion to other kinds of medical visits and perhaps to certain other kinds of interactions that go beyond just consultations.

We have also talked about eliminating the requirement that a physician have to be the presenter to another physician. I think we want to revisit the requirement for the fee-splitting arrangement and make it easier essentially for others to present and not have the—

Mr. BILBRAY. Is that fee-splitting arrangement part of the BBA agreement or is that part of your own HCFA internal—

Mr. BERENSON. Basically, the BBA required the fee splitting. We, for systems reasons, required the receiving physician to actually have to conduct the fee splitting, and that has created a barrier. So we could revisit that, but I think the more significant thing would be to relook at the requirement that there be the fee splitting in the first place.

Mr. BILBRAY. Doctor, my mother was an Australian tennis champion for years before World War II, and I grew up watching the ball be knocked on the other side of net and requiring the other guy to try to handle it. I have asked you what can HCFA specifically do, not what is Congress, and when I knock the ball back into your court, what can HCFA do to be able to eliminate the barriers to the utilization of this type of approach and what is HCFA willing to do?

Mr. BERENSON. I honestly have to say that we feel constrained by the statutory language in these few areas and would be happy to work to modify that. We need to change. I mean, obviously a lot of our future recommendations as to expansions in this area will be based on the results of our demonstrations and consultations with experts in the field, and we have learned that we have not been quick enough to modify some of the flaws in our demos.

As I mentioned earlier, we were using a technology—studying a technology that made sense at the time in 1997, but we have not adjusted quickly enough to the fact that the technology has left that or is leaving that behind to look into new areas. And there are specific recommendations that you will hear from Dr. Grigsby and others about the kinds of demonstrations that we should be doing, and we need to be doing that more quickly, but in terms right now of the changes that could be made or should be made I think we don't have the authority in most areas to do that ourselves.

Mr. BILBRAY. Okay. Then let us call each others bluff and we will try to see where your rulemaking could change internally, and if you would specifically, specifically identify where the changes need to be made to give you the flexibility to do what we are asking.

And when we talk about the experts, I certainly hope my colleagues and you recognize that the experts are not just the medical providers and the people actually going to perform the services. As you said, we are behind the curve in technology again and again. Just about the time we think we are designing something for cutting edge, we realize that it is 2 years behind schedule even though we only worked on it for 6 months. I would really encourage that when we talk about professionals and experts that we talk about techies, talk about what is going to be the technical capabilities at the time we implement it so we are not always playing this catch-up.

I would ask—go ahead, Mr. Chairman. I yield back.

Mr. BILIRAKIS. Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman; and Dr. Berenson, I am glad you are here.

I have a very urban district in Houston, and I have watched how telemedicine can help. Because the problem I noticed is the quality of care at our teaching hospitals, particularly in urban centers, is

so much better. So you will have people who will literally pass by suburban hospitals because they want to go to the biggest medical center in the country in some cases.

What I look at it for is telemedicine can also help us because not everybody can go to the Texas Medical Center, but if we have telemedicine to the suburban hospitals or the closest, so—because I have had experience of people who have not gotten the quality of care at a hospital that is—even though it is within 25 miles of a major medical center and they actually have to be transferred, which has caused other problems. So if we have telemedicine not just in the rural areas but in the urban areas and suburban areas, we can make sure the quality of care is available 20 miles from the M.D. Anderson or from a Texas Childrens Hospital. So we can utilize that, and so that is why it is just not applicable to rural areas.

Following up on my colleague, Mrs. Capps, my wife had an experience. She was here during the summer. She teaches school. And former Governor Ann Richards mentioned to her you need to go get a bone density test because you are at the age because Ann had just had one and discovered she needed some medication. So my wife called the doctor, never saw the doctor, went in for the bone density test. Obviously, it showed she needed medication. The medication was prescribed, and then she received it. So real life is actually happening now even without. So that is, I guess, basic telemedicine. Because everything was on the phone, without having the consultation between two physicians. So it is not just mammograms. It is other things that are happening.

I was noticing in your testimony that Texas and a number of States utilize Medicaid for telemedicine, and I know it is a little further along. Could HCFA look at the successes—obviously, we also have some problems of how Medicaid may be reimbursed, but the successes of telemedicine and the Medicaid experience in the 17 States that we have had in to both rulemaking and also make suggestions to Congress on how we can change Medicare law to take advantage of the technology?

Mr. BERENSON. Yes. I think that in preparing for this hearing it became clear that we also didn't know enough about what private insurers were doing, as well as Medicaid agencies, and I think we need to do a better job of convening the other payers to see if we can't progress a little faster in this area. But, yes, there are experiences clearly in both sectors, Medicaid as well as the private sector, and in terms of dealing with this concern about overexpansion but at the same time getting the services out where they are needed. So we need to do that, yes.

Mr. GREEN. I know right now Medicare only pays for the consultations. And, again, I have seen actually observing surgery and things like that that could help, and I understand the concern about cost, and we share that, too, because I mean every few years we have to deal with the expansion of Medicare to make sure it is still there for our constituents. What do you think that it would be for the cost of Medicare? Can you give us some kind of idea what such expansion would be on a cost basis, realizing we are the Commerce Committee and not the Appropriations Committee?

Mr. BERENSON. Again—and I should also say when we somehow get perceived as being too slow and too bureaucratic—we are aware

that what we do which makes perfect sense in a health manpower shortage area, in a rural area, where there is no alternative, will often be looked at by others as a basis for expansion into other areas.

I think we are quite confident that we can make significant changes that would apply in rural areas, at not a significant cost. There might even be a savings. There is no evidence of program integrity problems thus far in the rural areas. But what we are concerned about, and particularly on the cost side, is what would happen if these technologies that are not inherently limited to rural areas became the standard across the entire program. That is where we have concern. So to the extent that we are being perhaps a little too cautious in expanding in rural areas, it is because what we do there becomes the basis for expansion elsewhere.

I don't have a number for you on the cost. I think if it were not done correctly and carefully, with standards in place, it could be a huge expansion and cost to the program if it went beyond the target, which are health manpower shortage areas.

Mr. GREEN. Well, maybe that is my concern.

Mr. Chairman, with just a little forbearance, I understand the rural application, but, again, I think we could look at some cost savings because the costs per bed at some of my suburban hospitals is much cheaper than the cost at a major medical center, but if you utilize the expertise at that medical center for the suburban hospital, again, 20, 25 miles away, it is not anywhere near rural, we could see some cost benefits to the Medicare program.

Mr. BERENSON. There could be, but there also could be just a great expansion in utilization. That is why, as part of this modernization activity that I talked to, we are looking at other reimbursement mechanisms, perhaps an administrative fee, to support telemedicine. That is not a reimbursement at a specific service level rather a some modified forms of a capitation payment system that provides a payment over a period of time where the practitioners themselves then determine what the utilization will be within that limitation.

That is why in the home health example, where we will now be paying a 60-day episode fee to a home health agency for taking care of a beneficiary with a certain medical problem, we would encourage the agencies to provide an adjunct to the plan of care that the physician has signed off to by incorporating telemedicine into that whole plan of care. Again, inhome health the payment will essentially be predetermined, such that we have less concern about utilization. It may well be that we can expand telemedicine very broadly in a fee-for-service environment, but we are concerned about having the standards in place to determine how to do that.

Mr. BILBRAY [presiding]. The gentleman's time has expired. The gentleman from Tennessee.

Mr. BRYANT. Thank you, Mr. Chairman.

I apologize to the witnesses, but we are on different schedules here. I have to come and go, and sometimes we are late. I appreciate you coming and look forward to your testimony, as well as the second panels testimony.

I represent a very diverse district. It has urban areas and quite a bit of rural area, and I see telemedicine as being one of the solu-

tions that will go to a major problem that we have in those areas of access to health care, and I have joined with the Chairmans bill in cosponsoring that bill. I think it is a good bill. I have questioned Mike Hash when he comes up about this, and he is going to get back with me and follow up with each other on this, and we have worked hard on this issue. We also have Dr. Burgiss from the University of Tennessee here today to testify on the second panel about what is happening there with telemedicine.

So, with that said, I want to ask you a couple of questions; and I hear the bells going off for us to go vote, also. So we will probably get this in before we have to go, but if you could keep your answers relatively short in light of the bells.

But it is my understanding that under the new health care Prospective Payment System, the PPS, home health care providers may use PPS dollars in the manner they believe most appropriate to improve the patient outcomes. Excepting that a telemedicine encounter is technically not a visit for the purposes of PPS payment, I assume then that the current policy allows a home health agency to spend PPS dollars to utilize telemedicine technology consistent with patient care standards. Is my assumption consistent with HCFA's view on this subject?

Mr. BERENSON. Yes, as long as the use of telemedicine services is consistent with the plan of care that the physician certifies. I don't think we would want telemedicine visits to substitute completely for the services that are specified in the plan of care, but there can be some minor substitution and certainly adjunct use of telemedicine in the context of a plan of care.

As we get more experience with the effectiveness, physicians will then be more willing to sign off on plans of care that do have telemedicine visits, in some cases perhaps substituting with what would have been physical visits, but at this moment we think that the requirement for a set of services face-to-face should be maintained with the incentive now for the agencies to use telemedicine as an adjunct to those services.

Mr. BRYANT. In regard to the demonstration projects, I understand you are actually working on some now regarding telemedicine, and you may not have these figures, I don't know, and if you don't if you could late file this to your testimony today, but could you give me the statistics on how many claims have been submitted from these demonstration projects? You expressed concern about the potential cost. So I just wonder how many are actually being—

Mr. BERENSON. There are very few. I don't have the exact number on me. Remarkably few—and that has been one reason why we believe we need to rethink these demonstrations. We are in discussions to do that, as well as rethinking the narrowness of the application to teleconsultations because there have been very few. We will provide for the record the actual number.

Mr. BRYANT. I am getting inquiries here, but can you give me a ballpark figure, just an estimate before you submit the actual figures? Could it be as low as 19,000?

Mr. BERENSON. I think it is fewer.

Mr. BRYANT. Fewer than 19,000?

Mr. BERENSON. I think it is a couple of hundred for last year. I don't have the cumulative number. I think last year was perhaps 200 or something.

[The following was received for the record:]

There were 298 claims filed through the end of the second quarter, 2000 under the Telemedicine Demonstration Project.

Mr. BRYANT. One final question. I think Mike Hash said this, and I understand you may have said this also, that HCFA is going to be releasing recommendations on changes that should be made to this issue of telehealth, telemedicine. Can you tell me specifically when we can expect those recommendations from HCFA?

Mr. BERENSON. Well, it is anticipated for this fall. I don't know whether prior to adjournment or not. I mean, unfortunately, it is in a clearance process. The areas that we will be addressing, some of them I have talked about today. One is the expansion of services beyond teleconsultations, and we are likely to be recommending an expansion to certain other kinds of services. We will be making some comments about store-and-forward technology, and we will be talking about presenters. I don't have a specific date for you.

Mr. BRYANT. Just for the record, we may well be celebrating Christmas with you here before the adjournment—

Mr. BERENSON. I have heard that.

Mr. BRYANT. [continuing] which we all hope is not the case. I also want to clarify that the 19,000 figure should have been \$19,000 rather than 19,000 claims. So if you could give us a dollar amount and the actual number. I yield back my time.

Mr. BILBRAY. Yes. Gentlemen's time has expired.

Gentleman from Ohio will be recognized before we adjourn for the vote.

Mr. STRICKLAND. Thank you, Mr. Chairman.

Doctor, you mentioned this clearance process, and one of the frustrations that I have had with HCFA—and I am not sure it is HCFA's fault. There may need to be a legislative remedy. But I reflect back on my colleague, Representative Capps', use of language. She used words like "archaic system", "lag", "slow" and so on. My personal experience with HCFA has been that these words are appropriate.

I don't want to lay blame, because the blame may rest up here instead of with HCFA, but it seems to me that there is legitimate reason to be concerned about the slowness with which HCFA responds to legislation, to rulemaking, to clearance and the like. Do you know if this is a concern within HCFA itself and if there are any efforts under way to try to modernize or update the system or is, in your judgment, legislation required to reform this agency and some of the processes within the agency in order for it to be appropriately responsive to modern needs and situations?

Mr. BERENSON. I am aware of one particular situation that you are involved with where we have been very slow. We obviously are concerned about it. It is, I think, a more complex question, and I am probably not the appropriate person to address it.

I think to some extent there are requirements associated with the Administrative Procedures Act and FACA and some other things. But part of it is, on an issue like this one, there would be quality of care concerns, program integrity concerns, payment con-

cerns, and at least our process right now permits all the parties who are responsible for those different areas to weigh in. On important reports we also need to go through a departmental clearance process which in some cases is where some of the lag comes. It is of concern to me for sure, and I don't have a facile answer for you.

Mr. STRICKLAND. I understand that, but I guess what I come back to in my own thinking is the fact that—I mean, we can and have in the past made major national decisions regarding war and peace in a relatively compressed period of time because we considered it important or essential to do so; and, as I say, I am not—you know, I don't want to lay blame at the feet of this agency, because I am not sure that is where the appropriate problem is, but it seems to me that as a Congress and as a committee we ought to be concerned about how this agency is able to carry out its responsibilities in a timely fashion. And what we are talking about here in terms of telehealth is, you know, I think is a good example of how we cannot allow ourselves to be bogged down for years with arcane procedures while the technology is escaping those who most truly need it.

Mr. BERENSON. I appreciate that. I would take the opportunity to make one point, however, which is that, and I am the head of the Center for Health Plans and Providers which is essentially the payment side of Medicare—both the payments to Medicare+Choice plans and all of the payment policies to hospitals and physicians and others. On a number of issues we are 1 or 2 persons deep. If something else comes along, something else literally gets put on the shelf for months at a time. We have fewer employees now than 20 years ago.

So I am not coming here requesting a massive expansion. I do think one of the issues in some of these areas is simply resources and staff and contracting authority to be able to move as quickly as I think this particular topic deserves, and we have to continually make tradeoffs on which we are going to do first, and I do think that is serious concern.

Mr. STRICKLAND. Thank you, Mr. Chairman, and in view of our time, I will yield my time.

Mr. BILBRAY. Thank you. I appreciate the gentleman from Ohio for yielding; and we will thank you very much, Doctor, and dismiss you at this time.

We would call up the next panel. We are going to go vote, so it gives you time to set up. And I appreciate the patience of everyone. I apologize. It is a procedure that we all live with. Thank you, Doctor.

[Brief recess.]

Mr. BRYANT [presiding]. We are going to restart the hearing, and Chairman Bilirakis will be delayed a little bit. So we are going to move forward with the introductions.

Mr. Strickland from Ohio is not back yet from the vote but would like to more formally introduce Dr. Ross-Lee whom I believe is from Ohio.

Ms. ROSS-LEE. Yes.

Mr. BRYANT. We will interrupt whatever stage we are at that point if it is not too disruptive to allow him to do that, but for now

I am just going to begin from my left and introduce very briefly the witnesses.

We have Dr. Karen Rheuban, who is Medical Director, Office of Telemedicine, and a professor of pediatrics at the University of Virginia—with the University of Virginia Health System in Charlottesville. Welcome.

We have Mr. Joe Tracy, I don't see where—all right. I am not going right to left here. Well, I will introduce Mr. Tracy anyway. He is the Director of Telehealth at the University of Missouri Health Sciences Center in Columbia, Missouri. Welcome to you.

And Ms. Sally Davis here, Program Director at Telehealth and Management Development, Marquette General Health System in Marquette, Michigan, Upper Peninsula, near what is the name—

Mr. STUPAK. Now, I know why you are the substitute chairman.

Mr. BRYANT. Tryout, actually. Okay. These Michigan names get me every time.

Mr. Jim Reid is here. He is Director of Telemedicine and Network Services with the Midwest Rural Telemedicine Consortium with Mercy Hospital Foundation, and he is testifying on behalf of the Center for Telemedicine Law which is located here in Washington, DC.

And then the gentleman I referred to in my statement, Dr. Sam Burgiss, who is the Project Director of Telemedicine at the University of Tennessee Medical Center in Knoxville, actually, and the other end of the State from where I live.

And we will reserve—Dr. Ross-Lee is here, of course, there; and she will be more formally introduced later by our colleague from Ohio.

Let me jump back. Dr. Rheuban, you have a patient here, and we have Ms. Lisa Hubbard, you are here, and this beautiful young lady next to you is Alexandra Bartley, and she is the patient.

Mr. RHEUBAN. That is correct.

Mr. BRYANT. Great, welcome. Good to have you here.

Also, in finishing up the introductions very quickly, Ms. Mary Patrick is here. She is Director of Quality Improvement with Blue Cross and Blue Shield of Montana in Helena, Montana.

And Jim Grigsby, who is Study Manager with the Center for Health Services and Policy Research at the University of Colorado Health Sciences Center from Denver, Colorado, and welcome to you, also.

If we could, I think each one of you, 5 minutes.

We will begin with Dr. Rheuban.

STATEMENTS OF KAREN RHEUBAN, MEDICAL DIRECTOR, OFFICE OF TELEMEDICINE, PROFESSOR OF PEDIATRICS, UNIVERSITY OF VIRGINIA HEALTH SYSTEM, ACCOMPANIED BY LISA HUBBARD AND ALEXANDRA BARTLEY; SALLY DAVIS, PROGRAM DIRECTOR, TELEHEALTH AND MANAGEMENT DEVELOPMENT, MARQUETTE GENERAL HEALTH SYSTEM; JOSEPH TRACY, DIRECTOR OF TELEHEALTH, UNIVERSITY OF MISSOURI HEALTH SCIENCES CENTER; JAMES REID, DIRECTOR OF TELEMEDICINE AND NETWORK SERVICES, WEST RURAL TELEMEDICINE CONSORTIUM, MERCY HOSPITAL FOUNDATION, ON BEHALF OF CENTER FOR TELEMEDICINE LAW; SAM BURGISS, PROJECT DIRECTOR, TELEMEDICINE, UTM MEDICAL CENTER AT KNOXVILLE; BARBARA ROSS-LEE, DEAN, OHIO UNIVERSITY COLLEGE OF OSTEOPATHIC MEDICINE; MARY R. PATRICK, DIRECTOR OF QUALITY IMPROVEMENT, BLUE CROSS AND BLUE SHIELD OF MONTANA; AND JIM GRIGSBY, STUDY MANAGER, CENTER FOR HEALTH SERVICES AND POLICY RESEARCH, UNIVERSITY OF COLORADO HEALTH SCIENCES CENTER

Ms. RHEUBAN. Thank you.

Mr. Chairman, distinguished members of the subcommittee, I would like to express my gratitude to the Commerce Committee for this opportunity to represent the University of Virginia Health System today. My name is Dr. Karen Rheuban, and I am a pediatric cardiologist at the University of Virginia where I also serve as Medical Director of the Office of Telemedicine and as Associate Dean for Continuing Medical Education.

I am pleased to introduce Ms. Lisa Hubbard of Honaker, Virginia, and her daughter Miss Alexandra Bartley, who are here to share with the committee their personal experience with telemedicine services provided to Alexandra in a rural community health center in Southwest Virginia.

For those who reside and work in and around Washington, DC, it might seem difficult to imagine that amongst the many counties of adjacent Virginia, those of mountainous Southwest and Western Virginia are home to some of our Nation's most medically underserved, geographically isolated and socioeconomically disadvantaged citizens.

In Virginia, as in other rural States, it is not unusual for patients to travel 5 to 7 hours to receive medical or surgical consultative services if they seek medical attention at all. When one considers the cost of lost wages, overnight stays, food and automotive expenses, it is clear that this travel imposes great burdens on our rural families.

In an effort to enhance access to a broad range of services not locally available, in 1996 the University of Virginia committed considerable internal resources to the development and establishment of a telemedicine program. We faced the significant barriers of high telecommunications costs, expensive clinical workstations, non-reimbursement and nonfamiliarity and/or lack of acceptance of advanced technologies by many patients and physicians.

From the inception of our program we have provided clinical services without charge to patients for whom no reimbursement was available. We developed contractual relationships such as our

correctional telehealth program to allow us to recoup many of our overhead costs. We successfully petitioned Virginia Medicaid for a waiver of their policy of nonreimbursement. Despite the prevailing policies of nonreimbursement by the private sector, we continue to offer telemedicine consultative services to all our citizens and have turned no one away.

In 1997, with Federal and other grant funding, we established the Southwest Virginia Alliance for Telemedicine. This partnership has established five operational telemedicine sites, and we are in the process of installing two additional facilities, all in medically underserved counties of Southwest Virginia to date, our Office of Telemedicine has facilitated more than 2,200 clinical encounters, linking remotely located patients with UVA consultants representing 24 specialties and subspecialties. Our network now consists of 20 remote sites in the Commonwealth of Virginia.

We consider the services provided by telemedicine to be an extension of our traditional mode of health care delivery. Through these linkages we have saved the lives of infants and adults by providing timely diagnostic services and therapeutic intervention.

Last week, through a telemedicine linkage, a UVA dermatologist diagnosed a life-threatening case of a flesh eating streptococcal skin infection that had been thought to be a case of shingles. We have diagnosed an infection in the heart of a gravely ill adult patient whose diagnosis had eluded local primary care practitioners. We have identified and offered immediate treatment to an infant with a rare and complicated congenital heart defect who would have died without immediate intervention. We use these same networks to provide health professional and patient education.

Much like our experience, most large-volume telehealth programs are those that provide reimbursable correctional telehealth services or are located in States wherein legislative mandates have directed third party reimbursement. Currently, inmates in our Virginia correctional facilities have access to higher quality specialty care than do many of our other tax-paying citizens.

These technologies with such vast potential to improve the health of our citizens still face considerable barriers to full deployment. We are thankful to the Congress for enacting the 1996 Telecommunications Law, following which we have witnessed the barrier of high telecommunications costs fall substantially with competition. In 1995, we were quoted a rate of \$5,872 per month for a T1 line linking our hospital to a hospital in Southwest Virginia last month, we leased that same T1 line for \$775 per month. We thank the Commerce Committee for that. However, without relief of the obstacle of limited reimbursement, full deployment of these technologies will not occur.

Virginia Medicaid has willingly endorsed reimbursement for consultations and follow-up visits. Much like the Department of Corrections, Medicaid, as a payer, funds the transportation of patients. Astonishingly, the patient transportation budget of Virginia Medicaid for fiscal year 2000 exceeded \$53 million.

The Balanced Budget Act of 1997, with provisions for reimbursement of telehealth services to Medicaid recipients, is a step forward but falls short in its implementation. As they establish reimbursement policies, many third party payers follow closely the param-

eters established by HCFA. Legislation before Congress offers further steps toward the achievement of these goals.

Amongst the HCFA rules for reimbursement viewed to be an obstacle include the following: Location of the remote site from which the consult is originated. HCFA rules allow Medicare to reimburse telemedicine consults only when the residence of the patient or the location of the workstation falls within a primary health professional shortage area. The Federal classification of a primary HPSA does not take into account the distribution of specialist physicians in that region. We believe that all Medicare patients should have access to consultative services via telemedicine when deemed appropriate by their primary care provider, issues of licensure notwithstanding.

Fee splitting. Nowhere else in clinical practice does the consulting physician share the fee for a clinical encounter with a referring physician. HCFA rules require that the consultant paid by Medicare split the fee 75/25.

Reimbursement rates. Reimbursement should be at standard Medicare rates to the consulting practitioner. When divided with the remote referring practitioner, the lower fee and greater administrative burden is a disincentive to participation in telehealth programs.

Broader range of reimbursable CPT codes. Reimbursement should also include a broader range of CPT codes to include ENM codes rather than just consultation codes. It is also an equal hardship for patients to travel many hours for a follow-up appointment as it is for an initial encounter. In the case of a post-operative visit, travel may be more difficult for a patient recovering from surgery than for the initial consultation.

Almost done. Telepresenter requirement——

Mr. BRYANT. I notice you are reading quickly here.

Ms. RHEUBAN. It is our experience that the referring clinician need not be in attendance during a telemedicine encounter. When a patient travels to receive care from a consultant, the referring health professional does not travel along with the patient. A broader range of providers should receive reimbursement for telehealth encounters.

And, last, remote site fee. Despite a reduction in costs, many small rural clinics and hospitals are still unable to afford the capital expenditures and ongoing telecommunications costs inherent in the establishment and maintenance of a telemedicine facility. We believe that Medicaid and if possible Medicare should fund a small infrastructure fee to offset a portion of the overhead of the rural telemedicine facility. Alternatively, the patient receiving services could fund a component of that expenditure in the form of a small co-pay determined on a sliding scale.

On behalf of the University of Virginia, we thank the subcommittee for holding this hearing and for considering additional legislation that may abolish other barriers to the full deployment and utilization of telehealth technologies.

Thank you.

[The prepared statement of Karen Rheuban follows:]

PREPARED STATEMENT OF KAREN SCHULDER RHEUBAN, PROFESSOR OF PEDIATRICS,
 MEDICAL DIRECTOR, OFFICE OF TELEMEDICINE, ASSOCIATE DEAN FOR CONTINUING
 MEDICAL EDUCATION, UNIVERSITY OF VIRGINIA HEALTH SYSTEM

Chairman Bilirakis, Distinguished members of the subcommittee, I would like to express my gratitude to the Commerce Committee for this opportunity to represent the Office of Telemedicine of the University of Virginia Health System at this subcommittee hearing on reimbursement for telehealth services. My name is Dr. Karen Rheuban and I am a pediatric cardiologist at the University of Virginia where I also serve as Medical Director of the Office of Telemedicine and as Associate Dean for Continuing Medical Education. I am pleased to introduce Mrs. Lisa Hubbard of Honaker, Virginia, who has agreed to share with the Committee her experience with telemedicine and its role in the care provided to her daughter, Alexandra Bartley.

For those who reside and work in and around Washington D.C., it might seem difficult to imagine that amongst the many counties of adjacent Virginia, those of mountainous southwest and western Virginia are home to some of our nation's most medically underserved, geographically isolated and socioeconomically disadvantaged citizens. In Virginia, as in other rural states, it is not unusual for patients with complex medical problems to travel five to seven hours to receive medical or surgical consultative services, if they seek medical attention at all. When one considers the cost of overnight stays, lost time from work, the high cost of gasoline and other automotive expenses, this travel imposes great burdens on these families. For more than thirty years, in an effort to enhance access to a broad range of clinical and educational services not locally available, University of Virginia faculty have traveled throughout the Commonwealth to provide on-site medical care to patients and educational programs for health professionals. In 1996, to further enhance access to these clinical and educational services, the University committed considerable internal resources to the development and establishment of a Telemedicine program. We faced the significant barriers of: a. High telecommunications costs; b. Expensive clinical workstations; c. Non-reimbursement for telehealth services by payers; and d. Non-familiarity and/or lack of acceptance of advanced technologies applied to health by many patients and physicians.

At the inception of our program, we provided clinical services without charge to patients for whom no reimbursement was available. We simultaneously began to develop contractual relationships and other strategies to allow us to recoup many of our overhead costs. Despite a persistent climate in Virginia of nonreimbursement by the private sector for telehealth services, we continue to offer these services to all our citizens, and have turned no one away, regardless of financial or insurance status.

In 1997, with Federal funding through the Department of Commerce NTIA Technology Opportunities Program, the USDA Rural Utilities Service Telemedicine and Distance Learning Grant Program, state funding through the Virginia Healthcare Foundation, an appropriation by the General Assembly and with donations from Bell Atlantic, Sprint and GTE, we established the Southwest Virginia Alliance for Telemedicine. This partnership has established five operational telemedicine facilities and we are in the process of installing two additional facilities, all in medically underserved counties of SW Virginia (Appendix A). None of our grant funds reimburse clinical consultative or educational activities; rather they fund within the network, infrastructure, technology and telecommunications costs.

To date, since fiscal year 1997, our Office of Telemedicine has facilitated more than 2200 clinical encounters (Appendix B), linking remotely located patients with consultants representing 24 specialties and subspecialties (Appendix C). Of those encounters, since January 1999, when Medicare began authorizing reimbursement for telemedicine services, we have seen only 22 Medicare eligible beneficiaries and of these consultations, only 10 were eligible for reimbursement under current HCFA rules.

Our network currently consists of 20 remote sites in the Commonwealth of Virginia (Appendix A). We consider the services provided via telemedicine to be an extension of our traditional mode of health care delivery. We consider our office, an electronic clinic.

We have used these networks to provide the following services not locally available: a. Care of patients with HIV/AIDS and/or Hepatitis C, b. Interpretation of remotely obtained pediatric cardiac ultrasounds, including life-saving initial assessments of neonates with critical cardiovascular disease, c. Tele-dermatology consultations, d. Cervical cancer screening and oncologist guided cervical biopsies, e. Tele-psychiatry services—including consultations for hearing impaired patients by the Commonwealth's only sign language capable psychiatrist, f. Postoperative care following corrective surgery for congenital defects to children such as Alexandra, g. A

collaborative Tumor board linking our Cancer Center faculty with physicians at a remote community hospital, h. Hundreds of hours of patient education for people suffering from diabetes, i. Health professional education to aid remote community hospitals and practitioners meet JCAHO, OSHA and state licensure mandates, j. Educational programs for project Headstart personnel by our developmental pediatricians, and k. Educational programs for high school students interested in a career in the health professions.

Through our telemedicine linkages, we have saved the lives of infants and adults by providing timely diagnostic services and therapeutic interventions. Last week a dermatologist diagnosed a case of a “flesh eating” streptococcal skin infection that had been thought to be a case of shingles. We have correctly diagnosed an infection in the heart of a gravely ill adult patient whose diagnosis eluded local primary care practitioners. We have identified and offered immediate treatment to an infant with a rare and complicated congenital heart defect, who would have died without immediate intervention.

As reported by the Association of Telehealth Providers, in 1999, Virginia was ranked fourth in the nation in terms of numbers of telemedicine consultations. In reality, much like our experience, most large volume telehealth programs are those programs that provide reimbursable correctional telehealth services, or are located in states wherein legislative mandates have directed third party reimbursement. Currently, inmates in our Virginia correctional facilities have access to higher quality specialty care than do many of our other tax paying citizens. As an example, the faculty of the University of Virginia and those of Virginia Commonwealth University provide expert HIV/AIDS care to Virginia inmates via telemedicine. The survival rates and viral loads of our incarcerated populations have recently been reported to be significantly better than that of patients similarly affected in the non-incarcerated population. This is primarily because through our correctional telemedicine program, inmates have access to AIDS experts and they receive regular follow-up care.

These technologies with such vast potential to improve the health of our citizens still face considerable barriers to full deployment. We are thankful to the Congress for enacting the 1996 Telecommunications Law. We have witnessed one barrier, high telecommunications costs, fall substantially with the appearance of competition. For example, in 1995, the University of Virginia was quoted a rate of \$5872/month for a T1 line linking our hospital to a community hospital in Southwest Virginia. In the year 2000, real competition has arrived, even to the most remote regions of Appalachian Virginia. Last month, we leased that same T1 line for \$775/month. Similarly, videoconferencing workstations, high-resolution cameras and other peripheral devices are now very affordable. However, without relief of the obstacle of limited reimbursement, full deployment of these technologies will not happen.

Virginia Medicaid has willingly endorsed reimbursement for consultations and follow up visits, regardless of the geographic location of the patient or the workstation, as long as the facility is authorized to bill Medicaid. Much like the Department of Corrections, Medicaid, as a payer, funds the transportation of patients. The transportation budget of Virginia Medicaid patients for fiscal year 1999-2000 exceeded \$53 million dollars. Reimbursement has been authorized by Medicaid for a broad range of services to include telehealth services provided to children eligible for the Children’s Health Insurance Program. They have also authorized reimbursement for innovative programs that address specific local clinical needs. For example, in the Lenowisco Planning District, there are no gynecologic cancer specialists. In conjunction with the Scott County Health Department, we have established a program to provide telehealth facilitated cervical cancer screening.

The Balanced Budget Act of 1997, with provisions for reimbursement of telehealth services to Medicare recipients falls short in its implementation. Even for those services for which Medicare reimbursement is available, the terms as established by HCFA are in need of modification. Without a major revision of the rules adopted by HCFA, telehealth programs will fall short of the goal of enhancing access to quality healthcare for all our citizens. As they establish reimbursement policies, many of the third party payers follow closely the reimbursement parameters established by HCFA for Medicare beneficiaries. Legislation before this Congress, to include SB 2505, *Telehealth Improvement and Modernization Act of 2000*, and HR 4841, *Medicare Access to Telehealth Services Act of 2000*, are steps towards the achievement of these goals.

RELEVANT ISSUES FOR REIMBURSEMENT FOR SERVICES PROVIDED TO MEDICARE
BENEFICIARIES:

Location of remote site (site of origination of the consultation):

We believe that all patients should have access to services deemed appropriate by their primary care provider—issues of licensure within the state notwithstanding. HCFA rules allow Medicare to reimburse telemedicine consultations only when either the residence of the patient or the location of the workstation falls within a primary health professional shortage area. Unfortunately, the federal classification of a HPSA does not take into account the distribution of specialist physicians in that region. A community may not be eligible for HPSA classification because of its numbers of primary care practitioners; yet that very region may have no specialist physicians available to serve as consultants when needed. For some patients who reside in counties that do not qualify as a HPSA or medically underserved area because of relative to proximity to a nearby city, geographic, medical or other socioeconomic considerations may preclude access to clinical services.

Fee splitting:

Nowhere else in clinical practice does the consulting physician share the fee for a clinical encounter with a referring physician. HCFA rules require that the consultant, paid by Medicare, split the fee with the referring physician 75%/25%. Such a policy may be viewed as a violation of federal anti-kickback statutes, is cumbersome to administrate, and for most hub sites will be difficult to implement.

Reimbursement rates:

Reimbursement should be at standard Medicare rates to the consulting practitioner. When divided 75%/25% with the remote referring practitioner, the lower fee and greater administrative burden is a disincentive to participation in telehealth encounters for the consultant physician.

Broader range of reimbursable CPT codes:

Reimbursement should also include a broader range of CPT codes rather than consultation codes (99241-99275). It is an equal hardship for patients to travel many hours for a follow-up appointment as it is for an initial encounter. In the case of a postoperative visit, travel may be more difficult for a patient recovering from surgery than for the initial consultation. As long as the referring and specialist physicians deem the technology adequate to provide the service, we believe that all visits reimbursable under traditional Medicare provisions should be reimbursable when provided via telemedicine technologies.

Telepresenter requirement

It is our experience that a referring physician, nurse practitioner or physician's assistant need not be in attendance during a telemedicine encounter. When a patient travels to receive care from a consultant, the referring health professional does not travel to participate in that encounter. We believe any licensed healthcare professional acting under the instructions of the referring health professional or the consulting health professional to be effective telepresenters at remote sites, and that the decision as to the necessity for a telepresenter should be left to the referring or consulting practitioner. In our correctional telemedicine program, licensed registered nurses have proven themselves to be valuable telepresenters. For mental health encounters, with their attendant sensitive issues of confidentiality (and the lack of a need for technical support inherent in the use of medical peripheral devices) we do not believe personnel other than the patient and the consultant mental health provider need be present.

Eligible provider

A broader range of providers should receive reimbursement for telehealth encounters. Any licensed health professional eligible for traditional Medicare reimbursement should be considered eligible for reimbursement of services provided via telemedicine.

Remote site fee

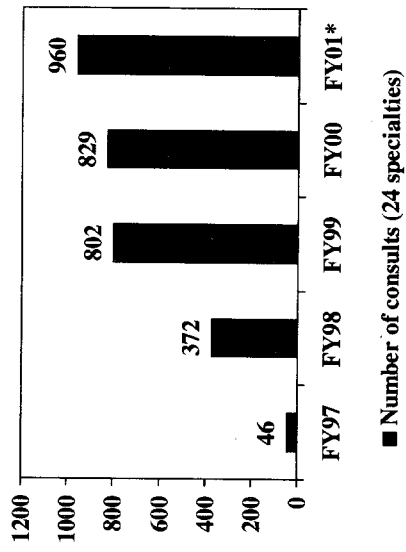
In the absence of federal or grant funding, small clinics and hospitals are least likely to afford the capital expenditures and the ongoing telecommunications costs inherent in the establishment and maintenance of a telemedicine facility. We believe that Medicaid, and if possible, Medicare should fund a small infrastructure fee to offset a portion of the overhead costs of the rural telemedicine facility. Alternatively, the patient receiving services could fund a component of that expenditure in the form of a small co-pay determined on a sliding scale (\$5-\$20). In the former model,

programs such as Medicaid stand to save transportation dollars; in the latter model, it is the patient who saves the expense of travel to the consultant.

Despite all the limitations outlined above, since FY 1997, the Office of Telemedicine of the University of Virginia has facilitated >2200 clinical encounters with patients in the Commonwealth of Virginia. We have saved lives by providing timely diagnostic services and therapeutic recommendations to patients of all ages. We have used our linkages to provide patient education, health professional education, and teacher training and even courses for local high school students.

On behalf of the University of Virginia Health System, and other academic medical centers dedicated to providing outreach to patients in need, we thank the Commerce Committee and the Congress for enacting legislation that has created competition in the telecommunications marketplace. We also thank the Subcommittee on Health for considering additional legislation that may abolish other barriers to the full deployment and utilization of telehealth technologies that could enhance access to quality healthcare for all our citizens.

*Appendix B:
Office of Telemedicine clinical activities
(2229 encounters to date)*



*Projected FY01 based on current activities
(5 more sites coming online in Y2K)



Appendix C:
Office of Telemedicine clinical activities
(24 specialties and subspecialties)

- Infectious disease
- Dermatology
- Hepatology
- Psychiatry
- Other GI
- Endocrine
- Neurology
- ENT
- Pediatric cardiology
- Cardiology
- Hematology
- Rheumatology
- Orthopedics
- Nephrology
- Pulmonary
- Other Pediatrics
- Pain management
- Plastic surgery
- Urology
- Gynecology
- ER
- Geriatrics
- General surgery
- Thoracic surgery

Mr. BRYANT. We let you have that extra 2 minutes only because you brought Miss Bartley with you. Let me warn you, the rest of you haven't done that.

Ms. Davis—Ms. Hubbard, you have a statement? Okay. Great. Thank you. I am just ignoring you all around today, aren't I?

STATEMENT OF LISA HUBBARD

Ms. HUBBARD. That is all right.

Mr. Chairman and members of the subcommittee, I would like to thank the U.S. Congress for inviting me to come here today to tell you about my daughter Alex and how we feel about the use of telemedicine to help provide care to the citizens of rural America. My name is Lisa Hubbard and I live in Honaker, Virginia, a small community in Southwest Virginia. My daughter Alex is 5 years old, and she is a kindergarten student at Honaker Elementary.

When Alex was born, we noticed she had what looked like a small scratch on her right cheek. A few weeks later, we were told that it was a hemangioma, a blood vessel tumor on her face. The hemangioma grew and grew until it nearly covered her entire cheek. She also had a cleft palate.

When Alex was 6 months old, we were referred to Dr. Kant Lin, a pediatric plastic surgeon at the University of Virginia. There was no doctor in our area who was qualified to treat our daughter. Alex and I made our first trip to Charlottesville, a 6-hour drive each way.

Dr. Lin decided that he would first try to shrink the hemangioma with conservative treatments, with oral steroids. That meant we had to come to Charlottesville once per month for him to look at the tumor. When that didn't work, he decided to inject steroids directly into the tumor, which meant we had to come every other week. Finally, he decided that surgery was the only solution. Sometime after her surgery, a telemedicine workstation was installed at the Thompson Family Health Center in Vansant, Virginia. We made our first visit to Dr. Lin over telemedicine linkages.

Our trips to Charlottesville were very difficult for Alex who was, of course, as an infant still in diapers and bottle fed. The trips were very difficult for me as well, both financially and emotionally. I usually had to make this long trip with my daughter alone. I had to find the money for a hotel room, gas and food, plus I missed 2 days of work and pay because, as you can imagine, sick time and vacation time disappear pretty quickly.

It cost me more than \$100 to make the trip, not to mention my lost wages of \$80 a day. Sometimes we only saw Dr. Lin for a brief visit so that he could look and measure the hemangioma. We drove all that way for such a short visit with her surgeon.

The telemedicine program has provided a wonderful service to rural patients and families such as ours. Instead of driving 12 hours round trip, we now only travel 40 minutes round trip to the Thompson Family Health Center in Vansant, Virginia, to receive the same wonderful care from Dr. Lin.

Alex is currently enrolled in the Aetna Insurance Program, but it does not cover the services provided through telemedicine. The University of Virginia provides a sliding scale fee program for indigent patients, but we do not qualify for that program. If the Uni-

versity charged me for Dr. Lin's fee, it would cost me \$150 since Aetna will not cover this visit. Thankfully, the University has waived this fee for me, but if I made the long drive to Charlottesville facing the hardship and expense of that trip, Aetna would reimburse Dr. Lin, but I would be forced to bear the expenses of traveling to see him.

There are so many other rural citizens who face these same difficulties in receiving care from qualified specialists. I hope that the U.S. Congress will consider enacting legislation to make it easier for us to do so through the use of telemedicine. Thank you very much.

Mr. BILIRAKIS. Thank you, Ms. Hubbard.

Alexandra, are we going to hear anything from Alexandra? Would you like to say anything to us?

Ms. BARTLEY. Thank you for having me.

Mr. BILIRAKIS. Thank you for being here.

Ms. Sally Davis is a Program Director for Telehealth and Management Development with Marquette General Health Systems. Ms. Davis, welcome. Please proceed.

STATEMENT OF SALLY DAVIS

Ms. DAVIS. Thank you. I have a hard act to follow.

Mr. Chairman and members of the subcommittee, thank you for paying attention to telehealth, especially as it pertains to the delivery of health care in rural areas.

I am an employee of Marquette General Health System, a 352-bed regional referral center in Michigan's Upper Peninsula; and, as Congressman Stupak has been pointing out, we are a very rural area.

The 15 counties of the Upper Peninsula span a distance east to west of over 300 miles. It takes 6 hours to drive from one end to the other—and that is in good weather—and we cover two time zones. Our population density is just 19 people per square mile, and in some counties it drops as low as six people per square mile. In the middle of the peninsula sits Marquette. We are not a large city by any means, only 22,000 people, yet we have a regional referral with specialists whose skills parallel those found in any metropolitan area.

When people want to come to access our specialty care, they need to drive up to 3 hours per one-way visit. When residents of the Upper Peninsula need to access subspecialty care outside of the jurisdiction of Marquette General, they travel distances such as Ms. Bartley. It is not unusual for people to spend 18 hours of drive time two ways, hotel room, 2 days off from work and, of course, the other expenses that are incurred during travel for a subspecialty appointment of 15 or 30 minutes.

Marquette General Health System, along with 15 other independent community hospitals, make up the Upper Peninsula health care network. Six of our network members are Critical Access Hospitals. Another soon will be. Every county in our region holds health professional shortage designation on a partial basis. That is significant when it comes to the current HCFA regulations for telemedicine reimbursement.

Our telehealth network began in the fall of 1994 with a focus on professional education and a commitment to community usage. Administrative applications were quickly incorporated and are now a major application of our system. Clinical applications began that first year but have progressed much more slowly due to the same barriers that mirror other telehealth programs.

At present, we are a 23-site network. Our utilization runs 48 percent education, 30 percent administration, 11 percent clinical and 11 percent community usage. During the upcoming year we are expecting tremendous growth in a lot of the areas that other telehealth programs are moving in.

But I have traveled here not to speak of our program as much to show my support of your interest in telehealth and to encourage actions that can increase access to health care. My comments center around grant programming and reimbursement.

The Upper Peninsula telehealth network has accomplished a great deal in our last 5½ years, and we are very proud of the impact we have had on health care efficiencies in our region. Yet we would have accomplished none of this, not even attempted telehealth programming, if it were not for Federal grant funding.

Our six critical access hospitals with their 15 acute care beds and an average daily census that would be a challenge to even the most creative financial mind would not have been able to justify the capital outlay. Yet our telehealth network has provided its contribution to the improvement of the bottom line for these hospitals.

I urge you to continue telehealth grant programming so that other rural areas can reap the same benefits. Until these technologies are routine within the delivery of medical care and until transmission costs are reasonable and equitable, such funding is needed. Federal grants have supported the pioneers who are testing theories, identifying barriers and are paving the roads around these barriers. We have made much progress, but there is still work to be done.

Second, there is a very important issue of reimbursement. I mentioned previously that every county in our area holds partial HPSA designation. We should be the ideal candidates to access the current HCFA standards. Yet we have not. We did not come to that party, as Mr. Berenson said. Why? For the same reasons that are listed here in your memo from the health team that came out, for the same reasons I have put in my written testimony and as in the written testimony of other members who are testifying here today. Like us, most of the telehealth programs do not use the right limitations in reimbursement.

What needs to be accomplished is patient access to providers without the requirement of telepresenters, the elimination of fee sharing and adequate compensation for the delivery of services and increase in the scope of providers to include all those currently eligible for reimbursement by HCFA, the inclusion of store-and-forward technologies, access for patients not residing in HPSAs, and the support of home health telemedicine.

The model programs have come a long way in discovering telehealth systems that work in appropriate applications. Telehealth is an evolving norm and is making the difference between access and

no access to care. Unfortunately, it will never leave the evolving stage until practitioners and services are reimbursed appropriately.

Yesterday, I sat through some of the Firestone hearings and listened to your colleagues question why some of the deaths and some of the injuries were not prevented. I suggest to you that access to health care through telemedicine is still a life and death matter, and I appreciate your concern for all of those rural health patients who will need to access specialty care in the future, patients such as my parents who live in a community of less than 2,000 people, who are in their mid-eighties, who have multiple health problems, who are unable to drive and whose specialty care is an hour and a half away.

Thank you.

[The prepared statement of Sally Davis follows:]

PREPARED STATEMENT OF SALLY DAVIS, PROGRAM DIRECTOR, TELEHEALTH AND MANAGEMENT DEVELOPMENT, MARQUETTE GENERAL HEALTH SYSTEM

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to serve as a witness today regarding telehealth as it pertains to rural health care. During my presentation you will hear about the geographical area I represent, the accomplishments of our telehealth network, the challenges we still face, and, most importantly, how you can affect the further deployment of telehealth in rural areas of the United States.

I am an employee of Marquette General Health System—a 352-bed regional referral center. I initiated our region's telehealth network during my tenure as the director of education for our institution, and continue to serve as the director of telehealth.

Our area is very rural. Although the majority of the Michigan's population and economy resides in its well-recognized lower peninsula, Michigan also includes a second peninsula to the north. The fifteen rural counties of the Upper Peninsula total an area of 16,452 square miles. Its east west distance of over 300 miles includes communities in two time zones, and is home to approximately 314,134 people. That's a population density of 19 people per square mile. In some counties the density drops to 6 people per square mile. It takes six hours to travel from one end of the peninsula to the other. That's if the wildlife stays off the roads and the weather conditions are good. We are known for our severe weather, particularly the kind that closes roads during the wintertime.

In the middle of the peninsula, sitting on the shores of Lake Superior, is Marquette. We're not a large city by any means (22,000 people) yet we have a regional referral center with specialists whose skills parallel those found in any metropolitan area. To access specialty care, our patients drive up to three hours one-way. When residents of the Upper Peninsula need sub-specialty care beyond the services available at Marquette's regional referral center, they travel to Detroit, Ann Arbor, Mayo Clinic or Milwaukee. A normal drive to seek quaternary care is an 18 hour round trip, most often taken over a two-day period. That's 18 hours of drive time, at least one night stay in a hotel, two days off from work and meal expenses for a 15-30 minute sub-specialty appointment.

My organization, Marquette General Health System, along with 15 other independent community hospitals and health care institutions make up the Upper Peninsula Health Care Network. Six of our network members hold Critical Access Hospital (CAH) designation. A seventh CAH hospital is anticipated within the next year. Every county in our region holds partial Health Professional Shortage Area (HPSA) designation. We believe in the independence of the communities, the benefits derived through the synergy of working together, and the connectivity to quaternary care centers for those times when services cannot be provided at the local or regional level.

Our telehealth network began in the fall of 1994 with a focus on professional education and a commitment to community usage. Administrative applications were quickly incorporated and are now a major application of the system. Clinical applications began the first year, but have progressed much more slowly due to barriers that mirror other telehealth programs: lack of reimbursement, the need for dedicated staff to promote clinical usage, the complexities of developing systems to accommodate the applications, and the need for technologies to be conveniently located for practitioners.

At present, we are a 23-site network with systems in critical access hospitals, community hospitals, the regional referral center, and rural health clinics. Our utilization runs 48% education, 30% administration, 11% clinical, and 11% community usage. During the upcoming year we anticipate tremendous growth. We will add sites, increase the number of systems, focus on clinical applications, add home health telemedicine in three counties, and merge Internet Protocol with ISDN transmission.

Administrative applications provide direct travel savings and go far beyond the often recognized convenience for CEOs and directors. The ability to meet on a regular basis, and involve more of the key people, has propelled our regional health care network partners toward our goals faster, and on a greater scale, than anticipated. Video conferenced meetings have proven to add efficiencies to the health care systems in our region.

With education we bring improved knowledge and skills to the isolated rural practitioners that would otherwise have to spend extended time away from their patients to acquire necessary credits for relicensure. We also increase the number of health care staff able to participate in continuing education. This education of professionals is essential for the community confidence in their small, struggling hospitals. Through our educational programming we also provide support group services to individuals who reside in communities without the critical mass to maintain their own support group services. And we bring health care information to rural residents who cannot otherwise access the information needed to manage their diseases. Ontonagon is a County with 5% of their population diagnosed as having diabetes. It was also a county without outpatient diabetes and nutrition education until such services became available through our telehealth network. The skills of the providers, the emotional support in dealing with chronic diseases, and the information necessary to control an individual's diabetes—all are important components of improving health care that often go unmeasured.

Our clinical applications allow rural residents to visit their specialty provider when a specialist is not available locally. Patient visits are available for cardiothoracic surgical follow-ups, enterostomal/skin therapy, neonatology, psychiatry, psychology, pediatrics, social work, obstetrics, oncology, physical therapy and nutrition. Telehealth encounters often mean the difference between getting care in a timely manner or waiting for care beyond an acceptable time limit. Physician to physician consultations take place when a diagnosis needs to be confirmed or when the need for a patient transfer is in question.

I have traveled here not to speak of our program as much as to show my support of your interest in telehealth and to encourage actions that can increase access to health care through telehealth technologies. My comments center around grant programming and reimbursement.

The Upper Peninsula Telehealth Network has accomplished a great deal over the past 5½ years. We're very proud of the impact we have had on health care in our region and the model that we provide for other rural areas. Yet we would have accomplished none of this—wouldn't have even attempted a telehealth program - without federal grant support. The Upper Peninsula does not have a major research university with a medical focus within our boundaries. Nor do we have a large multi-hospital corporation for which the cost justification of a telehealth network comes easier. We are simply a group of small, independent health care organizations dedicated to bring the best health care to our residents. Our six Critical Access Hospitals with their 15 acute care beds and an average daily census that would be of concern to even the most creative financial minds, would not have been able to justify the initial capital outlay. Yet, the telehealth network has provided its contribution to the improvement of the bottom line for these hospitals.

I urge you to continue telehealth grant programming so that other rural areas can provide improved access to care. Until these technologies are a routine within the delivery of medical care, and until transmission costs are reasonable and equitable, such funding is needed. Federal grants have supported the pioneers who are testing and proving the applications that improve access to care. The model programs throughout the United States have tested theories, identified barriers, and are paving the roads around these barriers. We have made much progress, yet there is still work to be done.

Secondly, there's the very important issue of reimbursement. As I mentioned, eleven percent (11%) of our applications are what we consider clinical/medical connections. I am confident that this number would be higher if reimbursement was more available. Although we have received grant support, our history does not include the rural telemedicine grant program through the Office for the Advancement of Telehealth. To date, our practitioner incentive payments have been restricted to a few consults for children with special health care needs. Thus, our medical appli-

cations are reliant on contractual arrangements, bundled services, and the pioneering spirit of practitioners willing to forgo payment.

I mentioned previously that every county in the Upper Peninsula holds partial HPSA designation. This is important since, under the current HCFA rules, only those patients residing in HPSA areas can be telemedicine beneficiaries. Ours should be an ideal network to access practitioner reimbursement through the current HCFA guidelines, yet we have not pursued this avenue. The reason we haven't is that the current regulations don't reflect practice and efficiencies. Our applications are not unlike other telehealth programs:

- The person who presents the patient to the specialist is most often a nurse, or in psychiatric cases a social worker. In some situations, such as nutritional counseling for diabetic patients, there is no telepresenter in the room with the patient. Most often there is not a need for the patient to be presented by another physician, physician assistant or nurse practitioner for quality care to occur. In fact, an RN with special training in chemotherapy administration is usually more qualified to present a patient for pre chemotherapy assessment than is the patient's family care doctor.
- The 75/25-fee split is not attractive to the consulting practitioner. Not only is the consultant providing expertise at a reduced rate, the billing/fee sharing process is cumbersome.
- Some of the services we provide, or would like to provide, involve practitioners that are eligible for HCFA reimbursement but are not eligible under the telehealth bill.
- Some of the services we want to provide involve store and forward technology, which does not qualify for HCFA telehealth reimbursement. Yet this technology works very well in specialty areas where the patient does not need to be present.

Like us, most of the telehealth programs do not utilize the technologies to their fullest because of the limitations in reimbursement. What needs to be accomplished is patient access to providers without the requirement of telepresenters, the elimination of fee sharing and adequate compensation for the delivery of services, an increase in the scope of providers to include all those currently eligible for reimbursement by HCFA, the inclusion of store and forward technologies, access for patients not residing in HPSAs, and the support of home health telemedicine.

It's not those of us who sit here before you as witnesses that need reform in the reimbursement of telehealth and the assured continuation of the technology within the routine. As an administrator, I'm far more removed from the actual patient experience than I want to be. For you as policy makers, it must be more so. Yet what you do here at the nation's capital connects so tightly to very personal and highly emotional experiences. What you do is for Emma who can now have her dialysis monitored by a nephrologist at a hospital two hours away. It's for the expectant mother whose closest obstetrical service is 87 miles away. It's for five month old Rena who was born with just one finger on each hand and one toe on each foot, so she can be assessed for corrective surgery by her pediatric hand specialist 500 miles away.

The use of telehealth technologies allows for safe, efficient and effective delivery of health care. The quality is assured through the normal structure and function of health organizations and practitioner guidelines. Contrary to some earlier predictions, there has not been abuses of the systems and technology. These facts have been proven by the current telehealth programs—most of which our government has financially supported.

The model programs have come a long way in discovering telehealth systems that work and appropriate applications. Telehealth is an evolving norm and is making the difference between access and no access to care. Unfortunately it will never leave the evolving stage until practitioners and services are reimbursed appropriately. Your committee's time and attention today is crucial for those of us struggling to provide access to care through telehealth technologies. And it is critical for the future patients who will receive care via this technology. Thank you for the attention to this issue and for your efforts toward increased access to care through telehealth.

Mr. BILIRAKIS. Thank you very much, Ms. Davis.

Mr. Joe Tracy is Director of Telehealth for University of Missouri Health Sciences Center, Columbia, Missouri. Mr. Tracy, welcome. Please proceed, sir.

STATEMENT OF JOSEPH TRACY

Mr. TRACY. Thank you. Mr. Chairman and committee members, it is an honor to be here today to speak to you on the topic of telehealth. Thank you for this opportunity.

I have been the director of the Missouri Telehealth Network at the University of Missouri Health Science Center since 1995, its very beginning. Our network has provided services to rural patients from newborns to the frail elderly. We have seen approximately 2,000 cases and multiple medical specialties via the interactive video network, and we have conducted and interpreted over 1,600 teleradiology exams.

Our program is based on the reality that telehealth is not a new or different medical service but it is simply a new way to deliver standard services to people in underserved areas. Policies that discourage telehealth do not deprive these communities of some exotic treatment but of the day-to-day health care most Americans take for granted.

Patients are the main beneficiaries of telehealth. They receive standard specialty care that is not typically found in or near their community. Studies at the University of Missouri indicate that about 25 percent of these patients would not have received care until some later time, if at all, if telehealth were unavailable. Even when patients would have received their care anyway, using telehealth reduces their travel costs. Travel savings for our patients in our rural network average approximately \$40 on automobile travel alone for every telehealth visit.

In terms of some of our patients, I remember a newborn with serious heart problems that was kept alive with the help of telehealth by a very good but nervous rural physician until our helicopter arrived. I remember a frail elderly woman in a nursing home whose health severely limited her ability to travel. She was able to see her doctor in a room down the hall instead of taking a 4-hour round trip and possibly returning to the nursing home with other problems brought on by the stress of travel.

As the committee knows very well, rural hospitals and clinics are struggling to stay alive. A small hospital that can offer a wide range of specialty telehealth services is stronger and more likely to survive. A rural doctors office where patients can see their specialist in one of the exam rooms via telehealth is more likely to hold onto those patients. Telehealth is not only good for patients but it is also good for rural doctors and hospitals.

Telehealth will not be mainstreamed unless the many problems associated with the current laws and regulations relating to Medicare reimbursement are resolved. Medicare reimbursement alone will not make telehealth an automatic success, but the lack of Medicare reimbursement will most certainly mean failure.

Some of these reimbursement barriers seem to reflect the fear that telehealth will result in overutilization of health care. Experience in several dozen telehealth projects nationwide has made it very clear that this fear is unwarranted. But there is an even more basic reason to reject this approach. What is being prevented by the barriers is not overutilization but adequate access to health care for Americans living in rural or other underserved areas. People living in those areas have as much right to Medicare benefits

as any other American and allowing them to use telehealth to exercise that right should not be considered an extraordinary benefit.

There is no doubt the current laws and rules for Medicare reimbursement have effectively prevented the submission of claims to HCFA. Our most recent nationwide study of telehealth networks indicated that 15 of 21 networks responding did not—and I want to repeat that—did not submit a single claim for telehealth between July and December 1999. This is explained by several problems with the laws and regulations on telehealth. One is the assumption that telehealth usually involves two clinicians, a rural provider with the patient on one end and a specialist on the other. But our research indicates this only happens in 6 percent of cases. Whether by telehealth or in person a primary care provider does not have the time to be present when the patient sees the specialist. If that is required for telehealth, telehealth will simply not happen.

Another problem is that HCFA reimbursement is currently limited to services delivered in federally designated health professional shortage areas or to patients who reside in those areas. HPSAs are defined by a lack of primary care, while telehealth usually provides specialty care. A rural community with sufficient primary care can still be without the specialty care that telehealth could provide.

I want to finish now by focusing on the most controversial and problematic regulation and that is fee sharing. If a telehealth claim is filed and subsequently paid, the current rules mandate that 25 percent of the specialist fee for that telehealth visit must be sent by the specialist to the referring provider. In nontelehealth cases, this type of fee sharing would be a Federal crime. Doctors cannot pay other doctors for referrals, and they are reluctant to do something via telehealth that would be illegal in person, no matter what I tell them.

The language regarding fee sharing must be removed from the law and regulations. HRSA's Office for the Advancement of Telehealth, NIH's National Library of Medicine and several other Federal agencies have made a large financial commitment to the development of telehealth throughout the country. I think we would all hate to see that investment wasted.

I sincerely hope that you will continue the effort to pass new legislation and correct the problems associated with the current laws and regulations. Thank you.

[The prepared statement of Joseph Tracy follows:]

PREPARED STATEMENT OF JOSEPH TRACY, DIRECTOR OF TELEHEALTH, UNIVERSITY OF MISSOURI HEALTH SCIENCES CENTER, COLUMBIA MISSOURI

It is an honor to be here today to speak to the committee on the topic of telehealth. Thank you for this opportunity.

I have been the Director of the Missouri Telehealth Network at the University of Missouri Health Sciences Center since its beginning in 1995. Our network has provided services to rural patients ranging from newborns to the frail elderly. We have seen approximately 2000 cases in multiple medical specialties via the interactive video network and have interpreted over 16,000 teleradiology exams.

Our program is based on the reality that telehealth is not a new or different medical service but is simply a new way to deliver standard services to people in underserved areas. Policies that discourage telehealth do not deprive these communities of some exotic treatment but of the day-to-day health care most Americans take for granted.

Patients are the main beneficiaries of telehealth. They receive standard specialty care that is not typically found in or near their community. Studies at the University of Missouri indicate that about 25% of these patients would not have received care until some later time—if at all—if telehealth were unavailable. Even when the patient would have received the care anyway, using telehealth reduces their travel costs. Travel savings for patients in our rural network average approximately \$40 on automobile travel alone for every telehealth visit.

We have had many experiences that bring these patient benefits down to earth. I recall a newborn with serious heart problems kept alive, with the help of telehealth, by a very good but scared rural physician until the helicopter arrived. A frail elderly woman in a nursing home—someone whose health severely limited her ability to be transported—was able to see her doctor in a room down the hall instead of taking a 4-hour ride to our facility. These benefits were not created by some wonderful new treatment, but by the kind of every-day access to standard care that telehealth can bring to underserved communities.

As the committee knows very well, rural hospitals and clinics are struggling to stay alive. A small hospital that can offer a wide range of specialty telehealth services is stronger and more likely to survive. A rural doctor's office where patients can see their specialists in one of the exam rooms via telehealth is more likely to hold onto those patients. Telehealth is good for rural doctors and hospitals.

However, telehealth will not be mainstreamed unless the problems associated with Medicare reimbursement are resolved. Many of these problems are related to the BBA of 1997 and HCFA's interpretation of the act. Medicare reimbursement alone will not make telehealth an automatic success, but the lack of Medicare reimbursement will most certainly mean failure.

Some of these reimbursement barriers seem to reflect the fear that telehealth will result in over-utilization of health care. Experience in several dozen telehealth projects nationwide has made it clear that this fear is unwarranted. But there is an even more basic reason to reject this approach. What is being prevented here is not over-utilization but adequate health care for rural Americans and those living in other underserved areas. People living in those areas have as much right to Medicare benefits as any other American. Allowing them to use telehealth to exercise that right should not be considered an extraordinary benefit.

There can be no doubt that the current laws and rules for Medicare reimbursement have effectively prevented the submission of telehealth claims to HCFA. Our most recent nationwide study of telehealth networks indicated that 15 of the 21 networks responding did not submit a single telehealth Medicare claim between July and December 1999.

This is explained by several key problems with current laws and regulations on telehealth. One is the assumption that telehealth usually involves two clinicians, a rural primary care provider with the patient and a specialist at the other end. Our research indicates that this occurs in less than 6% of cases. Whether by telehealth or in person, a primary care physician does not have time to be present when the patient sees a specialist. If that is what is required for telehealth, telehealth simply will not happen.

Another key problem is that HCFA reimbursement is currently limited to services delivered in a Federally Designated Primary Care Health Professional Shortage Area (HPSA) or to patients who reside in those areas. HPSAs are defined by a lack of primary care, while telehealth usually provides specialty care. A rural community with sufficient primary care can still be without the specialty care telehealth could provide.

I want to finish now by focusing on the most controversial regulation and that is fee-sharing. If a telehealth claim is filed and subsequently paid the current rules mandate that 25% of the specialist's fee for the telehealth visit must be sent by the specialist to the referring provider. In non-telehealth cases, fee-sharing would be a federal crime. Doctors are understandably reluctant to do something via telehealth that would be illegal in person, no matter what I tell them. This barrier is a bit subtler than the others, but it is a serious problem.

HRSA's Office for the Advancement of Telehealth, NIH's National Library of Medicine, and several other Federal agencies have made a large financial commitment to the development of telehealth throughout the country. I think we would all hate to see that investment wasted. I sincerely hope that you will continue the effort to pass new legislation correcting problems with the 1997 BBA and HCFA's interpretation of that act.

Mr. BILIRAKIS. Thank you very much, Mr. Tracy.

Mr. Jim Reid is Director of Telemedicine and Network Services with Midwest Rural Telemedicine Consortium, Mercy Hospital

Foundation. He is here on behalf of the Center for Telemedicine Law out of here, Washington, DC. Mr. Reid, please proceed.

STATEMENT OF JAMES REID

Mr. REID. Thank you, Mr. Chairman and members of the subcommittee. I, as you have said, am Director of the Midwest Rural Telemedicine Consortium, the MRTC, based at Mercy Medical Center, Des Moines. It is a 45 node network serving hospitals, clinics and nursing homes in 30 communities in north and south central Iowa.

As you said, I am also on the Board of Directors for the Center for Telemedicine Law here in Washington. The CTL is a nonprofit organization that focuses on legal and regulatory barriers to telemedicine. CTL has worked closely with telemedicine providers, policymakers and the public to analyze the effects and costs of current Federal and State telemedicine reimbursement policies.

I should also indicate that I am physician assistant with 10 years experience practicing family and emergency medicine in urban and extremely remote settings, and certainly I could not come before this committee without recognizing the support of this committee and its excellent staff that has been given to improving the PA physician team practice environment. So thank you for that.

Since its beginnings in 1993, the MRTC has played an important role in efforts to evaluate the effects of telemedicine on health care costs, quality and access. In 1994, HCFA awarded its first telemedicine reimbursement demonstration grants to the MRTC. MRTC's participation in that demonstration has given us firsthand experience in dealing with impractical and restrictive reimbursement regulations, and it is largely to that experience that this testimony is prepared.

I also couldn't help but note Dr. Berenson's comment that no one has come to their party. Frankly, we have been at their party for their 4 years, and the reason that no one else is coming is because they are only letting in people in checkered suits, and they are not serving any food.

Well, having spent half my allotted time making introductory comments, I feel compelled to cut to the chase for you.

As you know, Medicare currently has two payment processes in place for telemedicine services. The first established was the telemedicine reimbursement demonstration, of which my program is a part. The second involves the HPSA payment rules enacted by HCFA in response to the Balanced Budget Act of 1997. They are chillingly similar processes and equally ineffective in enabling the delivery of telehealth care services. In short, because of HCFA's overly narrow interpretation of the telemedicine provisions in BBA, Medicare reimbursement for telemedicine services has been limited in scope and unreasonably restrained. Frankly, these restraints are threatening the viability of many federally funded telemedicine programs across the United States.

Congress can take five critical steps toward clarifying the intent of the Balanced Budget Act and increasing access to telemedicine services for America's seniors citizens. You asked Mr. Berenson for specific directives, what could be done in a regulatory fashion, what could be done statutorily. These are my suggestions in that regard.

First, Congress should clarify the physicians providing direct care through telemedicine may receive payment for the evaluation and management services and medicine services routinely employed in telemedicine patient care. Because of their restrictive consultation-only rules, Medicare reimburses for just 12 out of hundreds of CPT codes. These 12 codes describe consultation services and assume that two practitioners will be involved in every telemedicine encounter. You have already heard the statistics on this from Mr. Tracy. Only a small percentage really require to two providers.

Our own research shows that these 12 approved codes, the codes under which our demonstration is currently run, constitute only 5.6 percent of all outpatient codes, outpatient services reimbursed by Medicare, and they ask us why we don't have many patients in the study.

HCFA is denying reimbursement for the vast majority of codes used in traditional and in telemedical patient care. Congress should act immediately to ensure Medicare beneficiaries have access to the full range of services available through telemedicine.

Second, Congress should eliminate the requirement for a telepresenter. We have heard these comments before. HCFA rules require a patient be presented by a telepresenter which has been defined in my written comments. As stated, the great majority of telemedicine services provided involve only one provider and one patient at each end of the connection. Requiring two practitioners artificially inflates telehealth encounter costs, needlessly wastes medical resources and discourages patient access to telehealth services. HCFA should be directed to remove the current requirement for a telepresenter.

Third, Congress should extend the Medicare reimbursement beyond HPSAs to all rural areas and medically underserved urban areas. Based upon Medicare expenditures for telemedicine services to date, there is absolutely no reason to be concerned about runaway costs. Congress should authorize Medicare reimbursement for telemedicine services provided to patients in all nonmetropolitan statistical areas and in urban HPSAs.

Fourth, Congress should eliminate the cumbersome BBA fee-splitting provisions. As previously stated, 94 percent of telehealth encounters only require one provider and one professional service payment. To require a treating practitioner to send a part of a payment to another provider is unrealistic, impractical and, frankly, impossible to implement. It is also perceived as an inappropriate inducement to services.

Fifth and finally, Congress should ensure that home health patients can also benefit from telemedicine. Congress can accomplish this goal by expressly authorizing home health agencies to use PPS dollars for the deploying and use of telehome services.

In summary, through MRTIC and projects like it, we have proven that telemedicine technology has the potential to dramatically improve the lives of Americans who live in medically underserved areas. I can't think of a better example than we have had here today. We need your help to capture this potential and to put it to work for America's senior citizens.

Thank you for the opportunity to share my thoughts with you on this very important topic, and later on as time allows I will welcome any questions you might have.

[The prepared statement of James Reid follows:]

PREPARED STATEMENT OF JAMES REID, DIRECTOR, MIDWEST RURAL TELEMEDICINE CONSORTIUM

Mister Chairman and Members of the Committee, my name is Jim Reid, and I am director of the Midwest Rural Telemedicine Consortium. MRTC is a 45 node telemedicine network that serves hospitals, clinics, and nursing homes in thirty communities in north and south central Iowa. Program offices are at Mercy Medical Center in Des Moines, Iowa.

I also serve on the Board of Directors of the Center for Telemedicine Law, based here in Washington. The CTL is a non-profit organization that focuses on legal and regulatory barriers to telemedicine. CTL has worked closely with telemedicine providers, policy makers, and the public to analyze the effects and costs of current federal and state telemedicine reimbursement policies.

I am particularly pleased to offer testimony before my own Congressman and a member of my hospital's medical staff. We appreciate Congressman Ganske's interest in and support for telemedicine.

Since its beginnings in 1993, MRTC has played an important role in efforts to evaluate the effects of telemedicine on health care costs, quality and access. In 1994, the Health Care Financing Administration awarded its first telemedicine demonstration grant to the Mercy Foundation to fund MRTC. MRTC's participation in the Medicare Telemedicine Reimbursement Demonstration has given us first hand experience in dealing with impractical and restrictive reimbursement regulations and it is to that experience that this testimony is prepared.

The success of MRTC in expanding access to health care and improving the quality of care available to medically underserved areas is a testament to the power of telemedicine to improve lives. But despite the successes of MRTC and projects like it, the potential of telemedicine to improve the lives of Americans is not being fully realized. While more than 25 percent of our Nation's senior citizens live in medically underserved areas, Medicare reimbursement for telemedicine services has been limited in scope and unreasonably restrained by HCFA's overly narrow interpretation of the telemedicine provisions in the Balanced Budget Act of 1997. The limits on Medicare reimbursement and narrow interpretation are threatening the viability of telemedicine projects across the United States.

Congress can take five critical steps toward clarifying the intent of the Balanced Budget Act and increasing access to telemedicine services for America's senior citizens.

First, Congress should increase access to telemedicine services by clarifying that physicians providing direct patient care through telemedicine may receive payment for the "evaluation and management" services and "medicine" services routinely employed in telemedical patient care. The BBA provided Medicare reimbursement for telemedicine consultations provided to residents of Health Professional Shortage Areas or HPSAs. Unfortunately, BBA language used the term "teleconsultation" throughout. To HCFA "consultation" has a very specific meaning, which lead to their very narrow interpretation of Congress' intent in the BBA, and their promulgation of very limited telemedicine reimbursement rules which effectively discourage providers and patients from using telehealth technologies.

Medical services are described and billed using Current Procedural Terminology (CPT) codes. Because of their restrictive "teleconsultation only" rules, Medicare reimburses for just twelve out of hundreds of CPT codes—all of which describe consultation services and assume that two practitioners will be involved in the telehealth encounter. Those twelve approved CPT codes describe only 5.6 percent of all outpatient Medicare services delivered in 1998 and totally ignore the reality that the majority of telemedicine services provided today are direct care visits involving a patient at one end and a provider at the other. HCFA is denying reimbursement for the vast majority of codes used in traditional and telemedical patient care.

Through MRTC and projects like it, we have proven that telemedicine is an effective tool for providing direct patient care to patients in medically underserved areas. Yet, HCFA's restrictive policy prevents physicians from receiving Medicare reimbursement for direct telemedical patient care. Congress should act immediately to ensure that Medicare beneficiaries have access to the full range of telemedicine services.

Second, Congress should increase access to telemedicine services by eliminating any requirement for a telepresenter. Current HCFA rules require patients be “presented” by a telepresenter who is either the referring practitioner—referring practitioner being defined by HCFA as a physician, PA, NP, nurse midwife, clinical nurse specialist, clinical psychologist or clinical social worker—or a direct employee of the referring practitioner who is one of the listed practitioners. This is an unduly restrictive requirement and totally ignores how medicine is practiced. A recent assessment of telehealth encounters conducted by the University of Missouri Health Sciences Center in conjunction with 21 U.S. telehealth networks revealed that only 261 (5.9%) of 4,424 telehealth encounters involved or required clinicians on both ends. Requiring two practitioners artificially inflates telehealth encounter costs, needlessly wastes medical resources, and discourages patient access to telehealth services. HCFA should be directed to remove the current requirement for a telepresenter.

Third, Congress should increase access to telemedicine services by extending Medicare reimbursement to all rural areas and certain urban areas. The BBA limited Medicare reimbursement services provided to patients in certain rural areas underserved for primary care, MRTC’s experience suggests that telemedicine services can also meet the needs of patients in other settings. Specifically, rural communities lacking access to specialty care and urban areas lacking access to both primary and specialty care can benefit from telemedicine technology. Based upon Medicare expenditures for telemedicine services to date, there is no reason to be concerned about runaway costs due to telemedicine reimbursement. To improve access to health care in all medically underserved communities, Congress should authorize Medicare reimbursement for telemedicine services provided to patients in all non-metropolitan statistical areas and urban HPSAs.

Fourth, Congress should eliminate the cumbersome BBA fee-splitting provisions that were based on a misunderstanding of what constitutes a telemedicine encounter. When BBA was written, the authors believed that two physicians or other practitioners would participate in a “consultation.” Consequently BBA provided a fee splitting arrangement to allow both practitioners to be paid out of a single fee. As previously stated, only one professional service payment is necessary. To require the treating practitioner to send a part of the payment to another provider is unrealistic, impractical, and impossible to implement. It also could be perceived as an inappropriate inducement to provide telemedicine services.

Fifth, Congress should ensure that home health patients can also benefit from telemedicine. Congress can accomplish this goal by expressly authorizing home health agencies to use PPS dollars for the deployment and use of telehomecare equipment.

Through MRTC and projects like it, we have proven that telemedicine technology has the potential to dramatically improve the lives of Americans who live in medically underserved communities. We need your help to capture this potential and put it to work for America’s senior citizens.

Thank you for this opportunity to share my thoughts with you on this important topic. I welcome any questions you might have for me.

Mr. BILIRAKIS. Thank you very much, Mr. Reid.

I am going to ask the gentleman from Tennessee to introduce Dr. Burgiss.

Mr. BRYANT. Thank you, Mr. Chairman.

I am once again pleased to acknowledge Dr. Burgiss from the University of Tennessee at Knoxville, and we have a very significant family—well, a residency practice up there at the University of Tennessee at the other end of the State, and Dr. Burgiss is extremely well qualified. He is one of the—certainly in Tennessee—one of the pioneers in telemedicine, and as mentioned, as we discussed beforehand, is also called upon to help with inquiries from around the country, and we are trying to focus those and his efforts more in Tennessee now so that we can get all the benefits that we can have from telemedicine in Tennessee. And thank you, Mr. Chairman, for that.

Mr. BILIRAKIS. I thank the gentleman.

Dr. Burgiss, please proceed, sir.

STATEMENT OF SAM BURGESS

Mr. BURGESS. Thank you.

Mr. Chairman and members of the committee, thank you for this opportunity to speak about the application of telehealth in home care. In addition to responsibilities I have with the University of Tennessee Medical Center Telemedicine Network at Knoxville, I am also the Chair of the American Telemedicine Association's special interest group in telehome care.

The University of Tennessee telemedicine network began its telehealth program in 1995 with rural patients located in their communities receiving care from physicians and other providers located in our medical center. In April 1998, with a grant from the Office for the Advancement of Telehealth of the Department of Health and Human Services, the UT telemedicine network began providing care in patient homes using home care agency nurses located in their offices. We now have the capability of caring for patients using telehealth in over 100 homes in congestive heart failure, diabetes and other traditional home care services.

As an example of this care, Ms. HY had a slow heart rate of approximately 40 beats per minute. On one occasion, the telehealth nurses in their office detected that Ms. HY's rate in her home was 26. 911 was called. Ms. HY received a pacemaker and has become more active.

The lowest cost of health care can be obtained by providing the correct level of care at the correct time. To repeat, the lowest cost of health care can be obtained by providing the correct level of care at the correct time. Since care in the home has the potential to be the lowest cost when compared with assisted living facilities, nursing homes and hospitals, national laws and policies should support quality home care being provided cost effectively.

Telehealth has the potential to reduce the cost of home care for suitable patients and conditions. Home care programs that have used telehealth provide homes with video conferencing and/or monitoring instruments. Video conferencing provides interactive audio and video between the patient and nurse, typically using standard home telephone lines. Monitoring instruments at the patient's home transmit data to a central station using the telephone line, or digital medical instruments can be viewed by the video.

Home care by telehealth is typically provided by home health nurses and may also be provided by physicians located in their offices and consulting with patients in their homes.

In a study of 14 patients having 444 telehome visits in 15 months, patients reported the following: an increased sense of security that medical help was readily available, reduced confusion over medication use, time savings during the televisit, increased sense of being in control, increased personal attention from nursing staff, increased privacy, and quality of care same as or better than a traditional in-home visit. The cost saved for the televisit compared with a traditional visit averaged \$49.33 cents per visit for nurse transportation and labor costs during travel.

Costs of equipment for telehome care use can range from less than \$1,000 to \$10,000 per home. Assuming that two telehome care visits occur per patient per week, it would take 10 to 100 weeks to amortize the cost of equipment based on the travel cost savings

of approximately \$50, as stated previously. It is evident that cost-effective home care depends on limiting the cost of equipment taken to the home to that which is needed by the patient.

In addition to a decreased cost of providing home care, published telehealth studies have shown potential cost of care benefits from fewer office visits for patients, reduced emergency room visits, reduced hospitalization rates as much as 50 percent, reduced in-home visits, in-person home visits of 49 percent, and fewer long-term care placements. For example, Mr. F, who has congestive heart failure, was being admitted for hospital care an average of 7 days each quarter. After telehealth care began in his home, he was admitted for only one 23-hour observation in a year.

In summary, as a leader in telehealth programs providing home care, I request your support for laws and policies which enable the cost-effective delivery of care for patients in their home using both traditional and telehealth methods. For high-quality and cost-effective telehealth care, these laws and policies should, A, not require a professional medical person as the presenter of patients in homes; B, permit the use of store-and-forward technology which is used for patient monitoring; and, C, recognize telehealth home care as a service by HCFA under the prospective pay system for purposes of care and accounting. None of these requests will require additional funding from HCFA. They are all budget neutral.

Thank you.

[The prepared statement of Sam Burgiss follows:]

PREPARED STATEMENT OF SAM BURGISS, MANAGER, UT TELEMEDICINE NETWORK,
UNIVERSITY OF TENNESSEE MEDICAL CENTER

Chairman Bliley and Members of the Committee, thank you for this opportunity to speak about the application of telehealth in home care. I am Sam Burgiss, manager of the University of Tennessee Medical Center Telemedicine Network at Knoxville. The University of Tennessee Medical Center Telemedicine Network began its telehealth program in 1995 with rural patients located in their communities receiving care from physicians and other providers located in our medical center. This care uses interactive video conferencing between the provider and a patient presented by a nurse, and uses remote patient monitoring technologies.

In April 1998 with a grant from the Office for the Advancement of Telehealth of the Department of Health and Human Services, the UT Telemedicine Network began providing care in patient homes using home health agency nurses located in their offices. Interactive video equipment and hand held digital instruments are available for 29 homes from UT Home Health Services. Another project funded by a charitable trust began in 1999 to provide telehealth care in the homes of 35 congestive heart failure patients and 44 diabetic patients referred by their primary care physicians. The project was developed to provide care for the people of Scott County, Tennessee; to evaluate the potential improvement in the physical function of the patients; and to evaluate the potential decrease in health care costs due to hospital readmissions. As an example of this care, Ms. HY had a slow heart rate of approximately 40 beats per minute. On one occasion, the telehealth nurses detected that the rate was 26, and 911 was called. Ms. HY received a pacemaker and has become more active.

The lowest cost of health care can be obtained by providing the correct level of care at the correct time. Certainly using a specialist too soon increases cost. Delaying needed care can increase the morbidity of the patient and increase the cost of treatment at a later time. As shown in a study of 87 rural dermatology patients, the cost of care for dermatologic conditions before examination by a dermatologist using telehealth was twice that of the cost of care by the dermatologist.¹ Since care in the home has the potential to be the lowest cost when compared with assisted living facilities, nursing homes, and hospitals; national laws and policies should support quality home care being provided cost-effectively.

Telehealth has the potential to reduce the cost of home care for suitable patients and conditions. Home care programs that have used telehealth provide homes with

video conferencing and/or monitoring instruments. Video conferencing provides interactive audio and video between the patient and nurse typically using the standard home telephone line. Monitoring instruments at the patient's home transmit data to a central station using the telephone line, or digital medical instruments can be viewed by the video. Home care by telehealth is typically provided by home health nurses and may also be provided by physicians located in their offices and consulting with patients in their homes.

In a study of 14 patients having 444 telehome visits in 15 months, patients reported the following: a) an increased sense of security that medical help was readily available, b) reduced confusion over medication use, c) time savings during the televisit, d) increased sense of being in control, e) increased personal attention from nursing staff, f) increased privacy, and g) quality of care same as or better than a traditional in-home visit.² The cost saved for the televisit compared with a traditional visit averaged \$49.33 per visit for nurse transportation and labor cost during travel. Visit time in two studies averaged 18 minutes for telehealth compared with a traditional average time of 45 minutes.^{2,3} Nurse productivity more than doubled during home televisits due to less distractions and more focus while creating high levels of patient satisfaction.

Cost of equipment for telehomecare use can range from less than \$1,000 to \$10,000. Assuming that two telehomecare visits occur per patient per week, it would take from 10 to 100 weeks to amortize the cost of the equipment based on the travel cost savings of approximately \$50 as stated previously. It is evident that cost-effective home care depends on limiting the cost of the equipment taken to the home to that which is needed by the patient.

In addition to a decreased cost of providing home care, telehealth has shown potential cost of care benefits from fewer office visits for patients, reduced emergency room visits, reduced in-patient hospitalizations, and fewer long-term care placements.⁴ For example, Mr. F., who has congestive heart failure, was being admitted for hospital care on an average of seven days each quarter. After telehealth care began in his home, he was admitted for only one 23 hour observation in a year. Ten published or presented studies on the use of telehealth in home care, by and large, show that: a) the need for in-person home visits declines, b) patient satisfaction is excellent, c) hospitalization rate decreases as much as 50% suggesting improved patient care and reduced cost of care.⁵ None of the studies suggest any decline in quality of care, or any negative outcomes.⁵

As a leader in telehealth programs providing home care, I request your support for laws and policies which enable the cost-effective delivery of care for patients in their homes utilizing both traditional and telehealth methods. For high quality and cost-effective telehealth care, these laws and policies should a) not require a professional medical person as the presenter of patients in homes, b) permit the use of store-and-forward technology which is used for patient monitoring, and c) recognize telehealth home care as a service by HCFA under the Prospective Pay System for purposes of care and costing.

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UT TELEMEDICINE NETWORK, UNIVERSITY OF TENNESSEE, CENTER FOR COMMUNITY HEALTH, SCOTT COUNTY TELEMEDICINE

SUCCESS STORIES

What a difference a pacemaker makes

As part of the UTCCH Program that cares for participants with congestive heart failure, the physiologic monitoring equipment determined that one of the new patients (HY) had a heart rate that was consistently in the 40s, a slow heart rate. Her doctor was notified, and he counseled observation. When HY's heart rate dropped into the 30s, and she complained of chest pain and shortness of breath, she was sent to the Scott County Emergency Department. From there she was sent to Oak Ridge Methodist Medical Center, where she was seen by a cardiologist. He changed her medications and her heart rate rebounded to between 50 and 60 beats

per minute. However, on Feb. 24, HY's heart rate dropped precipitously to 26, and 911 was called. HY was rushed to the Scott County Emergency Department. She was transferred to Methodist Medical Center, where a pacemaker was installed. Since she has returned home, HY can now walk through her house and no longer needs her nitroglycerine patch. She is taking fewer medications. She recently went to the beauty shop, a special event because she had not been able to leave her house and was confined much of the time to bed when she entered the Scott County Telemedicine Program.

Controlling high blood pressure

Another Telemedicine Program participant with CHF had problems with elevated blood pressure spikes that were detected through the physiologic monitoring program. When her diastolic pressure exceeded 100, her doctor was notified. He adjusted her medication, which brought her BP down. However, cardiac monitoring also showed an increasing number of heart arrhythmias. Her doctor was again notified and she was sent to Parkwest Medical Center. As of this writing, she has fewer life-threatening arrhythmia episodes and her medications have been reduced.

Video Monitoring in the Home

The ability to see Telemedicine Program participants in their homes has been particularly beneficial. Two participants (IB and BS) had developed blood clots in their legs. As usual during a video visit, the participants were asked about new problems, and both IB and BS complained of pain. Swelling and discoloration in their legs were plainly visible on the monitor. Their doctors were promptly notified in each case. A brief hospitalization ensued to start anti-coagulant therapy for blood clot lysis. As a result, BS is back riding his horses. IB is much more mobile around her home and was able to take her planned vacation to Florida.

Summary

Ten of the 30 (33%) CHF Telemedicine Program participants have been able to make significant lifestyle improvements and/or reduce their dependence on medications. In the diabetes program, 8 of 30 (26%) have been able to fine tune their diabetes management through either medication changes or the initiation of insulin therapy. Additionally, 100% of these participants have said that they like their new blood sugar monitors because the lancets are sharper and finer and their fingers are not as sore.

Mr. BILIRAKIS. Thank you very much, Dr. Burgiss.

To introduce Dr. Ross-Lee, Mr. Strickland the gentleman from Ohio.

Mr. STRICKLAND. Thank you, Mr. Chairman.

It is my pleasure to welcome to this committee one of my favorite constituents, Dr. Ross-Lee, who is the Dean of the College of Osteopathic Medicine at Ohio University right in the center of my Appalachian district.

I would like to share with my friend from Michigan, Mr. Stupak, the fact that, prior to coming to Ohio, she was the associate dean at the College of Osteopathic Medicine at Michigan State University. Michigan's loss is Ohio's gain.

And, last but not least, the wonderful singer/entertainer Diana Ross is the sister of our honored guest today. And Dr. Ross-Lee, it is wonderful to have you and thank you for all you do for Appalachia, Ohio.

Mr. BILIRAKIS. Doctor, please proceed.

STATEMENT OF BARBARA ROSS-LEE

Ms. ROSS-LEE. She is my little sister, by the way.

I think it is still morning. Good morning, Mr. Chairman and members of the Committee on Commerce. I would like to thank you, the Subcommittee on Health and Environment, I would like to thank you for inviting me to give testimony on this very important issue, telehealth.

My name, as you know now, is Barbara Ross-Lee; and I am the Dean of the College of Osteopathic Medicine at Ohio University. I began my career in osteopathic medicine as a family physician providing care for underserved populations. I have a long acquaintance with the issues of access, particularly related to preventive and primary care services.

Our college is located in the region of this country known as Appalachia, in the southeastern part of the State of Ohio. Sparsely populated, southeastern Ohio is a region that is dominated by high poverty rates, limited employment opportunities and poor health indicators. The counties are primarily rural with limited transportation, government, economic or communication infrastructure.

In addition, a majority of the rural southern Ohio counties continue to hold designations as Health Professional Shortage Areas by the Federal Government. Health care delivery depends on a very fragile infrastructure of rural providers. Addressing the issues of access within the bounds of acceptable costs, available people and technology transcends issues of health care and exemplifies the entrenched systemic disparities in rural infrastructure.

The high rate of poverty in rural Appalachia, including Southeast Ohio, is the most consistent single contributing factor to limitations in transportation, economic development, educational opportunities and medical services. Recently identified discrepancies in access to digital information technology by rural underrepresented populations which we refer to as the digital divide are an additional symptom of the larger problem. As the new E-service economy holds great promise for one side of the digital divide, in rural underserved areas it represents a new symptom of a preexisting problem of limited resources and unmet basic service needs.

It is clear from a technical standpoint that telemedicine works and can and does provide medical services for geographically isolated populations. Financing for telemedicine services is perhaps the most critical measure of the field's maturity and prospects for growth. The availability of high-capacity information infrastructure is a limiting factor to the expansion of both telecommunications-based health care delivery and economic development.

The anticipation that we saw or felt when HCFA announced the changes to telemedicine reimbursement and designated HPSA areas has changed from a mood of excitement to a mood of frustration and despair over the last few years. The current 75/25 method of reimbursement for telemedicine and the absence of bandwidth infrastructure in rural America does nothing to promote the advantages of this new technology. It further feeds the digital divide in rural America and deepens a preexisting schism in health care service availability.

Not providing reimbursement for store-and-forward consultation is another hindrance to further enhancing health care delivery in rural America through the use of telemedicine technology. These are the types of consults most often compatible with rural practice. It is within this kind of utilization that telemedicine really brings many benefits to an underserved rural population.

At the Ohio University College of Osteopathic Medicine we have great success in the utilization of a mobile van for the delivery of preventive pediatric health care. In other words, we took the serv-

ice to the population. We have seen significant positive health outcomes such as increased immunization rates and pediatric screening examination through these efforts.

Through the combined hard work of community leaders working with Congressman Ted Strickland's office we have secured financing of a second van targeted toward the underserved adult community in Southeastern Ohio. The new van will incorporate telehealth to improve preventive screening for our underserved and isolated adult populations. We will use this technology through our existing technology infrastructure at existing schools and community centers.

In addition to our vans, we also have a telepsychiatry program that was launched and initiated through a collaboration with many mental health providers in Southeast Ohio. The reality is, without this telepsychiatry program, we would have had no pediatric telepsychiatry in at least 10 counties in Southeastern Ohio.

To sum this up, let me just say we would like to, based upon our experience both in outreach as well as our experience with telepsychiatry, we would like to be bold enough to suggest a proposal for your consideration as it relates to rural communities in this country. We would like to suggest that you consider establishing digital health care empowerment zones for rural America. Community leaders, volunteer organizations and rural health care providers would partner in the development of empowerment zones for the express purpose of developing innovative methods of health care delivery utilizing digital technology in all parts of rural America.

Empowerment zones would analyze the current digital infrastructure, assess the health care needs of their communities and develop strategies with measurable health outcome objectives. The digital health care empowerment zone for rural America could be funded by block grants. The proposed empowerment zones would be granted waivers from existing Federal Medicare and State Medicare reimbursement guidelines.

I could give you more, some specifics, but I would like to thank you for inviting me here.

Mr. BILIRAKIS. Thank you, Dr. Ross. That is a good suggestion.

One of the things we will tell you when we finish up here—I guess I will tell you now—is that legislation to try to cover many of the areas that have been discussed here today is being worked on now. Majority and minority staffs have been working on it for quite some time but certainly not going to be enough to cover the entire waterfront. So the hope is that we will not let this end with the legislation that I am talking about.

Mr. Stupak has an awful lot to do with that legislation, too. His input is based on his personal experiences.

So in that process we will, of course, take everything into consideration. We appreciate very much suggestions and recommendations made by the witnesses. That really helps a lot.

[The prepared statement of Barbara Ross-Lee follows:]

PREPARED STATEMENT OF BARBARA ROSS-LEE, DEAN, COLLEGE OF OSTEOPATHIC MEDICINE, OHIO UNIVERSITY

Good morning Mr. Chairman and Members of the Committee on Commerce, Subcommittee on Health and Environment. I would like to thank you for inviting me

to give testimony on this very important issue—Telehealth. My name is Barbara Ross-Lee, D.O. and I am the Dean of the College of Osteopathic Medicine at Ohio University. I began my career in osteopathic medicine as a family physician providing care for underserved populations. I have a long acquaintance with the issues of access.

My college is located in the region of this country known as Appalachia, in the Southeastern part of the state of Ohio. Sparsely populated, Southeastern Ohio as a region is dominated by high poverty rates, limited employment opportunities, and poor health indicators. The counties are primarily rural with limited transportation, government, economic, or communication infrastructure. The area also contains small communities that are lacking the resources and expertise to access the telecommunications resources available to communities in metropolitan areas of the state and to provide the professional development necessary to be competitive in the technologically advancing world.

In addition, a majority of rural southern Ohio counties continue to hold designation as Health Professional Shortage Areas (HPSA) by the federal government. Historically, rural medically underserved areas of Southeast Ohio have experienced great difficulty in recruiting and retaining primary care physicians. Because there is presently very little economic and professional support, physicians choose to locate in urban areas where they can access technologies and communicate with large specialized medical groups.

Health care delivery in Appalachian Ohio depends on a fragile infrastructure of rural providers. This region, consisting of 29 counties in the southeast quadrant, includes over 1.4 million individuals living in the most impoverished conditions in the state. Health care services are sparsely distributed, with 23 of the counties designated as either full or partial primary care HPSA. Availability of specialty providers is almost non-existent. Geographic isolation, a poorly developed system of roads, inadequate levels of health infrastructure, little employment-based insurance, inadequate transportation systems, and diffusely distributed populations further exacerbate the problem of providing adequate services under current health care models. As a result, many inhabitants have no continuing sources of care, do not seek or delay seeking medical care when initially needed, instead showing up with more severe acute illnesses in emergent care facilities. Similarly, patients with chronic disease are less likely to receive adequate management of their condition thereby increasing their risk of significant and debilitating complications. Each of these scenarios results in poorer outcomes to the patient and higher costs to the health care system.

These concerns are exemplified by the experience of Vinton County, Ohio (right next door to my county). Its 12,000 residents are sparsely distributed across several villages within the county's 414 square miles. High rates of poverty (children—60.9% in 1999, #1 in Ohio) and unemployment (10.9% in 1998; 153% state average), low rates of insurance coverage, absence of a public transportation system, and other factors associated with impoverished areas (41.3% of adults >25 did not have a high school education in 1998; 20% of households were without a telephone in 1990) make health care unattainable to a large segment of the area's residents. Donald Barton, DVM, County Health Commissioner has repeatedly expressed concern about the ability of resources within the community to meet the health care needs of the populace. Only two physicians practice within the county, both in the county seat of McArthur Village, qualifying it as a designated Health Professional Shortage Area. It is unrealistic to expect that health care providers can establish thriving practices in the county's other smaller villages due to the limited patient base. Advances in technology, more specifically telemedicine, would provide a feasible model for meeting these needs without developing an unrealistic and unsustainable bricks-and-mortar foundation in each of the communities.

Rural Healthcare Issues

Many residents in rural areas of Ohio have limited access to preventive and primary health care services. Addressing the issue within the bounds of acceptable cost, available people, and technology transcends issues of healthcare and exemplifies the entrenched systemic disparities in rural infrastructure. A study by the Office of Technology Assessment (OTA) cited three problems that are specific to residents of rural areas:

- Although the rural population has relatively low mortality rates, a disproportionate number of rural people suffer from chronic illness. Furthermore, infant mortality is slightly higher than in urban areas and the number of deaths from injury are dramatically higher.

- The lack of public transportation systems and the existence of few local healthcare providers make it difficult for rural individuals to reach facilities where they can obtain care.
- The OTA found that physical barriers to access, difficult as they are, might be overshadowed by financial barriers.

The high rate of poverty in rural Appalachia, including southeast Ohio, is the most consistent single contributing factor to limitations in transportation, economic development, educational opportunities, political representation, and medical services. Recently identified discrepancies in access to digital information technologies by rural underrepresented populations (i.e. the “digital divide”) are an additional symptom of the larger problem. As the new e-service economy holds great promise for one side of the digital divide, in rural underserved areas, it represents a new symptom of a pre-existing problem of limited resources and unmet basic service needs.

Studies suggest that rural communities have a disproportionately greater need for health care services than their urban and suburban counterparts. As an example, it has been estimated that nearly 60% of traffic fatalities occur in rural areas.

Telemedicine

A significant outcome of many federally funded projects is an overwhelmingly positive outcome in technological terms. It is clear, from a technical standpoint, that telemedicine works and can (and does) provide medical services for geographically isolated populations. Financing for telemedicine services is perhaps the most critical measure of the field’s maturity and prospects for growth. Long enabled by the crutch of public funding for program start-up, few managers have had much incentive to justify services from a business perspective. As a result, loss of federal or state grant funding has meant the end of some otherwise worthwhile programs. As telemedicine services have gained wider adoption, telecommunications cost still rank highest as an operational barrier followed closely by the lack of a comprehensive cost reimbursement plan. Without a stable reimbursement plan by Medicare, Medicaid, and third party payers, implementation of telemedicine will lag woefully behind the technological abilities to make operational those needed services to rural healthcare consumers and healthcare providers.

Limited Infrastructure

The availability of high capacity information infrastructure is a limiting factor to the expansion of both telecommunications based healthcare delivery and economic development. Live consultant interactions depend more reliably on broadband services. As many rural communities are still struggling to attain the most basic services provided by limited local Internet Service Providers (ISPs), broadband services are being deployed in more populous and prosperous areas around the country. Broadband or high-speed Internet access is provided by a series of technologies that give users the ability to send and receive data at volumes and speeds far greater than current Internet access over traditional telephone lines. High-speed two-way connections can be used for interactive applications such as online classrooms, economic development, or support services for rural healthcare.

The deployment of broadband to the American home is being financed and implemented by the private sector as a business strategy. Less dense populations are much less attractive to private sector investment. Based on the economics of limited subscribers, geographic barriers, and shortage of economic development opportunities, it is unclear how advanced telecommunications services will be provided, supported, and sustained in rural underserved areas.

Reimbursement

There are many issues surrounding the methodology HCFA has adopted in reimbursing providers for Telehealth services, especially within rural America. Recent U.S. data figures indicate that there are a greater percentage of Medicare beneficiaries in rural America when compared to urban settings. Medicare payments to those few physicians that practice in the many small rural communities like those seen in Southeastern Ohio account for over 60% of practice revenues. Within our small rural hospitals in Appalachia, Medicare payments may run as high as 90% at times. With counties that have as few as two physicians and no mid-level health care providers, access to health care remains a “high priority” problem for the senior citizens in rural Southeastern Ohio. This decreased access to health care in Appalachia is occurring in a population that demonstrates a higher than expected incidence of chronic debilitating diseases such as Diabetes, Chronic Obstructive Lung Disease, Obesity, Heart Disease and elevated cholesterol levels. Telemedicine offers much to aid in the care of these disease entities as well as other disorders among rural residents. It remains true however, that the methodology adopted by HCFA

in promoting telemedicine has hindered rather than helped bring healthcare to the Medicare recipients of Southeastern Ohio, and other rural areas throughout our country.

The anticipation that we saw when HCFA announced the changes to telemedicine reimbursement in designated HPSA areas has changed from a mood of excitement to a mood of frustration and despair over the last year. The current 75/25 method of reimbursement for telemedicine in the absence of bandwidth infrastructure in rural America does nothing to promote the advantages of this new technology. It merely acts as a disincentive to opportunities for expansion of access to care for Medicare recipients who are already disadvantaged in the healthcare provision continuum. It focuses on maintaining a bottom line cost sharing by providers using a methodology that has been deemed illegal when practiced independently by physicians (fee-splitting). It further feeds the digital divide in rural America and deepens a pre-existing schism in healthcare service availability.

Those of us in rural communities already experience great difficulty in recruiting and sustaining an adequate supply of primary care health providers. For the purposes of telemedicine, current HCFA policies increase costs to provider participants in terms of time, facility utilization, staffing, administration and equipment; further burdening an already overburdened and fragile healthcare system. Rural primary care providers are not reimbursed on a reasonable cost basis for goods used, services rendered or time and effort provided as a presenter. They are reimbursed at an arbitrary figure of 25% of the fee received and administered by the consultant provider.

Potential reimbursement for "store and forward" consultation is another possibility to further enhancing healthcare delivery in rural America through the use of telemedicine technology. These are the type of consults most often compatible with rural practice. In many instances what is needed is a review of current lab data or tests to enhance patient care. For a breast cancer patient, a review of current red and white blood cell counts may allow the rural primary care doctor or rural hospital to adjust and administer a dose of chemotherapy, rather than requiring a three to four hour drive to see her oncologist. For a patient with severe diabetes, the ability to store and forward blood sugar measurements along with other lab data to their endocrinologist will save time, effort and money. Surely a reasonable rate of reimbursement for asynchronous medical care makes common sense. It is within this kind of utilization that telemedicine really brings many benefits to an underserved rural population, rather than HCFA's insistence that any telemedicine involve a "live" interactive conference.

At the Ohio University College of Osteopathic Medicine, we have had great success in the utilization of a mobile van for the delivery of preventive pediatric healthcare. We have seen significant positive health outcomes, such increased immunization rates and pediatric screening examinations, through these efforts. Through the combined hard work of community leaders working with Congressman Ted Strickland's office, we have secured financing of a second van targeted toward the underserved adult community in Southeastern Ohio. The new van will incorporate Telehealth to improve preventive screening for our underserved adult populations. We will use this technology through our existing infrastructure at schools and community centers in Ohio. However, these services will be non-sustainable without changes to the current Medicare reimbursement policies. Telemedicine has already enjoyed a positive track record at many locations. In order to best provide these services to rural Medicare recipients, we advocate further improvements to the Balanced Budget Act of 1997. We feel that measures like Senate Resolution 2505 and House Resolution 4771, that propose important changes to healthcare delivery through telemedicine are steps in the right direction.

We further suggest the consideration of "Digital Healthcare Empowerment Zones for Rural America." Community leaders, volunteer organizations and rural healthcare providers will partner in the development of empowerment zones for the express purpose of developing innovative methods of healthcare delivery utilizing digital technology in rural America. Empowerment zones will analyze the current digital infrastructure, assess the healthcare needs of their communities, and develop strategies with measurable health outcome objectives. The Digital Healthcare Empowerment Zones for Rural America will be funded by block grants. Proposed empowerment zones will be granted waivers from existing federal Medicare and state Medicaid reimbursement guidelines, on a community-by-community basis, to incorporate cost-based reimbursement that supports sustainable infrastructure and healthcare delivery.

SUPPLEMENT

ADVANCED PRACTICE NURSE/TELEMEDICINE PROGRAM

*A Collaborative Project of the Ohio University College of Osteopathic Medicine and the Southern Consortium for Children**Background*

The Southern Consortium for Children, a collaborative of four Alcohol, Drug Addiction and Mental Health Services Boards (ADAMHS), has been instrumental in bringing psychiatric services for children to ten Appalachian counties in southern Ohio. Approximately seven years ago, brokering services equivalent to one full-time child psychiatrist into the local mental health provider agencies was the first step in meeting the need for children's outpatient psychiatric services. Prior to that time, no child psychiatry services were available through the local agencies. The Advanced Practice Nurse/Telemedicine Program was designed to further increase access to those services. The program was funded by a grant from the Health Resources and Services Administration (HRSA), Office of Rural Health Policy, Rural Outreach Program and covered seven of the ten counties served by the Consortium. Additional funding was obtained from the Substance Abuse and Mental Health Services Administration (SAMHSA) in the second year to include the remaining three counties in the program.

The collaborative partners and their responsibilities in the program are:

- The Southern Consortium for Children—fiscal agent, project management
- Four local mental health agencies—house collaborative psychiatrist/nurse practices, provide support services
- Two child psychiatrists—provide psychiatric services (primarily prescribing and monitoring medications)
- Two clinical nurse specialists (CNS)—provide psychiatric services (primarily monitoring medications; will begin prescribing in fall of 2001)
- The Ohio University College of Osteopathic Medicine—installation, management, and maintenance of video conferencing system.

Services

The services provided through the program fall into two main categories: direct service and education/consultation. The direct services that are provided by the psychiatrist/nurse collaborative practices include psychiatric assessment of children and adolescents, prescription of medication, monitoring medication, and client and family education. All clients receiving direct services are children and adolescents between 4 and 18 years old and most (65-75%) are Medicaid-eligible.

The Behavioral Pediatric Case Seminar Series makes up the majority of the education/consultation piece. Initiated in September 1998, each program in the series is a monthly hour-long presentation from noon to 1:00 PM. Each program consists of a case study that is presented to a panel composed of a child psychiatrist, a CNS, and a psychologist. The panel's review of the case is then followed by questions from the audience. Each program is presented via video teleconference with seven sites currently participating across the ten-county region. As of May 2000, 604 participants have attended 20 programs in the series. The series began as a way to enhance communication between the child psychiatrists and pediatricians in order to facilitate referrals and to increase the appropriateness of referrals from pediatricians to the mental health system. Now physicians, nurses, psychologists, social workers, medical students, and school counselors among others attend the series. The disciplines presenting cases have been equally diverse with consumers participating as well.

Videoconferencing

Videoconferencing has proven to be a powerful tool for education and consultation in this program. It has also been used extensively for administrative functions. The guidance provided by OUCOM has been instrumental in creating a videoconferencing network that has addressed these functions effectively and in a trouble-free manner.

However, the original intent of the program was, and continues to be, to use videoconferencing technology to provide direct services to children. Ohio's lack of policy regarding Medicaid reimbursement for clinical services delivered via videoconference is one of two problems that have effectively prevented the use of the technology for direct service. The other factor has been the lack of funds to connect each satellite clinic to its parent clinic. The SCC has worked with the Ohio Depart-

ment of Mental Health (ODMH) and the Ohio Department of Human Services (ODHS) to help forge a policy regarding reimbursement.

A policy proposed by ODMH but not yet implemented would allow no more than 20% of services to be provided via videoconference. The SCC believes that, due to the large geographical area, diffuse population and shortage of clinicians, rural areas should be allowed more flexibility to utilize technology to meet the mental health needs of their children.

Several grant proposals have been submitted in order to fund videoconferencing systems for the satellite clinics. The SCC remains committed to the use of technology as an effective tool in addressing the behavioral health needs of children in Appalachian Ohio.

Mr. BILIRAKIS. Well, Ms. Mary Patrick is Director of Quality Improvement, Blue Cross and Blue Shield of Montana. Ms. Patrick, please proceed.

Ms. PATRICK. Just a side note here, do you sing, too?

Ms. ROSS-LEE. I dance.

STATEMENT OF MARY R. PATRICK

Ms. PATRICK. Mr. Chairman and committee members, it is an honor and privilege to be here today from Blue Cross and Blue Shield of Montana to share with you what has taken place in our great State in the field of telemedicine. I thank you for your interest and support for this technology.

Montana, the fourth largest State in the Union, has lots of vast beauty and open frontiers, big sky country, has a small population, approximately 880,000 people, and lots of land, 147,000 square miles, therefore making Montana a challenging place to deliver health care. Almost half of our total population is classified as rural. We have 56 hospitals and critical access facilities located primarily in the western part of our State.

We have a map up there to show you. You can just put a line right down the center of the State, and you will see the eastern part of our State is in great need of health care delivery.

Seven counties out of 56 total have no health care facility of any type. Forty-three of Montana's 56 counties have no psychiatrists, and there are no psychologists and no psychiatrists east of Billings, all the way up to the border of Canada, as well as specialties. Great Falls, Missoula and Billings, which are located predominantly in the western part of the State, are considered our main medical hubs as they are the only areas in the State that can provide all types of care, including open heart surgery. In such a widespread and sparsely populated State, many residents have to travel long distances for health care services, particularly for specialty care.

Blue Cross and Blue Shield of Montana has been reimbursing for telemedicine consults for almost 7 years, since first requested to do so by several participating mental health providers in our State and the Eastern Montana Telemedicine Network. The Eastern Montana Telemedicine Network consists of 13 medical and mental health not-for-profit facilities located primarily in the eastern part of our State capable of two-way video conferencing, and they definitely fill a gap for delivery of health care in this part of our State.

At this time, both Medicaid and Medicare reimburse for these services in Montana. Medicaid has done so since the inception of these services in Montana. Medicare currently reimburses for con-

sultations only and has several contingencies related to payment for these services which most providers perceive as a problem.

In addition to consultations, there will be other telemedicine services that residents of Montana will need. Telehome care is something that will eventually be available for alternative health care delivery, for long-term disability and home care. Montana is predicted to have the third highest elderly per capita population in the year 2025.

In addition to consultations, telepsychiatry has many other applications that could also benefit Montana's sparsely distributed population. Medication review, discharge planning and follow-up care, individual and family therapy, emergency consultations are some of the additional realities of care through telemedicine technology.

According to the Eastern Montana Telemedicine Network, an average of 20 Medicare patients per month over 7 years utilized telepsychiatry services and paid out of their own pockets. Telemedicine does not create new or different health care services. It simply provides a new way to deliver existing medical or health care services. The day will come when regulatory and payment issues will be resolved and telemedicine will be fully integrated into our Nation's health care system.

Blue Cross and Blue Shield of Montana is proud to be a leading participant in this process in our State. Thank you for your time and for asking Blue Cross and Blue Shield of Montana to participate in this hearing.

Mr. BILIRAKIS. I guess one of the questions might be asked of you is what is their reimbursement policy, but I won't do that at this point.

[The prepared statement of Mary R. Patrick follows:]

PREPARED STATEMENT OF MARY R. PATRICK, BLUE CROSS AND BLUE SHIELD OF MONTANA

INTRODUCTION

It is an honor and privilege to be here today to share with you what has taken place and is taking place in the great state of Montana in the field of telemedicine. I have lived in Montana for almost 10 years and I have grown to appreciate the vast beauty and open frontiers of the fourth largest state in the union. Our Big Sky country has a population of some 880,000 people and covers a land area of more than 147,000 square miles. In size, our border can encompass Virginia, Maryland, Delaware, Pennsylvania, and New York, and still have room for the District of Columbia. Montana is a challenging environment for delivery of healthcare because of our geography and demographics. While telemedicine technology has many clinical and non-clinical uses in both urban and suburban areas, it is the rural applications that are most near and dear to Montanans.

I hope to provide you with some insights into why Blue Cross and Blue Shield of Montana was one of the first commercial healthcare payers to reimburse telemedicine services. Included in this overview will be a look at Montana's demographics, Blue Cross and Blue Shield of Montana's role in telemedicine, and some interesting outcomes and satisfaction comments from a provider and member.

MONTANA DEMOGRAPHICS

Overview

- 882,799—1999 estimated population.
- Per capita personal income is \$22,314.00 in 1999.
- 60,000 Native Americans from 11 federally recognized tribes, residing on the 7 designated reservations.
- Urban population accounts for 52.5% of the population.
- Rural population accounts for 47.5% of the population.

- Growth of the 65 and over population is expected to increase from 13.1% in 1995 to 24.5% in 2025.
- Montana is projected to have the third highest proportion of elderly in 2025.

DELIVERY OF HEALTHCARE IMPACT

In such a widespread and sparsely populated state, many residents must travel long distances for healthcare services, particularly for specialty care. If a person lives in Virginia City, Montana, and needs open heart surgery, that person has to travel anywhere from 3 to 4 hours at a minimum, depending on where their cardiac surgeon is located. These services are available only in Billings, Missoula and Great Falls.

When someone in a major metropolitan area develops chest pain and calls “911,” there is a good chance that an ambulance will respond with Advanced Cardiac Life Support trained personnel within 10 minutes. That person would likely be transported to a level of facility equipped to handle all cardiac emergencies and situations within 10-20 minutes.

A rancher outside of Dillon, Montana, located in the southern corner near the Idaho border, who develops chest pain and calls “911” may not see an ambulance arrive for an hour. There is also the possibility that there are no Advanced Cardiac Life Support Personnel on board the ambulance. It is also quite likely that once the patient is on board the ambulance, it may take another hour or more to arrive at a Critical Access Facility. This type of facility can only temporarily stabilize an acute cardiac patient until they can be airlifted to a facility equipped to handle this type of emergency.

Blue Cross and Blue Shield of Montana

Blue Cross and Blue Shield of Montana has been providing health insurance to Montanans for 60 years. We are home-grown, based in Helena, Montana. Overall, we serve 280,000—half of the state’s insured population—across our state. We also serve 140,000 seniors through Medicare Parts A and B.

Our health plans offer choice and access to all types of healthcare services for our consumers. Given the rural nature of our state, we face challenges in providing quality primary, particularly specialty care, to our members. An overview of specialty care availability in Montana is specified in the five attached maps.

Blue Cross and Blue Shield of Montana contracts with 1,160 family practice and specialty participating physicians in our traditional indemnity network. A breakdown of numbers and distribution of specialty physicians is as follows:

- Four pediatric cardiologists—three are located in three out of the four main medical hubs’ in the western part of the state, and one located in Billings.
- One pediatric pulmonologist (located in the western part of the state).
- Thirteen cardiovascular surgeons, 38 cardiologists and 15 pulmonologists (none are located east of Billings).
- Thirty-two neurologists and 23 neurosurgeons (none are located east of Billings).
- Three neonatologists (none are located east of Billings).
- There are a total of 56 hospitals and Critical Access Facilities in the state with only five considered to be Tier I level facilities. Tier I facilities provide the highest level of acute care (none are located east of Billings). Seven counties are without any type of healthcare facility.

In late 1993, our company was asked by Eastern Montana Telemedicine Network (EMTN) in Billings and several of our providers to reimburse clinical services for our members via telemedicine technology. EMTN is a consortium comprised of 13—notforprofit medical and mental health facilities located primarily in counties east of Billings. Each site is connected via two-way interactive videoconferencing technology to provide medical and mental health consultations, medical and higher education, and administrative and business services to residents in all communities of the network. EMTN provided telemedicine services at various sites in the eastern part of Montana.

Because of the potential benefits for our Blue Cross and Blue Shield of Montana members, our Company initiated the process for approval for reimbursement of telemedicine services just like face-to-face consultations. Our multi-specialty physician advisory board reviewed the proposal and advised that we should pay for telemedicine consultations because we reimburse face-to-face encounters minus the technology component. As a result, the referring health care professional would be reimbursed for an office visit and the consulting physician would be reimbursed for the consultation visit. Upon initiation of reimbursement for these services, we asked the health care professional community to include a specific modifier when billing for these encounters to help us track utilization. We have not, however, been able to

track utilization through this technology due to inconsistent compliance. While we don't want any extra burden on our health care professionals for the purpose of tracking utilization, we do want to foster compliance to better quantify all quality of care issues.

VALUE TO OUR MEMBERS:

Through the Eastern Montana Telemedicine Network, Montana has been able to realize the positive outcomes of our Company's decision to reimburse for telemedicine. Because psychiatry is consistently the highest utilized specialty in Montana, and there are no psychiatrists east of Billings, we have chosen the following provider and member testimonials to share with you today:

A Billings, Montana psychiatrist has been providing psychiatric services to patients throughout eastern Montana for over 15 years. Since the inception of EMTN (7years) this doctor has transitioned a case-load of over two hundred patients to telemedicine. His patients are always given a choice of coming to see him in Billings or choosing to be seen over telemedicine. Ninety nine percent of the time they chose to be seen over telemedicine. During a recent televisit with this psychiatrist, one patient commented on how much they liked being able to see him this way. She said, "you know my daughter would have to take a day off from work and put her child in day care to bring me to see you. This is so much better for all of us." On a recent patient evaluation form from EMTN, the following comment was made, "This technology is a must for rural areas like ours. This saved me a day's drive down and a day's drive back plus the expense of a hotel for a 15 minute check."

MEDICAID AND MEDICARE REIMBURSEMENT IN MONTANA

Medicaid in Montana has reimbursed for telemedicine services since the inception of telemedicine. In fiscal year 1995, Medicaid estimated that using telemedicine saved Medicaid patients \$65,000 in travel time, lost wages, food and lodging. Since Medicaid reimburses for travel expense, this item was a tangible outcome for them to measure and track.

As a result of the Balanced Budget Act (BBA) of 1997, Health Care Financing Administration (HCFA) was mandated to reimburse for select telehealth consultations beginning January 1, 1999. This was an important first step in recognizing telehealth as a reimbursable service. The current rules remain in an evaluation period as evidenced by the numerous federal bills that have been introduced to amend these rules.

The BBA requires fees related to telemedicine encounters be shared (split) between the referring health care professional and the consulting specialist. The Healthcare Financing Administration (HCFA) has interpreted this to mean that 75% of the normal consult fee should go to the specialist and 25% should go to the referring health care professional. Fee sharing is the area of most concern to health care professionals and those involved in telemedicine programs.

At this time HCFA only recognizes physicians, physicians assistants, nurse practitioners, nurse midwives, or clinical nurse specialists as providers of telemedicine services who are eligible for reimbursement. HCFA's rules exclude clinical psychologists and physical, occupational, and speech therapists. These health care professionals are normally reimbursed when providing services face-to-face.

A large majority of telemedicine programs utilize registered nurses, licensed practical nurses, or other health care professionals to present the patient to the physician over the telehealth system. The Health Care Financing Administration does not recognize these providers to be eligible presenters of patients for reimbursement purposes. The agency only recognizes the actual referring health care professional or an employee of the referring health care professional, who could be a registered nurse, licensed practical nurse, etc.

Telehomecare provides healthcare service delivery alternatives for individuals with disabilities and home care clients with both acute and long-term needs. Many patients or family member caregivers are capable of presenting themselves or the family member to a health care professional over a telemedicine network for care. Telehomecare lends itself to this type of presentation, as do certain psychiatric sessions. Self-presentation of a patient for telehomecare allows the patient to become more involved in treatment and recovery. Also, telehomecare allows a reduction in the number of visits by a nurse, who in turn reduces costs and allows for increased interactions with the medical staff via the telehomecare health system. For telepsychiatry, those patients who can present themselves ensure confidentiality of such sessions.

CONCLUSION

Telemedicine is a tool for improving the rural health care system. Telemedicine fosters the growth of integrated health care systems that serve both rural patients and rural health care professionals. It provides rural patients with access to comprehensive health care services, both in their community and from distant health care professionals. Rural health care professionals find their practice less isolating because telemedicine facilitates contact with distant colleagues who share their interests.

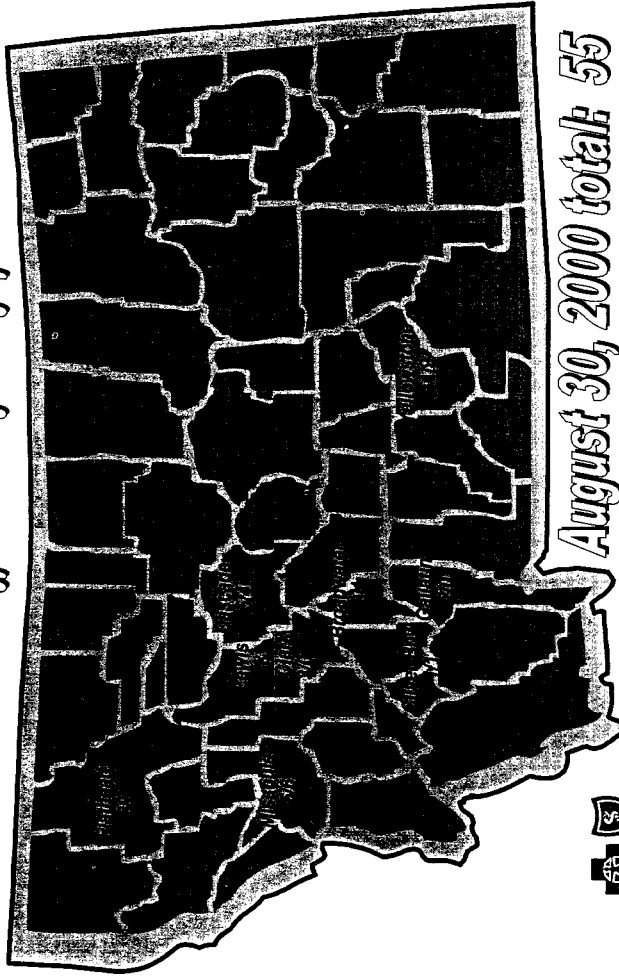
The day will come when telemedicine is fully integrated into the rural health care system. The effectiveness of telemedicine will have been established. The regulatory and payment issues will have been resolved. Many players will have participated in this process including Congress, states, telecommunications, health care professionals and others. Blue Cross and Blue Shield of Montana is proud to be a leading participant in the process in our state.

Thank you for your time and for inviting Blue Cross and Blue Shield of Montana to provide you with information on our progressive support and payment policies in the area of telemedicine.

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Neurology and Neurological Surgery



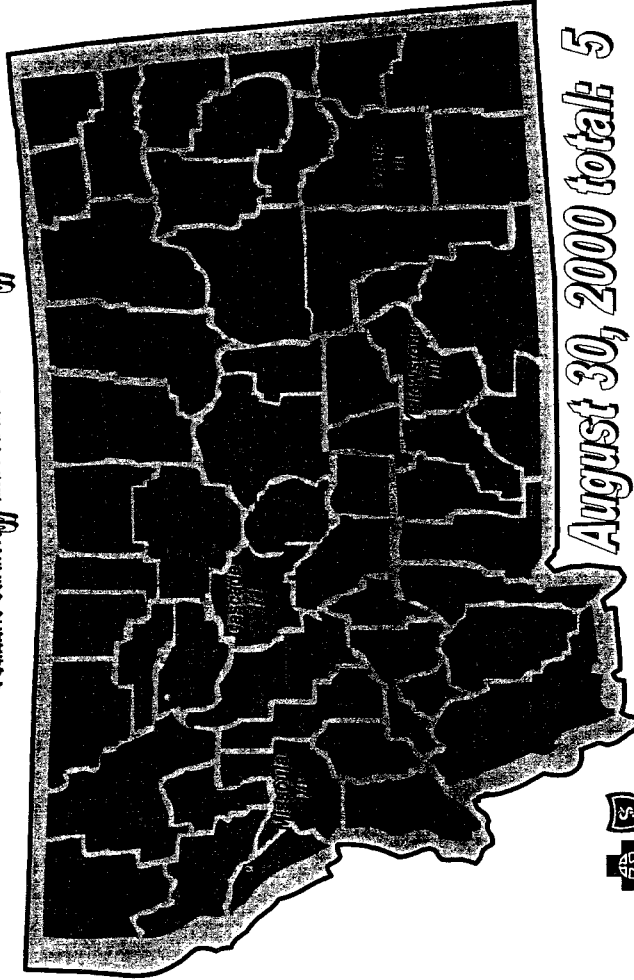
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Neurology / Neurological Surgery
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Pediatric Cardiology and Pediatric Pulmonology



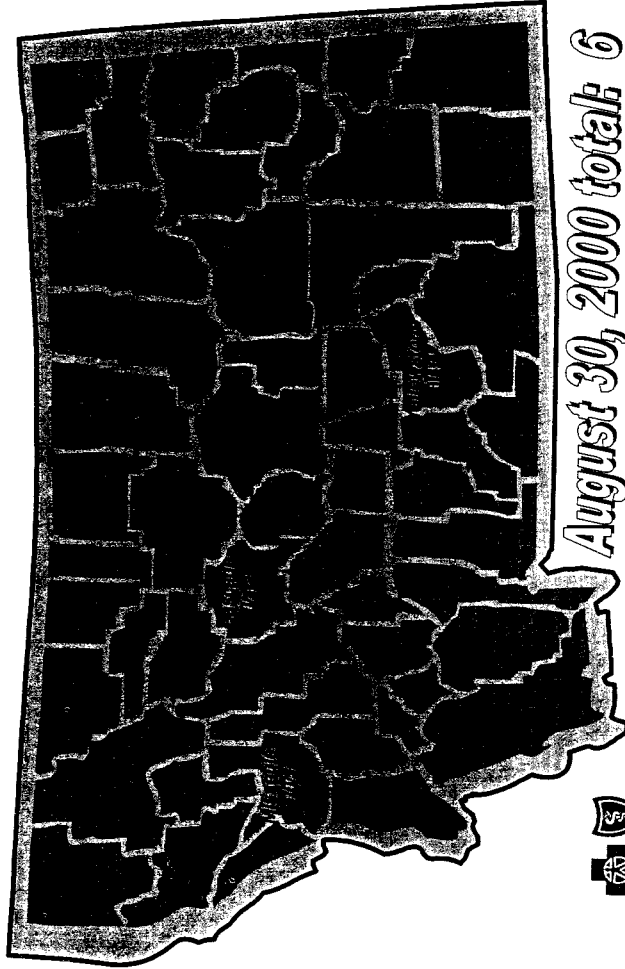
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**Pediatric Cardiology / Pediatric Pulmonology
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Maternal and Fetal Medicine, Neonatal/Perinatal Medicine, Neonatology



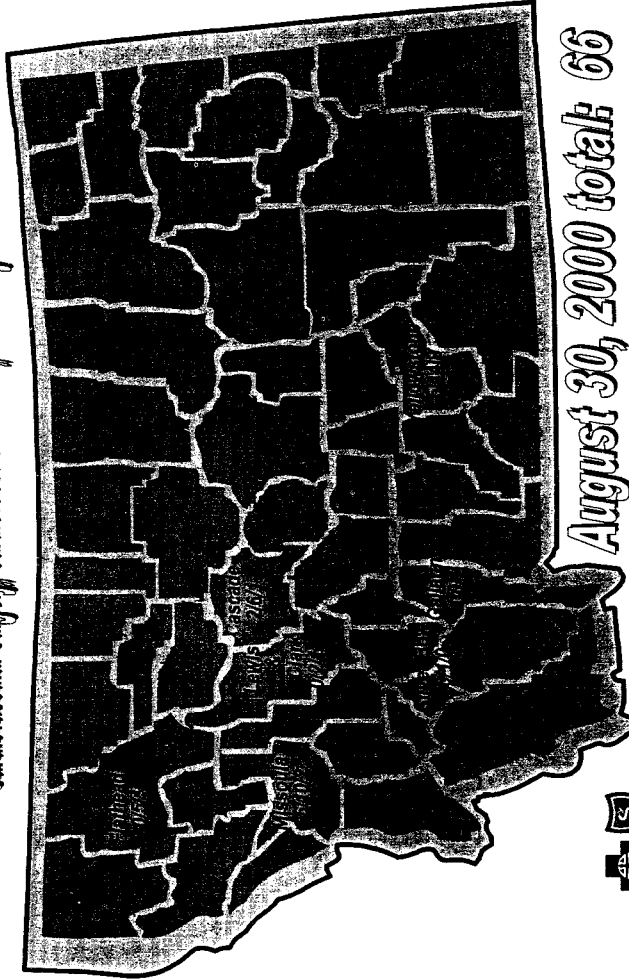
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Cardiovascular Surgery, Cardiovascular Disease, Pulmonary Disease



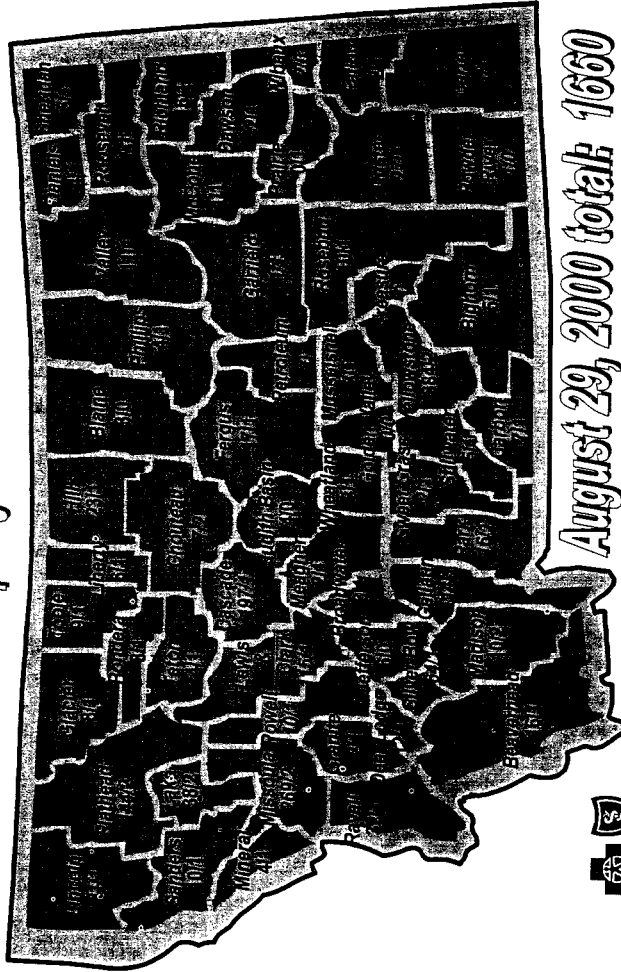
August 30, 2000 total 66

**Cardiovascular Surgery / Cardiovascular Disease / Pulmonary Disease
13 / 38 / 15**



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Participating Provider Network



August 29, 2000 total 1660

MD Providers / Hospitals
1604 / 56



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Mr. BILIRAKIS. Dr. Grigsby is the Study Manager for the Center for Health Services and Policy Research with the University of Colorado Health Sciences Center.

Dr. Grigsby, please proceed, sir.

STATEMENT OF JIM GRIGSBY

Mr. GRIGSBY. Thank you, Mr. Chairman, honorable members. I appreciate the opportunity to speak with you today.

I think previous witnesses, because they tend to be providers or involved in different aspects of telemedicine, have presented a somewhat different perspective than I will. I am in basic agreement with previous witnesses, as well as with Dr. Berenson, that some fundamental changes are necessary in coverage and payment policy toward telemedicine, but I should say I am a research scientist primarily at the University of Colorado. I am in the Division of Geriatric Medicine; and I do a combination of medical outcomes research, primarily with Medicare beneficiaries, and cognitive neuroscience looking at neurologic functioning in older adults; and so many of my remarks come from that perspective.

Telehealth, which is the use of telecommunications and information technology, is a term we have thrown around quite a bit today. The basic idea of it is to deliver health services. It seems simple enough on its face, but it presents actually a number of complex issues for policymakers, legislators and health care practitioners as well. The concept of telehealth is nearly as broad, in fact, as is medical care itself; and consequently it defies simplistic discussions of effectiveness or cost effectiveness.

In general, it involves three components. First, it refers to the provision of various kinds of health services, ranging from information about health and illness to diagnostic assessment, remote monitoring of patients and robotic interventions. Second, the services involves persons that are different from a provider. And, third, they are accomplished using any of a variety of telecommunications, video and information technologies.

Given the newness of the field and the wide range of possible uses of the technology, some telehealth applications are probably very effective and quite inexpensive. Others are likely to be extremely expensive and of little use for most practical purposes. What this means is if you ask whether telehealth is effective or cost effective there is no answer to your question. On the other hand, if you ask whether interactive video is an effective means of allowing people in remote rural communities to see specialists in urban areas, not only can your question be answered but the answer is probably yes.

Efforts to develop coverage and payment policies so far have focused primarily on interactive video and in rural areas in a fee-for-service environment. While this is an important application, it appears that, over the coming years, it is going to represent a diminishing percentage of what actually transpires in telehealth; and it is important that we realize that if a rational policy is to be devised what we have to do is make relatively fine-grained distinctions among different types of telemedicine practices and applications.

For a number of complex reasons, research data on telehealth are very limited, often nonexistent. Because the evaluation of new

technology is an inherently time-consuming process, we are constantly falling farther behind as the technology and uses to which it is put develop rapidly. For example, HCFA, at the direction of Congress, established several telemedicine demonstration problems in the 1990's. At the time they were established, these were state-of-the-art. They were intended to use primarily interactive video for the provision of specialty medical consultation to residents of rural areas, and it was assumed that this was the primary direction in which telemedicine was going to go.

An evaluation of these demonstrations was established, and that demonstration project, the waiver that provided payment for those demonstration programs and the evaluation itself were narrowly defined. Initial projections were that there would be a large number of patients who would receive services under this program; and, in fact, it has been quite limited, as Dr. Berenson and others have pointed out. That represents historical factors, assumptions that were made at one point about the direction of telemedicine and our own lack of knowledge.

I am the principal investigator on the evaluation for HCFA of the telemedicine demonstrations, and because the demonstrations themselves have produced very low volumes of patients, we have suggested a number of changes in direction in the evaluation and in HCFA's approach to this, including studies of home health care, of the use of store-and-forward technology, and we are currently in negotiations with HCFA about some of these possible changes. They are under consideration, look upon them favorably, and we are hopeful that in the very near future we will be able to redirect the focus of our efforts to some extent.

Thank you.

[The prepared statement of Jim Grigsby follows:]

PREPARED STATEMENT OF JIM GRIGSBY, STUDY MANAGER, CENTER FOR HEALTH SERVICES AND POLICY RESEARCH, UNIVERSITY OF COLORADO HEALTH SCIENCES CENTER

DEFINITIONS AND APPLICATIONS OF TELEMEDICINE, TELEHEALTH, AND E-HEALTH

The terms telemedicine, telehealth, and e-health are often used somewhat interchangeably, and each may be defined in a number of different ways. In general, they involve the following three components: 1) These terms refer to the provision of various kinds of health services, ranging from information about health and illness through diagnostic assessment, remote monitoring of patient condition, and robotic interventions. 2) The services in question involve persons who are at some distance from the provider. 3) They are accomplished using any of a variety of telecommunications, video, and information technologies. The Institute of Medicine, in its 1996 report on the evaluation of telemedicine,¹ discussed a number of definitions, some of which also encompassed the use of these technologies for administrative and educational purposes.

