

June 16, 2014

The Honorable Bill Nelson  
Chairman  
Senate Special Committee on Aging  
United States Senate  
Washington, DC

The Honorable Susan M. Collins  
Ranking Member  
Senate Special Committee on Aging  
United States House of Representatives  
Washington, DC

Dear Chairman Nelson and Ranking Member Collins:

Intel is pleased to submit comments to the Senate Special Committee on Aging for today's panel *Harnessing the Power of Telehealth: Promises and Challenges*. The lack of formal integration of telehealth and remote patient monitoring into clinical caregiving, frankly baffles us. When world class integrated care systems such as Partners, Kaiser and Ascension Health show proven results that virtual care saves lives, reduces hospital admissions and emergency room visits, increases medication adherence and improves patient satisfaction, why is it taking US federal policymakers decades to legitimize and promote this kind of care. One of today's biggest health challenges is changing behavior to prevent and combat chronic disease. Rather than asking IF virtual care is effective, we should be asking HOW to use these technologies through best practices for programs that will provide personalized care for the patient. We commend the Senate Special Committee on Aging for engaging in a public debate to focus on these critical issues.

Intel is a world leader in silicon innovation, but our company and our 500+ subsidiaries have also been active in the healthcare arena both directly and indirectly.<sup>1</sup> Our technologies help to power the Internet, the broadband connected world, and many healthcare institutions globally with whom we increasingly work to connect patients, families, providers, and healthcare researchers with one another. For more than a decade Intel has focused a portion of its research and development efforts specifically on healthcare to better understand how to connect all of the major players through a wide array of health information technologies. Intel social scientists, medical informaticists, clinicians, and engineers have studied more than 1,000 patient homes and 250 hospitals and clinics in more than 20 countries to inform the development of products and solutions that can help bring forth a connected world for health care.

---

<sup>1</sup> Additional information about Intel is available at [www.intel.com/healthcare](http://www.intel.com/healthcare).

Care Innovations is a unique joint venture between Intel and GE, combining the companies' long histories of driving innovation and solving complex problems in the healthcare marketplace to build technology solutions and tools to meet the challenges of aging populations and rising medical costs. Care Innovations' flexible solutions connect people to their healthcare teams and give them the healthcare support they need to live independently, wherever they call home. Today, Care Innovations delivers products and services to support current and future care models in the areas of disease management and independent living. Care Innovations developed an FDA cleared class II medical device called the Guide, providing: videoconferencing; touchscreen interface; device flexibility with ability to install on and use with a range of devices; capture and report biometric data from patients to providers and electronic health records (EHR's); clinical triage monitoring; and patient education.

When used by a clinician, the Care Innovations Guide may:

- Improve patient health behaviors;
- Improve patient adherence to care plans;
- Reduce costly emergency room visits;
- Keep patients out of the hospital; and
- Improve patients' sense of security and connectedness.

#### **Virtual Care Improves Quality & Reduces Costs**

With funding from a federal Beacon Community grant<sup>1</sup>, St. Vincent Health worked with Intel-GE Care Innovations™ to test a remote care management program designed to reduce readmissions. Findings of the study, which concluded in 2012, **show a 64% reduction in hospital readmissions** compared to the study control group. Through daily telemonitoring of patients' biometrics — blood pressure, body weight, and oxygen saturation — and periodic videoconferencing, patients and their nurses were able to recognize any “red flags” and help address health problems before they became serious enough to require re-hospitalization.

Published results demonstrating these improved outcomes and lower costs with virtual chronic care management are exemplified by a pivotal evaluation of the most extensive U.S. deployment of virtual chronic care management, at the Veteran's Administration, showing significant drops in hospital and emergency room utilization<sup>2</sup>. Evaluation of Care Innovations' technology solutions shows similar results. However, in spite of the resources and commitment of Intel and GE, the progress has been slow because of the significant barriers to using remote patient monitoring and telemedicine. Although studies from the US and throughout the world cite significant health improvements by using these technologies, the federal government agencies have virtually ignored this new care model.<sup>3</sup>

#### **What happens when a city wide program advances better health through telehealth?**

In 2009, Taipei, one of the world's oldest cities, launched a “telecare” program that has generated some very promising results. Telecare — the instantaneous, borderless delivery of care via digimobile technological devices — is proving that it can give timely, personalized care to patients more effectively than the traditional methods of delivering care.

<sup>2</sup> Darkins A, Ryan P, Kobb R, