Testimony Before the
Senate Special Committee on Aging

Statement of

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April 22, 2010

Good afternoon Chairman Kohl, Ranking Member Corker, and distinguished Members of the Senate Special Committee on Aging. I am Dr. Farzad Mostashari, Senior Advisor to the Office of the National Coordinator for Health Information Technology (ONC) in the U.S. Department of Health and Human Services (HHS). Thank you for the opportunity to testify before you on HHS efforts to harness telehealth to transform health care and improve health and support aging in place by America's seniors.

Introduction

The American Recovery and Reinvestment Act of 2009 made a historic investment in health information technology (IT) providing up to tens of billions of dollars in incentive payments for certain Medicare and Medicaid providers who adopt and are meaningful users of certified electronic health record technology.

The proposed Health Information Technology for economic and Clinical Health Act (HITECH) definition of meaningful use establishes a purposeful trajectory of technology adoption and use to engage patients, improve quality and enhance care coordination. The initial stage of meaningful use focuses on electronically capturing and tracking essential health information, building the foundation for later stages focused on advanced clinical processes, such as telehealth, to demonstrate improvements in health care quality, safety and efficiency. By defining health IT in a flexible modular way, as outlined in the Initial Set of Standards and Certification Interim Final Rule, the program supports the development of innovative technologies that can help providers meet the increasingly rigorous requirements of meaningful

use. There is a need to define the standards and privacy and security protections to support these new technologies and modalities, potentially including mobile health devices and tools for remote monitoring.

These are unprecedented, outcome-oriented investments. The goal is not just for providers to purchase and install health IT—computers, software, internet connections, telemedicine—but to make improvements in health and health care through use of health IT. This means increasing health care quality and safety, reducing disparities, engaging patients, improving efficiency of care and enhancing care coordination. It is abundantly clear that telehealth can make substantial contributions in all of these areas, providing mechanisms to share scarce resources and bringing expertise and information to people wherever and whenever it is needed. And it is equally clear that many of the benefits delivered by telehealth or "e-Care"—increasing access to specialty services in rural areas, enabling remote monitoring of patients in their homes, and otherwise facilitating individuals' access to clinicians who are remote from the patients—will all help elderly patients remain in their homes and avoid costly and unnecessary hospital admissions. Delivery of critical health care services in patients' communities and homes can reduce costs born by patients, providers and health insurers and increase patient satisfaction. Elements of e-Care include:

- **Video consultation services** make specialty services available to rural and other underserved areas, improving health care quality and reducing disparities while also increasing convenience for patients. Nearly 50 million people living in rural areas face challenges accessing needed health care today.

- **Home monitoring** can place daily metrics of patients' health—weight, blood pressure and other vital measures—in patients' and providers' hands, improving chronic care management and patient engagement. Early detection of problems made possible with real time information, but not imaginable through office visits at six-month intervals, can help avoid unneeded hospitalizations for patients with heart failure and other chronic conditions.
- **Secure sharing and remote reading** of patient information such as radiographic images on high speed channels can improve care coordination and reduce the risk of medical errors.

Strong evidence backs these claims. My testimony describes how public and private sector programs have harnessed technology and care delivery innovation to promote patient access and support quality and continuity of care.

The Department of Veterans Affairs (VA) has dramatically decreased unnecessary hospitalizations through a wide-ranging effort to help veterans manage chronic conditions at home.[1,2] Hospital use decreased 25 percent overall and 50 percent for patients in highly rural areas by linking 32,000 chronically ill veterans with health care providers and care managers through video phones, digital cameras, and messaging and tele-monitoring.

[1] Jia H, et al. "Long-Term Effect of Home Telehealth Services in Preventable Hospitalization Use," *Journal of Rehabilitation Research and Development* 46, no. 5 (2008): 557-566.
[2] Darkins A, et al. "Care Coordination/Home Telehealth" The Systematic Implementation of Health Informatics, Home Telehealth, and Disease Management to Support the Care of Veteran Patients with Chronic Conditions," *Telemedicine and e-Health*, 14, no. 10 (2008): 1118-1126.

Using home based monitoring and web-based care to improve medication management, an effort at Group Health in Washington State almost doubled the number of hypertensive patients with controlled blood pressure and made care more convenient and responsive to patients' needs.[3]

These results are mirrored in an HHS study which found that three out of four home health agencies used telehealth applications for activities such as remote monitoring of vital signs and medication reminders for certain patients (such as those with heart failure or chronic obstructive pulmonary disease), use of cameras to document and forward wound images to wound care specialists and physicians, and enable virtual visits by therapists (e.g., physical therapist, speech-language pathologists) with patients. Reported telehealth benefits included: improved medication compliance; increased clinician and patient confidence for patient safety in their home; improved identification of and response to clinical changes; fewer emergency department visits and rehospitalizations; and an ability to keep patients at home rather than being admitted to a nursing home. Integration of telehealth data into electronic health records (EHRs) varied with the application and across agencies.[4]

Technologies for telehealth and e-Care and payment and delivery structures to support them are evolving rapidly in the market. New offerings combine telehealth technologies with innovative service delivery platforms that have the potential to transform care for the elderly, making it more responsive and available to support aging in place. American Well, for instance, partners with health plans to deliver just-in-time video-supported e-Care to patients with an internet

[3] Green, B. "Effectiveness of Home Blood Pressure Monitoring, Web Communication, and Pharmacist Care on Hypertension Control: A Randomized Controlled Trial," *JAMA*, 299 no. 4 (2008): 2857-2867.

[4] Kramer, A., et al. "Understanding the Costs and Benefits of Health Information Technology in Nursing Homes and Home Health Agencies: Case Study Findings." June 2009. http://aspe.hhs.gov/daltcp/reports/2009/HITcsf.htm

connection. The model leverages a large network of patients and providers who can connect securely on the internet along with existing plan licensing arrangements, and takes advantage of distributed excess physician capacity.

The mobile health sector is evolving particularly rapidly and producing innovative health applications for consumers using mobile devices such as smart phones. Some of the most interesting applications combine mobile health and remote monitoring, for instance, through the use of remote sensors to continuously monitor patients' heart rhythms or blood glucose level.

HHS Telehealth Initiatives

A wide range of initiatives and programs across HHS aim to unleash the transformative potential of telehealth in all three of the areas highlighted: video consultation services, remote patient monitoring and secure sharing and remote reading of patient information like radiographic images.

Video Consultation Services can deliver specialty and other consultation services across sites of care or in patients' homes, addressing geographic and other barriers to care, including low mobility. Medicare pays for telehealth services for beneficiaries seeking care in certain rural and non-urban provider sites including critical access hospitals, rural health clinics and federally qualified health centers. This includes telehealth services provided by physicians and non-physician practitioners for initial and follow-up inpatient consultations, office or other outpatient visits and pharmacologic management, among other clinical services.

Each year the Centers for Medicare & Medicaid Services (CMS) reviews the list of qualified telehealth services and considers adding or deleting services in response to public input. In evaluating whether certain services should be added to the list of Medicare telehealth services each year, CMS categorizes the requests into one of two groups and then examines their appropriateness for telehealth delivery based on the requirements of the applicable category. First, for services that are similar to existing services on the telehealth list, CMS considers whether the roles and interactions of the patient and practitioner in the requested services are similar to those of existing services. Second, for services that are not similar to existing services on the telehealth list, CMS considers whether the requested services, when delivered via a telecommunications system, result in similar diagnostic findings or therapeutic interventions as compared to face-to-face delivery of the same service.

In CY 2009, Medicare paid approximately $2.4 million under the Medicare Physician Fee Schedule for approximately 33,000 services explicitly identified as telehealth services. This was a substantial increase over approximately 21,000 services in CY 2008.

In addition, although the Medicaid statute (Title XIX of the Social Security Act) does not recognize telemedicine as a distinct service, States are encouraged to use the flexibility inherent in Federal law to create innovative payment methodologies for services that incorporate telehealth technology. For example, subject to Federal approval of a Medicaid State Plan Amendment, states may reimburse the physician or other licensed practitioner at the distant site and reimburse a facility fee to the originating site. States can also reimburse any additional costs

such as technical support, transmission charges, and equipment. If these additional costs are separately billed and reimbursed, the costs must be linked to a covered Medicaid service. Any State wishing to cover/reimburse for telemedicine services must submit a State Plan Amendment to CMS for approval.

Home Monitoring creates a real time feedback loop between patients and providers with the support of digitally-enabled devices such as glucose monitors to support chronic care management. The Health Services and Resources Administration (HRSA) funds six telehealth networks focused on improving outcomes and access for seniors through telehome care and telehome monitoring. In recognition of the potential of this technology, HRSA will also fund two telehealth resource centers specifically focused on providing technical assistance and evaluating telehomecare programs. These two centers will play a key role in identifying successful telehomecare practices and sharing those findings widely.

In all, HRSA supports 25 telehealth networks through an $11.6 million grant program which provided services in 96 clinical areas, across 690 sites in underserved rural areas. This included the delivery of pediatric services in 191 communities and mental health services in 159 communities that otherwise would not have had access to these critical specialty services. Since 2005, these grantees have supported 1,275 service sites across the country.

Initial evidence on the impact of HRSA's telehealth programs is encouraging. In 2006, the telehealth networks began measuring outcomes for diabetic telehealth services. From 2006 to 2007 the number of patients achieving glycemic control—a key indicator of successful diabetes management—rose from 34 percent to 42 percent.

Supported by funding from AHRQ, patients at Saint Vincent Hospital in Billings, MT share real-time information about weight, blood pressure and blood sugar with physicians across phone lines with the simple touch of a button. AHRQ has shown that aging Americans directly benefit from technology that connects them with their doctors and that meets their healthcare needs. [5,6] Ongoing AHRQ projects and research will provide critical information about how to deliver mobile and telemedicine technologies and services in the most effective and efficient way to improve the quality of health care. Since 2004, AHRQ has awarded over $260 million in grant funding for health IT, including 23 telehealth projects in 16 states.[7]

Secure sharing and remote reading of radiology images occurs widely under Medicare and is treated no differently than services provided on-site at the medical facility where the patient is located. Many radiological and pathological services, including reading X-rays, interpreting electrocardiogram tracings, and examining tissues specimens, are routinely provided in this manner.

In addition to supporting the goals of improving health care quality and efficiency and making care more patient-centered, the Department's telehealth programs also meet critical workforce and rural health needs: strengthening partnerships among health care providers, supporting new platforms for continuing education, modernizing health care infrastructure and facilitating the

[5] *Barriers and Drivers of Health Information Technology Use for the Elderly, Chronically Ill, and Underserved*, Structured Abstract. November 2008. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/tp/hitbartp.htm

[6] *Impact of Consumer Health Informatics Applications*, Structured Abstract. October 2009. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/tp/chiapptp.htm

[7] http://healthit.ahrq.gov/portal/server.pt?open=514&objID=5585&parentname=CommunityPage&parentid=2&mode=2&in_hi_userid=3882&cached=true&tech=1214012

recruitment and retention of health care professionals, especially in rural areas and other remote care settings. Physicians participating in the rural learning network established by AHRQ's Project ECHO in New Mexico reported having greater confidence treating chronic and complex diseases for patients unable to directly access specialist care, increased physician job satisfaction and lower turnover for nurses and other office staff.[8]

In addition to HHS programs, expansion of the Federal Communications Commission's Rural Health Care Pilot Program will make a marked contribution to the nation's telehealth capacity, funding the build-out of broadband telehealth networks linking hundreds of hospitals in 16 states. Broadband investments will address the "connectivity gap" for small, medium and large practices that could create a barrier to meaningful use.

Conclusion

Several issues that could potentially hamper broad adoption will need to be addressed in the near term including: privacy and security concerns, licensing and credentialing, and questions about the regulatory approach for these evolving technologies. Patient safety issues will be carefully considered by the Food and Drug Administration, to address the challenges and safety risks of using medical devices—that were not designed for use in this setting or by lay users—in the home.

While there is evidence that certain telehealth applications can improve care and reduce certain unnecessary costs, more information is needed about which strategies are most effective and under what circumstances, how to integrate telehealth with traditional care delivery and reduce

[8] Arora S, et al. "Academic Health Center Management of Chronic Diseases through Knowledge Networks: Project ECHO," *Academic Medicine* 82(2) (2007): 154-160.

barriers to adoption, how to implement telehealth approaches at enterprise and community scale and how to assure privacy and security of health information shared through these technologies. It is clear that the outcomes achieved by the VA and Group Health were not the result of simply purchasing and deploying telehealth or mobile health tools, but were due to the thoughtful pairing of emerging technologies with new care delivery processes. Future stages of meaningful use will provide a critical opportunity to advance effective telehealth as a way to increase patient engagement, improve chronic care outcomes and reduce unnecessary costs including avoidable hospital readmissions and emergency room use. A goal-based and not tool-specific approach will be important in this evolving market, to promote continued innovation of technologies and care delivery models.

New models for deploying and integrating telehealth technologies will be developed and tested through the HITECH Beacon Community Grant Program. This initiative will support at least 15 vanguard communities with high levels of electronic health record adoption to lead the way in demonstrating concrete and measurable improvements in, among other things, patient experience, health disparities and national high priority health conditions such as blood pressure and diabetes control and unnecessary hospitalizations; all areas that can be addressed through telehealth. Many will depend on innovative uses of telehealth for improving care for rural areas, stationary populations (e.g., home-bound patients and patients in correctional institutions and long term care facilities), and regions with a shortage of health professionals.

New payment approaches and care delivery models can also support appropriate and effective care in patients' homes and communities facilitated by telehealth technologies. Looking forward,

The Affordable Care Act (ACA) (P.L. 111-148) allows providers to utilize a series of new and innovative delivery system reforms, such as accountable care organizations, bundled payments, and value-based purchasing. As providers do so, we expect that the use of telecommunications technology in medical care may be beneficial in care models that focus on efficient and high-quality care to patients. In the context of current law and national, state, and local policies, the Department strongly supports innovative care delivery models, including the appropriate use of telehealth services, which incentivize high-value health care that focuses practitioners on the quality, not quantity, of care, and results in improved health outcomes.

The new Center for Medicare and Medicaid Innovation (CMI) is given authority to test innovative payment and service delivery models. These models may include care coordination for chronically ill individuals at risk of hospitalization through telehealth, remote patient monitoring, care management and patient registries. Efforts to improve medication therapy under Medicare Part D may also include use of telehealth approaches. In addition, ACA:

- Allows CMI to explore a teleICU model for electronic monitoring of ICU patients from physicians at remote sites and study the use of telehealth services in treating behavioral health problems.
- Allows accountable care organizations to advance evidence-based care, improve care coordination and improve quality and efficiency, which can include telehealth and remote patient monitoring.
- Allows use of remote monitoring for eligible medical practices in the Independence at Home Demonstration Program, for medication review by pharmacists, and in the Community-Based Collaborative Care Network Program.

Similar to the concept of meaningful use, what many of the new payment approaches share is a move away from fee-for-service payment towards a more outcome-oriented approach. This allows for adoption and use of technologies and care delivery approaches that are proven to work in improving care, engaging patients and reducing unnecessary spending. We don't yet have all the answers. They will come from continued technology innovation paired with more results-oriented payment and thoughtful study to capturing the lessons and evidence from ongoing efforts.

Mr. Chairman, thank you for the opportunity to appear before you today.