While the term *telemedicine* is ordinarily used to refer to the remote provision of medical care, the broader term *telehealth* often is used to include such things as patient education, public health, continuing education for health professionals, administrative meetings, and psychiatric discharge planning, among many others. *E-health* is frequently used to refer to commercial applications of Internet technology that generate revenue either by selling health-related goods and services, by advertising such goods and services, or by obtaining and selling information about Internet users. Although the use of the telephone by itself to provide health services could be considered to fall under most definitions of telemedicine, and there are data

¹Institute of Medicine Committee on Evaluating Clinical Applications of Telemedicine: (1996) *Telemedicine: A guide to assessing telecommunications in health care*. MJ Field (ed.). Washington, DC: National Academy Press.

showing that many such uses are cost-effective, telephonically provided services are not covered for Medicare beneficiaries, and most other purchasers of health services also refuse to pay for telephone consultations.

Discussion of the effects and effectiveness of telemedicine and telehealth is often complicated by the fact that the terms encompass a very wide array of technologies and applications, varying along several different dimensions. For example, a telemedicine encounter may be conducted in real time between two or more persons at different sites using interactive video (IAV) or audio (radio or telephone) technology. A substantial percentage of telemedicine currently is accomplished in this manner using IAV, with a consulting provider at one end of the link and a patient (and sometimes another provider) at the other end. However, because of the high cost of transmission and limitations on the local infrastructure, video technology is not available everywhere. Consequently, in certain remote regions—such as much of Alaska—paraprofessional community health aides may employ a kind of telemedicine that uses radio to allow them to consult with physicians or other providers about patient management.

While the use of videoconference technology links patients and providers simultaneously, telemedicine and telehealth services also may be provided asynchronously, in which case providers, or providers and patients, interact with one another somewhat less directly, through systems that transmit data by email, fax, or other means of data transfer. Some systems of this sort involve personal computer-based *store-and-forward* systems, which are essentially multimedia email (i.e., containing images). Store-and-forward protocols generally involve transmission of images (e.g., CT scans or x-rays), lab data, history, and physical exam findings bundled into a single email message that is transmitted to a medical specialist or subspecialist for interpretation. The consultant then sends a report of findings and impressions by return fax or email. Other telehealth systems involve transmission of certain physiologic data—such as diabetics' blood glucose values—generally over ordinary telephone lines, possibly by means of a dedicated modem.

There is a broad and ever-expanding variety of uses of the various technologies for providing different health services. Among others, these include the use of IAV for specialty consultation, psychiatric evaluation, and psychiatric treatment; store-and-forward consultation and second opinions; compressed IAV for home health care; facsimile transmission of EEG and EKG data; real-time telemetric transmission of vital signs; and regular remote monitoring of respiratory status, using spirometry, of persons with asthma. Some providers have established World Wide Web sites that provide educational material to patients with certain conditions, or that permit communication between patients and providers. Should humans travel to Mars, a sophisticated telemedicine system will assuredly be necessary, but the same might be said of many remote terrestrial regions where access to health care is severely limited.

Perhaps the most important point to be made here is that *telemedicine* and *telehealth* are not unitary phenomena, but are extremely variable in their specific aims and implementation. The telemedicine programs of the early 1990s, which relied primarily on remote videoconference technology, bore a striking resemblance to the very first telemedicine programs established in the late 1950s. However, recent advances in medical, computing, and telecommunications technologies have led to the development of such a diverse range of technologies and applications that it no longer makes sense to pose questions about the effectiveness or cost-effectiveness of *telehealth*. Some telehealth applications are very effective and quite inexpensive, while others are likely to be extremely expensive and of little use for most practical purposes. Therefore, the questions to which we should turn our attention have to do with whether certain applications of specific technologies are useful means of handling specific health conditions.

For illustrative purposes, consider the question, “is telehealth effective?” The question is commonly asked, and sounds reasonable enough, but unfortunately is so broad it has no meaningful answer. Because telehealth is really a vehicle for delivering health services of all sorts, this is tantamount to asking whether telecommunications systems work, and whether medical care is effective. If we are to learn anything of value about the use of information and telecommunications technology in providing health care, the questions we ask must be precisely focused. We might, for example, ask, “does the remote monitoring of blood glucose levels, with transmission of the recorded data via modem to a computer that analyzes the data and notifies providers and/or patients when there are problems, result in better control of blood glucose levels, less expensive management of diabetes, and a lower rate of serious complications?”

THE EVALUATION OF TELEHEALTH

There exist limited data on the effectiveness and cost-effectiveness of telehealth. In 1996, the Institute of Medicine of the National Academy of Sciences compiled a comprehensive volume on telemedicine, with detailed recommendations for its evaluation. This worthwhile endeavor has thus far produced little fruit. This lack of relevant data may be traced to many factors, including the following:

- the constant change and refinement of the technology—by the time a research study is published, the equipment, technology, and applications studied may be obsolete;
- an emphasis on the development and implementation of systems intended to provide clinical services, by administrators and clinicians for whom research is of secondary importance;
- relatively poor compliance with data collection protocols, even in programs that have attempted to evaluate their telehealth services;
- the very low volume of persons who receive telemedicine services, which makes it difficult to obtain adequate samples for analysis, especially within specific categories of disease;
- the variability among telemedicine programs with respect to equipment, technology, applications, and services provided;
- the rapid pace of change in the telecommunications and computer industries; for example, personal computers did not even exist until the early 1980s, yet it is now possible to purchase a desktop computer that meets the definition of a supercomputer for under \$3,000;
- the use of telemedicine has not reached a sufficiently steady state, even within most single programs, to permit comprehensive cost-effectiveness analysis;
- reluctance on the part of many health care providers to use telemedicine—due in part to the lack of a national coverage and payment policy, and in part to deeply entrenched habits of practice;
- policies, regulations, and legislation (e.g., limiting coverage) that retard the proliferation of telehealth; and
- failure of agencies that have funded telemedicine projects to require systematic evaluation of outcomes.

Discussions of research on telehealth generally concern themselves with three major issues: costs, quality, and access. The essential question is whether these services provide care of adequate quality at a reasonable cost. Also of interest is whether they permit access to health care for persons for whom such care otherwise might not be available. The issues that providers and policymakers would like to see addressed include the following:

- Is telehealth care comparable in quality to health services provided in person?
- How should such services be reimbursed?
- Are the outcomes of in-person health care and telehealth care equivalent?
- Is the cost of telehealth services roughly equivalent to that of face-to-face care?
- Will telehealth increase access to health services? If so, what will be the effect of telehealth on overall rates of use of health services? Will increases in some areas (e.g., outpatient specialist consults) be offset by decreases in others (e.g., inpatient admissions)?
- Are patients satisfied with the care they receive via telehealth?

Unfortunately, few data exist providing answers to these questions. Moreover, the questions themselves are overly broad, and cannot possibly be answered in a meaningful way in a reasonable period of time. To a large extent, rapid technological change and the flow of investment money drives the evolution and proliferation of telehealth. New health care applications follow at a somewhat slower pace, while the associated social, policy, and legislative issues lag well behind. Because technology assessment moves far more slowly than technological innovation and dissemination, the data required for planning and policy making are inevitably late in coming, frequently out of date by the time they are available, and of limited use for planning.

For example, the Health Care Financing Administration (HCFA), at the direction of Congress, established five telemedicine demonstration programs in the mid-1990s. These programs, which were state-of-the-art at the time they were initially funded, were established primarily to use interactive video for the provision of specialty and subspecialty medical consultation to residents of rural areas. With the benefit of hindsight, it appears that they were based on a model that some telehealth providers now consider either unworkable or of limited applicability. In addition, the payment waiver for the demonstration, obtained by HCFA with the approval of the Office of Management and Budget, was narrowly defined (covering only specialty consultation, and not common patient evaluation and management codes), and was

based on projections of patient volumes that were considered realistic in 1995. Subsequent experience, however, has shown that the number of persons living in rural areas who require consultative services—and who are likely to be referred for such services by their primary care physicians—is significantly lower than anticipated. As a consequence, the evaluation of the demonstrations and payment methodology has collected minimal data. The problem of inadequate research data is not unique to these demonstrations, however. For example, in the case of one federal agency, an evaluation that had been in planning for several years was canceled before it began.

WHAT DO WE KNOW ABOUT TELEHEALTH?

Certainly there are important reasons to evaluate the efficacy and effectiveness of telehealth scientifically, and to assess its economic effects on the health care system. It should be kept in mind, however, that the effectiveness of most health services provided to Americans in conventional face-to-face modes of delivery has never been evaluated. In fact, only in recent years have scientists, providers, and the government begun to place an emphasis on *evidence-based* medicine, accompanied by the development of practice guidelines intended to ensure a relatively uniform, empirically-based, acceptable standard of care.

Although the evidence is quite limited, there are some data that support the effectiveness of certain telehealth applications. For example, interactive video consultation, evaluation, and management have been practiced clinically off and on for over 40 years, and most physicians who have used the technology—even the relatively unsophisticated systems of the 1960s and 1970s—have found it an acceptable means of providing a wide range of services. This general conclusion has been supported by a handful of well-designed, but mostly older studies. It appears that interactive video health care has some limitations, but if these are kept in mind and the technology is used appropriately, preliminary data suggest that it is generally safe and effective.

Less is known about such applications as store-and-forward telemedicine, remote monitoring of physiologic status, or the use of telemedicine in home health care. Nevertheless there is reason to believe that these may be useful additions to the more traditional health care system if used judiciously. At this time, the bulk of the limited data supporting these methods is anecdotal, but generally positive.

We know very little about the actual costs of providing telehealth services. It is clear that those applications involving interactive video tend to require significant amounts of telecommunications bandwidth, and consequently have rather high (and sometimes prohibitive) recurring costs, despite the availability of Universal Service subsidies in some areas. As a rule, the few studies that have been conducted on costs suggest that as long as patient volumes remain low (an almost ubiquitous problem, especially in rural areas), interactive video health services are more costly than those provided in person. This relationship may be reversed in the event that volume could be increased, but if recent experience is a guide, it seems that the number of telehealth encounters is liable to increase slowly. As a consequence, the high telehealth encounter cost per patient is particularly problematic in rural areas—especially those that are very sparsely populated—since these areas may never have sufficient numbers of telehealth encounters to generate the revenue that would support an interactive video system. In fact, for some geographic areas it is difficult to imagine any scenario in which interactive video telehealth could become financially self-sustaining.

Although it has not been examined carefully, a reasonable case could be made *a priori* for the use of telehealth in home health care. Beginning 1 October 2000, HCFA will reimburse home health agencies using a prospective payment system (PPS), according to which an agency will receive lump sum payments (with certain defined exceptions) for providing services to patients in the home, irrespective of the number of visits required. Because preliminary data suggest that interactive video may be useful for certain home health tasks, the home health industry has shown considerable interest in implementing telehealth systems that could substitute for, or augment, some in-person visits by nurses, therapists, or aides. While this telehealth application might reduce agency costs, and could potentially increase access to care for patients, it also raises questions about the quality of care provided—questions that presumably could be answered using data from the Outcome Assessment and Information Set (OASIS) HCFA's instrument for assessing quality of care and enabling outcome-based quality improvement. Thus, although we don't currently have answers to these questions, their evaluation in this case could be relatively straightforward.

There are limited data concerning the interpersonal/social aspect of the quality of telemedicine. In general, however, studies of patient and provider satisfaction with telemedicine have yielded mostly positive results (as is the case for studies of satisfaction with medical care in general).

The evaluation of telehealth is unique in that telehealth is not a specific treatment or device, a diagnostic or interventional tool with a fairly circumscribed use. Instead, it is essentially a means of extending the services of health care providers to persons who are not physically present in the provider's office. Hence its scope is exceptionally broad. Even if those who conduct research on these questions could keep pace with change in technology in applications, it would be impossible to evaluate all the possible uses of telehealth/telemedicine.

CURRENT TRENDS IN TELEMEDICINE

The early 1990s saw the proliferation of telemedicine systems providing real-time, wide-bandwidth video consultations, generally from a tertiary care hospital (often referred to as a "hub") to outlying rural hospitals and clinics (the "spokes" in these systems). However, the past few years have witnessed a shift toward PC-based store-and-forward telemedicine, remote monitoring of patients' condition, and home health. In many cases, the former "hub and spoke" systems have diminished in importance, so that direct communications are increasingly possible between outlying sites, and even between sites within different programs. The systems being used are generally more convenient and probably cost-effective means of providing services, many of which can be delivered across a readily available, accessible, and inexpensive Internet platform. Over time, the costs of equipment have dropped considerably while its usefulness and usability have increased concomitantly. Telecommunications charges have remained relatively stable, but the availability of certain new digital services has made the delivery of video-based services somewhat less expensive.

GOVERNMENT TELEMEDICINE POLICY

Since the 1960s, the federal government has supported the development of telemedicine through grants, contracts, and NASA or Department of Defense budget line items that to date probably amount to over a billion dollars. A number of agencies currently provide such support, and their representatives have been actively involved in discussions that shape both policy and directions of growth in telemedicine. A comprehensive discussion of those policy issues is beyond the scope of this testimony, but I will briefly mention two important and problematic policy matters: coverage and payment for telemedicine services, the potential for fraud and abuse, and interstate licensure.

With a few circumscribed exceptions (e.g., Congress mandated that coverage be extended to certain Health Professional Shortage Areas effective January 1999), Medicare reimbursement of fee-for-service telemedicine is not available, and it appears that HCFA may be reluctant to permit telehealth services under prospective payment programs. The agency has been criticized for its caution in moving toward a general coverage policy, but has expressed concern that insufficient data exist to inform policy decisions. Other payers have been slow to set policies of their own, although some commercial insurance companies pay for certain telemedicine services, as do Blue Cross/Blue Shield organizations, and Medicaid covers some telehealth encounters in nearly a third of the States.

Many of the issues involved in telehealth coverage policy are admittedly somewhat complex. As noted previously, discussions of telemedicine coverage policy tend to treat telehealth as though it were a readily identifiable, unitary clinical phenomenon. A major problem with this line of thinking is the protean nature of the health care that can be provided using computer and telecommunications technology. A comprehensive policy must take these important differences into consideration. In addition, many telemedicine providers are moving toward alternatives to IAV consultation systems. Yet the primary focus of research for Medicare is on IAV systems used for specialty and subspecialty consultation—systems which may represent a minority of telehealth applications by the time a policy is finally promulgated. Further research on the effects and effectiveness of telehealth is clearly needed, although at the current pace, the scientific data obtained are likely to lag many years behind the current status of the technology and its applications.

An issue of some concern for policy makers is the potential for fraud and abuse. Entrepreneurial health care providers have already drawn attention for implementing questionable schemes using the Internet, and similar operations—many frankly criminal in nature—certainly will arise over time. Telehealth is not unique

in this regard, however, and it seems eminently reasonable to develop methods for detection of such abuses in conjunction with the development of coverage policies.

Finally, a lack of reimbursement for telehealth services is only one of several factors slowing the expansion of telemedicine. Licensure to practice medicine and other health professions, for example, is regulated by the individual states, and bills have been introduced or passed in some states that severely limit the interstate practice of telehealth. Examinations assessing the competence of physicians are conducted using national standards; patient outcome studies are done on a national, not state-wide basis; and practice standard guidelines are developed on a national basis as well. State regulation of licensure may well continue to hinder the spread of telehealth services.

Mr. BILIRAKIS. Thank you very much, Doctor.

I did want to announce before I go into my questions that there will be a telemedicine demonstration immediately after we finish up here, to be presented by Eastman Kodak, by VitelNet and American Medical Development. Hopefully, most of us can stay for that demonstration. They have gone to an awful lot of trouble to present that to us.

Of course, the opening statements of all members of the subcommittee are a part of the record.

Ms. Patrick, what reimbursement policies does Blue Cross and Blue Shield of Montana follow? Do you follow the HCFA reimbursement policies when you reimburse?

Ms. PATRICK. No, we don't.

Mr. BILIRAKIS. You have your own criteria?

Ms. PATRICK. We pay just as we would for any face-to-face service encounter, patient encounter. We pay the referring physician a visit, you know, for the initial diagnosis, and then we pay the consulting physician for their consultation.

Mr. BILIRAKIS. Any comments regarding that? I think we are all pleased to hear that.

You know, in the process of any piece of legislation we have the Congressional Budget Office in our lives, and they have to score, as we call it, all legislation, and in other words price it. And of course, as much as we keep harping on what we call dynamic scoring and things of that nature, we never get it. They are concerned with the cost today and not concerned, unfortunately, with the ultimate savings, the preventative health care, for instance.

Dr. Burgiss, particularly in your case, looking over your written submittal here you have given us an awful lot of information that should be very helpful in terms of approaching them and trying to get better scores, maybe not for this immediate piece of legislation that I am talking about but downstream as we go along. And so I would say to all of you, any information you can furnish to us in that regard would be very, very helpful in the ultimate savings that result.

I don't know, Ms. Patrick, whether Blue Cross and Blue Shield of Montana has basically conducted some sort of a study to determine is this costing them really more money or is it really saving them money or whatever the case may be, but if that is the case, please submit all that to us.

Ms. Davis, you indicate in your testimony that your region, the Upper Peninsula, should be an ideal place for telemedicine because every county in the UP, the Upper Peninsula, holds partial Health Professional Shortage Area designation, which is a prerequisite for HCFA reimbursement. And you state, current HCFA policies frus-

trate even the UP with unrealistic requirements regarding who can be a telepresenter—the 75/25 split fee that many of you have mentioned, the strange roles governing store-and-forward technology and the ineligibility of some services for reimbursement altogether.

Now, I know that Bart is aware of most of these, maybe all of them, and he has had quite an input in what we are now working on and hopefully will have an input on anything we do in the future when we expand our look at this area. Would you want to share with us which of those HCFA policies you feel are most destructive to telemedicine in the Upper Peninsula?

Ms. DAVIS. I would suggest that when we work with physicians and patients in putting together and coordinating telemedicine consultations the two most restrictive are who the presenter is. Most often we have an RN and sometimes an LPN, and there are situations where the patient presents him or herself. And then the fee-sharing usually comes up at a later point when we talk to the physician about reimbursement; and, to be honest, there are times when the physician is liable to say, let us forget it; I will see the patient in my office.

Mr. BILIRAKIS. Any other comments from any other panelists in that regard? Yes, Dr. Rheuban.

Ms. RHEUBAN. The issue of primary care practitioners leaving their office to travel with a patient to the workstation is problematic as well. These doctors are very busy and for them to drive even, for example, as Ms. Hubbard described, 40 minutes round trip to a workstation at another clinic is an impediment because they have patients waiting in their waiting room.

Mr. BILIRAKIS. Any further comments? Yes, Dr. Burgiss.

Mr. BURGISS. Yes. An example that well illustrates this, we have a clinic in a rural area. The care provider is a nurse practitioner, and that nurse practitioner is busy seeing the patients that are in the waiting room. The nurse practitioner doesn't have the time, even in the same building, to present patients for telemedicine purposes. That should be done by her nurse associate instead of the nurse practitioner who should be caring for those in the waiting room.

Mr. BILIRAKIS. And do you feel that that nurse practitioner is competent and capable to present this patient to—

Mr. BURGISS. Yes. The nurse practitioner or her nurse associate, either one could do the presentation.

Mr. BILIRAKIS. My time is expired really, but just very quickly, one of the areas that we are going to have to address—and this is why telemedicine really did not take off a few years ago the way some of us hoped it would—is the licensure requirements in various States. Any quick comments regarding that? Yes.

Mr. REID. Mr. Chairman, in response to that, for some medical centers and some telemedicine programs, licensure, interstate licensure, cross-State licensure is an issue. But, to be perfectly honest, I think that that falls about No. 6 or seven on the list of things that might ought to be fixed. The comparative number of people, patients and providers that that issue affects is small, compared to the issues we brought up about fee splitting, about scope of services and eligibility.

Mr. BILIRAKIS. Dr. Ross-Lee.

Ms. ROSS-LEE. I just wanted to add, one of the areas that we haven't touched on, because when you talk about the two ends of the services, particularly in rural areas, the technical personnel to support these systems is not there and very difficult to access. It is interesting that becomes the pivotal issue often.

Mr. BILIRAKIS. What would you say, though, to the medical association that would demand that it be a licensed physician on each end?

Ms. ROSS-LEE. Licensed physician on each end of the delivery?

Mr. BILIRAKIS. Yes or—well, licensed physician, a licensed individual but—

Ms. ROSS-LEE. Has to be on one end of the service.

Mr. BILIRAKIS. How about each end?

Ms. ROSS-LEE. Not necessarily each end.

Mr. BILIRAKIS. Not necessarily each end.

All right. I am going to yield to Mr. Brown.

Mr. BROWN. Thank you.

Dr. Grigsby, thank you for joining us. You provided us I thought a pretty good definition of telehealth and some of the things—and I think a pretty good understanding or gave us a pretty good understanding of the sort of range of services. Tell us, if you would, in terms of cost, in terms of effectiveness, what aspects of telehealth have been most successful, what have been least successful. Just sort of run through that, if you would, for us.

Mr. GRIGSBY. It is difficult to do with any sort of rigorous information because no good-quality, well-designed cost-effectiveness studies have been conducted with the exception of studies in very controlled populations like prisons, that sort of thing. Anecdotal data suggests that many applications of telemedicine may well be quite cost effective. Certainly, there may be savings for patients who don't have to do a lot of traveling. There may be other sorts of savings as well.

Some people suggested store-and-forward technology might be rather less expensive than face-to-face. Home care is a subject that has been brought up considerably today, and a number people think that the cost of home health visits could fall by as much as 60 to 65 percent if they were conducted using interactive video.

Mr. BROWN. What role does volume have in that in terms of comparing costs of telehealth versus patient service directly?

Mr. GRIGSBY. A significant role.

One of the difficulties, for example, in rural areas is that the costs of providing the service remain relatively high due usually to recurring costs that are fixed for telecommunications, for example. So if you have a sparsely populated rural area and the volume of referrals is low, then the cost per patient consults will then be relatively high. So as you are able to increase that volume, then you may get some improvements in that ratio. The difficulty is, in many rural areas there are some question whether it will ever be possible to develop self-sustaining programs that will provide a wide range of telemedicine services.

Mr. BROWN. Dr. Ross-Lee, do you want to comment on that?

Ms. ROSS-LEE. I was just agreeing with his comments that in some rural areas, even using the technology, getting sustainable

services that are cost effective over time, I am just not sure whether there is a formula to do that.

Mr. BROWN. Thank you, Mr. Chairman.

Mr. BILIRAKIS. Mr. Stupak, to inquire.

Mr. STUPAK. Thank you, Mr. Chairman.

Ms. Davis, assuming HCFA and private payers reimburse telehealth in a sensible way—that is a big if, but let us say they did—how would Marquette use its network? In short, I guess what I am trying to drive at is how could a network work more, better, get more use out of the network we currently have?

Ms. DAVIS. Well, I think the fixes in reimbursement would certainly go a long way to convince physicians that it is a viable opportunity. We are also working on some other barriers that we have. We feel that the convenience of the equipment to the physician is a real detriment, and that is one of our new initiatives for the upcoming year. Certainly staff needs to be dedicated to promote and to set up the systems around the telehealth consultations. Those don't come at the drop of a hat either.

So reimbursement certainly is one issue; and, as Joe Tracy pointed out, it is a significant issue in terms of furthering telehealth. It won't make or break it itself. There are other barriers out there. So we are working on the other barriers, too, but certainly removing some of the restrictions in reimbursement would open the doors.

We use the system for communities, the community hospitals to allow their patients to present to our specialist. We have some specialists at Marquette General that consult with subspecialties at educated care centers like University of Michigan.

We have used it when your specialists are traveling out among the communities. For instance, in the case of pediatric cardiology, we have one of them in the Upper Peninsula. So when that pediatric cardiologist is out in, say, Houghton and we have an infant in our neonatal intensive care unit that needs the services immediately, we use it that way. So it is not always how some people think of telemedicine consults with the rural physician referring to the specialist.

And one thing that has been striking me today is that there is no two or three set examples of telemedicine, that there are so many different situations in which you could use it and you would find so many different stories as you talk to each one of us on how that happens.

Mr. STUPAK. I was going to offer—anyone else want to expand on that, how else can we have optimum use of telemedicine, what barriers must we overcome? Mr. Reid.

Mr. REID. Thank you, Mr. Stupak.

One of the clear issues as a HCFA demonstration program and that I think as experienced by a lot of telehealth providers is the scope of services currently reimbursed is so narrow it defines a very small percentage of the patients that could receive care. And I think that if we were going to try and optimize the use of our network for clinical purposes, the first thing I would ask is we be allowed to provide all the services that we can over telemedicine, not just the very narrow limited scope of consultation codes, the 12 CPT codes I referred to earlier.

There has been a lot of discussion about we just don't know, we don't know what is safe, we don't know what is efficacious, there haven't been any randomized controlled trials. To be perfectly honest, there are lots of services that HCFA recommends or reimburses for today that have never been proven with randomized controlled trials. They reimburse for the remote interpretation of ECGs when faxed to the cardiologist. I am not aware of any randomized controlled trials to show the cardiologist could read faxed ECGs as well as they could read the ECG they might hold in their hand.

And this speaks to the point we have already said, this is not a new technology. It is not a new service. It is a new way of providing the same old service. And with the limitations of the obvious, like surgical procedures, there are systems in place within HCFA's accounting and computer systems today that say, whoops, this particular type of provider, this particular type of specialist, why in the world is this person billing this particular code that describes something that is totally out of their presumed scope of practice? The same sort of check and balance could be applied to the services if they were just to be open to a broader service; okay, we are not going to reimburse for surgical procedures performed over telemedicine.

Mind you, the military might suggest that is doable. In a general civilian population, it is not. So it is not unreasonable to think all services could be empowered to be reimbursed with those sorts of checks, and that would be our primary request.

Mr. STUPAK. Let me ask this question and defer maybe to the doctors on the panel. In telehealth how can we use that to decrease patients costs like maybe allowing earlier intervention such as diabetes management? Do you do that now? How is it working? What other example besides diabetes would be an example? Dr. Rheuban.

Ms. RHEUBAN. We primarily have done a lot of diabetes education using our telehealth networks. We have actually done hundreds of hours at multiple sites simultaneously and let them all chat with our diabetes educators in Charlottesville. And we think education plays a key role in improving the health of our citizens. So that is sort of a tagalong extra by having these networks in place to be able to use it for other applications as well as for health professional education as well.

In terms of costs, pediatric cardiology seems to be coming up, and that is my specialty. I would say we are also enrolled in a multi-institutional collaborative study to look at the costs of interpretation of pediatric cardiac ultrasounds remotely via telemedicine versus the costs of transporting through ambulances and helicopters and fixed-wing patients to health care facilities where there are pediatric cardiology services available.

We in Virginia also travel. We have field clinics all over the Commonwealth of Virginia, but when we travel to Southwest Virginia we are there 1 day out of every 2 months. With the telemedicine services, we are there all the time.

Mr. STUPAK. Thank you, Mr. Chairman. I see my time is up, so thank you.

Mr. BILIRAKIS. Mr. Strickland.

Mr. STRICKLAND. Thank you, Mr. Chairman.

Dr. Ross-Lee, you mentioned in your testimony this concept of having digital health care empowerment zones for rural America. It is an intriguing concept to me. Could you elaborate on what you are thinking when you talk about that?

Ms. ROSS-LEE. Well, even as I have listened to the witnesses today, as we describe our communities, as much as there is a significant need based on access both to primary care services and specialty services, each of these communities is different, and certainly the problems that we are attempting to address are very complicated and include more than just health care which seems to be a symptom of a broader infrastructure problem. It makes sense to me, therefore, to empower the communities themselves, to look at communities as to what may be necessary for them to most efficiently and most effectively use the technology to deliver the kinds of services that would be appropriate for their community.

The earlier question about whether a licensed professional should be on either end—I mean, I visited Alaska; and the reality is they have lay people trained to deliver services, and without them there would be no services. So I think we need to deal with the specifics of the community, and this kind of empowerment zone would allow you to do that. I mean, the community comes together and plans, looks at what it needs, assesses its challenges and then try and establish a system to do that.

Now, how do we fund that? I am not sure that HCFA is going to be the mechanism for which we effectively integrate technology into the health care of this country anyway. It is a reimbursement mechanism. Most of the programs that currently exist exist by delivering services for free because the reimbursement for these services is not what is driving, you know, the train on the issue.

So I think that we should build an infrastructure, particularly in rural America that already has fragile infrastructure, in a whole bunch of ways. This may be the way to bring some equity between urban and rural communities not just for health care but for education and economics and everything else.

Mr. STRICKLAND. Would any of the others of you like to comment on this concept? I saw some heads going up and down as Dr. Ross-Lee was speaking.

Mr. REID. As I think about the concept that she has proposed, it certainly would be a challenge to implement, but it holds all sorts of promise.

One of the things that we have all probably recognized is that the technologies that we use, and particularly interactive video technologies that we use, are rarely used exclusively for the delivery of health care services; and several Federal grantees today who have received telemedicine grants are using their technologies for other purposes as well with regards to continuing medical education, patient education, lay education, continuing education for teachers and for other professionals in the community.

My own experience in extremely rural settings is that this technology becomes a resource to the entire community, not just to the medical personnel, and so in that regard the concept of empowering communities with digital technologies that would include interactive video or a high-speed network for information exchange will empower the whole community, and I would think there would be

great justification for that. If the medical metaphor happens to be the sort of driving force for that, so be it.

Mr. STRICKLAND. Dr. Ross-Lee, you talked about our region, the Appalachian region, and the high poverty rates and the high infant mortality rates, more children dying as a result of injuries and the like and the fact that you are going into some of the schools. How do you get reimbursed for those kinds of services?

Ms. ROSS-LEE. We are usually grant funded. Grant funds usually last 3 years. So we are out there beating the bushes every 3 years to try and fund those programs. We are not reimbursed through Medicare or Medicaid for those kinds of services that we are delivering.

Mr. STRICKLAND. So it is not just a Medicare reimbursement problem, it is also Medicaid reimbursement problem we are facing as well?

Ms. ROSS-LEE. Absolutely.

Mr. STRICKLAND. Mr. Chairman, I yield back my time.

Mr. BILIRAKIS. How about private insurance?

Ms. ROSS-LEE. No private insurance payments.

Mr. BILIRAKIS. You tried and no private insurance will pay?

Ms. ROSS-LEE. The populations we are dealing with, most of them don't qualify. We have counties where 75 percent of the population qualifies for Medicaid.

Ms. RHEUBAN. I would like to make a comment about private insurance in Virginia. Most of the payers do not reimburse for telehealth services. We have had on occasion an insurer comment about the phenomenal response that the patient had and actually eventually pay for that encounter primarily because then the hospitalization is at the community hospital level which is at lower cost than at a tertiary care or another care facility to which the patient might have otherwise been transported.

I will also say—I will not mention the name of the managed care entity, but when I approached one managed care entity about reimbursing telehealth services I was told directly, why would we ever want to enhance access?

Mr. BILIRAKIS. Wow.

Mr. STRICKLAND. Mr. Chairman, could I ask a question?

Mr. BILIRAKIS. It is still your time, as a matter of fact.

Mr. STRICKLAND. I am just curious as to why you wouldn't want to give us the name of that HMO.

Mr. REID. Because they are still a payer in her State.

Mr. BILIRAKIS. Let us shift that question, that point over to Ms. Patrick, your comment.

Ms. PATRICK. Now, what is the question again? I am still in shock.

Mr. BILIRAKIS. I raised the point about private insurance paying, and you have heard Dr. Rheuban's comment. Have you all run studies to determine that it is actually advantageous—obviously advantageous to the patient but I mean advantageous to the company—to go ahead and pay for these services?

Ms. PATRICK. You know, there currently is no identifiable CPT code for telemedicine utilization. So up to this point we have not been able to adequately track, you know, our utilization. We do know that through Eastern Montana Telemedicine Network data

that we get from them as far as utilization goes and also data that we get that we see from Medicaid and the amount of savings that they have realized through this, we know that this is something that we definitely want to continue to support and even expand somehow and get involved as one of the players in our State to see, you know, what gaps we can help with to deliver more of this type of care.

Mr. BILIRAKIS. What is the story with Blue Cross and Blue Shield in the other States?

Ms. PATRICK. You know, I have been asked to speak to this in a couple of States, in Florida and in Utah, and I don't know exactly what the reservation is. I think they may be perceiving this as a new—another kind of technology that, you know, maybe it is experimental, maybe it is not going to be cost effective. But in all reality, to us at Blue Cross and Blue Shield of Montana, the bottom line is it allows our members to have more access to care. Otherwise, they wouldn't have.

Mr. BILIRAKIS. There are a number of payers, as I understand it, that do pay for these services. I understand that in Arizona and Wisconsin, the 22 payers, and in Arkansas, 6 payers cover these services.

Mr. Reid.

Mr. REID. Thank you, Mr. Chairman.

I actually had the pleasure of conducting a survey of telemedicine reimbursement practices in the States that are covered by many of the Federal funded grant programs, and the data that we collected suggested there were over 180 different payers who paid for telemedicine services in some capacity in most States. There were very few States who didn't have one or more payers that paid. There are States where Blue Cross pays, and States where Blue Cross doesn't.

I would say that I had the pleasure of working with eastern Montana telemedicine, working with Ms. Patrick some 6 or 7 years ago, and the vision that they showed in stepping forward and leading in that regard is unparalleled and, frankly, not seen since.

We have the challenge in each of our States because whether Aetna or Blue Cross or Prudential covers in one State, their plan is different, maybe under a different policy, a different intermediary in another State. So we as providers have the challenge of going to each individual company within our State and saying, well, come on, guys, why not, show us a good reason not to. And the typical response is, well, because it is going drive up costs.

I actually had the pleasure of asking Ms. Patrick to come to my State of Iowa now and speak to several payers in a closed door session. And you haven't said it yet, but I am going to ask you to verify that indeed in that setting you said that it has not driven up your costs; you have been able to identify no additional cost.

Ms. PATRICK. We are not aware of any additional costs, you know, from this service. So we do not have a problem whatsoever.

Mr. BILIRAKIS. You have not seen overutilization of the service?

Ms. PATRICK. We have—no.

Mr. BILIRAKIS. Taking advantage of the service.

Ms. PATRICK. No. I think that our members are choosing video conferencing, telemedicine instead of actually physically going there, and understandably so.

Mr. BILIRAKIS. The bells have just sounded for a vote. With the indulgence of my colleagues, Ms. Patrick—is it always an MD or might the provider be someone other than an MD?

Ms. PATRICK. It could be someone other, yes.

Mr. BILIRAKIS. So now they present this to, let us say, the Mayo Clinic or wherever it might be. Have you run into any problems or have there been any problems with your State licensure board in other words practicing medicine in Montana when you are not a Montana-licensed doctor?

Ms. PATRICK. We haven't had any activity as far as that goes, but I do know that our legislature is currently looking at setting some kinds of fees for providers to be able to participate or deliver this service. I don't think they are astronomically high fees.

Mr. BILIRAKIS. But in the process of setting those fees they would be then satisfying the licensure requirement? You know—and talk about the Montana Medical Board, for instance, practicing medicine without a license in Montana.

Ms. PATRICK. I believe so.

Mr. BILIRAKIS. That used to be quite a problem. I don't really know what the current picture is now since there has been some reimbursement on the part of Medicare. That is an obstacle—that is what I was really leading up to, Dr. Ross-Lee, when I asked you my questions.

Ms. ROSS-LEE. It might also be a problem even as the licensure boards, at least among physicians, are sharing a lot of information and setting similar standards. But for the nonphysician providers that are also listed as potential providers on either end the States vary significantly in the licensure requirements there, and I am not sure they have come very close.

Mr. BILIRAKIS. Anything further, Mr. Strickland or Mr. Brown?

Mr. STRICKLAND. No.

Mr. BILIRAKIS. All right. We are going to excuse you and thank you, much gratitude for helping us out here, helping us do good things.

We do have a vote on the floor. There will be a demonstration presented. Certainly our staffs will be here if we are not able to come back depending on what is happening over there.

The hearing is adjourned. Thank you very, very much.

[Whereupon, at 1:05 p.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows:]

PREPARED STATEMENT OF HON. JOHN THUNE, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF SOUTH DAKOTA

Chairman Bilirakis and Ranking Member Brown: I commend you for your leadership you and the members of this subcommittee have shown in the area of Medicare modernization and reform. By holding today's hearing on telehealth, you are recognizing the importance of this issue to both patients and providers who live in rural and medically underserved areas.

Telehealth as a method of health care delivery was, at one time, a new concept in health care delivery, a theoretical way to connect patients with their doctors. But telehealth is no longer an experiment, it's a service that is used every day in rural areas across the country. The district I represent comprises the entire state of South Dakota. That's 66 counties and 77,000 square miles made up primarily of farmland

and grassland. When the citizens of South Dakota need to access their health care provider, it is not uncommon to drive a hundred miles just to make a regular appointment.

During the August work period, I traveled around the state visiting rural hospitals, clinics, and nursing homes to get a closer look at the challenges faced by rural health care providers. I saw some of the amazing things health care providers are doing with telehealth technology. Lung specialists in Sioux Falls are using electronic stethoscopes to treat patients with pneumonia who live in Flandreau, a town of 2,322 people. The Pine Ridge reservation, which sits in the nation's poorest county per capita, is over 130 miles from the area's major medical center in Rapid City. Residents of Pine Ridge who may be dealing with depression no longer have to wait for months to see a psychiatrist but can access a mental health provider using two-way interactive video cameras. Expectant mothers in Hoven can get good pre-natal care using OB ultrasounds transmitted over phone lines without having to make the 90-minute drive to Aberdeen.

Telehealth services have become critical for these patients and the providers who care for them. Back in 1997, Congress authorized several telehealth demonstration projects to study the impact of telehealth on health care access, quality, and cost. These projects have proven the feasibility of using technology to provide primary and specialty care for patients in rural and medically underserved areas.

The Health Care Financing Administration (HCFA) however has created reimbursement policies that have had the effect of excluding services to those patients who would derive the most benefit from access to telehealth; seniors who are often unable to travel long distances for direct health care. In 1999, Medicare covered only 6 percent of all telehealth visits. That was about \$11,000 in claims. Clearly, Congress intended that HCFA would provide more reimbursement for these critical services.

With these facts in mind, I introduced H.R. 4841, the Medicare Access to Telehealth Services Act of 2000, a measure aimed at eliminating some of the reimbursement barriers to telehealth services. H.R. 4841 looks at Medicare reimbursement for telehealth services and addresses the significant barriers in the Balanced Budget Act of 1997 (BBA) to the continued use and expansion of this technology.

Some of the most onerous barriers will be discussed during today's hearing. They include requiring a telepresenter to be with the patient, forcing providers to share their fees, limiting reimbursement areas and billing codes, and neglecting facility costs.

As the discussions continue on further refinements of the BBA, I strongly urge the members of this subcommittee to include provisions to address these funding barriers. Congress has worked to ensure that technology is available to our constituents, now it's time for this technology to work for us.

PREPARED STATEMENT OF CHILDREN'S NATIONAL MEDICAL CENTER

Background on CNMC

On behalf of the hundreds of thousands of children treated at our facilities over the years, coming from every state in the country, we appreciate the opportunity to offer testimony regarding our experiences in providing telehealth services in medically underserved urban areas for a large Medicaid population.

Children's National Medical Center (CNMC) has provided comprehensive quality medical care and health services since 1870, and is the only integrated healthcare system in the Washington D.C. area dedicated exclusively to the care of infants, children, adolescents and young adults. In addition to our main campus, Children's network of care includes four inner-city pediatric health centers, six regional outpatient centers, several suburban ambulatory surgical locations, and a hearing and speech center. CNMC consistently ranks among the nation's top pediatric hospitals.

Above all, CNMC seeks to provide unparalleled pediatric healthcare services that enhance the health and well-being of children regionally, nationally, and internationally. We are creating solutions to pediatric healthcare problems. To meet the unique healthcare needs of children, adolescents, and their families, CNMC strives to excel at the core components of our mission—Care, Advocacy, Research, and Education.

A Model for Medically Underserved Urban Areas

Currently, much of our community outreach and our efforts to improve healthcare access occur through our four Community Pediatric Health Centers (CPHC) located throughout medically underserved urban areas in the District of Columbia. Since the first opening in 1967, the CPHCs have provided three generations of District

of Columbia families with high quality primary, specialty and preventive healthcare services.

After a decade of preliminary work, CNMC established a formal Pediatric Telemedicine Program in 1997 in an effort to provide leading edge technological support for clinical care and research. CNMC has actively pursued telemedicine in an effort to define opportunities where technology can be leveraged to improve patient care for the children of the region. The telemedicine team is dedicated to planning, implementing, and analyzing telemedicine activities in order to improve access to primary and specialty care, to increase convenience for patients and physicians, and to improve education for physicians, healthcare professionals, families and patients.

Despite dramatic advances in our knowledge of how to treat the medical conditions of our population, children of urban underserved communities encounter many obstacles when attempting to access quality healthcare—including socioeconomic isolation, maldistributed health services, lack of health insurance, and poverty. Fragmented access, inconsistent quality, excess costs, loss of continuity, and ineffective continuing medical education characterize the deficiencies of our existing health care system.

Meeting the healthcare challenges of our inner city children and families with the help of telemedicine requires a collaborative network of community partners. These partnerships provide the foundation for a new technology-enabled delivery model, the Pediatric Community Health Network (PCHN). Our proposed approach will be a major step toward achieving our long-term goal of providing a means to improve pediatric health indicators at the local and national level.

This technology-enhanced telemedicine model strives to achieve the following goals:

- 1) increase access to primary and specialty healthcare for the child and family;
- 2) increase the convenience of healthcare delivery by bringing the specialists and healthcare professionals to the child and the family;
- 3) decrease cost and time lost while seeking primary and specialty care (lost school days, lost work days);
- 4) decrease delays in diagnosis by allowing earlier access to specialists, which in turn will reduce costs and treatment time;
- 5) improve communication and provide a means to support the continuum of care for the patient, family and healthcare provider(s);
- 6) improve healthcare education by providing patients and their families with better resources and educational healthcare;
- 7) improve quality and effectiveness of medical follow-up appointments.

Through the use of telemedicine at our primary care clinics and outlying rural sites, patients can have instant access to the myriad of specialists at our main campus. Oftentimes access to health care in large urban areas can be just as difficult and time consuming as in rural areas. For many of our patients, travelling across a large metropolitan area to reach another health care facility would require time off from their jobs, time lost from school, and hours spent on public transportation lines before reaching the facility. For the families that have access to this technology, this instant access to specialists reduces the need for follow-up appointments that often must be canceled, and assists with earlier diagnosis that helps children heal faster.

Children's telemedicine program for the underserved urban pediatric community is the first initiative of its kind. Our goal is to build a sustainable model that will be replicated across the country. By deploying telemedicine in the urban setting, the impact on the underserved community could be extensive. This technology that supports our telemedicine program empowers families and communities to improve the health status of their most valuable asset—the children.

Barriers to Effective Use of Telemedicine

As promising as this technology and its applications may sound, significant reimbursement barriers prevent us from deploying this technology solution to a great extent in medically underserved urban communities and the surrounding area. The significant challenges we face include:

- **Funding for technology:** Although the Office for the Advancement of Telehealth in the Health Resources and Services Administration has provided support for the development of telehealth services, their funding has been limited to rural projects only. But children in medically underserved urban areas face many of the same barriers to health care as rural patients, and could benefit substantially from telemedicine projects. We strongly urge Congress to support funding for telemedicine projects in urban settings.
- **Reimbursement for telehealth services for Medicaid patients:** As Congress considers improvement of the reimbursement mechanisms for telehealth serv-

ices, we strongly urge you to remember the children and families that receive their health care from Medicaid. Telehealth services should not be restricted to Medicare beneficiaries. The Medicaid population is often overlooked or forgotten during consideration, but the children who benefit from Medicaid services are equally deserving.

Summary

Children's National Medical Center is dedicated to improving the health status of our community. We can not do this alone. The advancement of new technologies coupled with a highly competitive and challenging healthcare environment requires innovative patient care. It is critical that telemedicine be permitted to enter the mainstream delivery system.

According to the Children's Defense Report in 1998,

Every 43 minutes a child was reported abused or neglected...

Every 6 hours a baby was born to a teenage mother...

Every 7 hours a baby was born at low birth weight...

Every 3 days a baby died during the first year of life...

These "moments" represent reality in the lives of many District of Columbia infants, children and adolescents, and are reflective of a growing trend in our region and our nation. The region's children face a long list of challenges that impact their ability to receive quality health care so that they may lead healthy and productive lives. While we understand the significance of bringing telemedicine to rural Medicare beneficiaries, we strongly urge Congress not to forget the medically underserved urban children who are Medicaid beneficiaries. They are important constituents, too.

We look forward to working with you to advance the use of telemedicine to help build healthy communities. If you need further information regarding CNMC, please do not hesitate to contact Greta Todd, CNMC Director of Legislative Affairs, at 202-884-2340. Thank you again for your consideration of our concerns.

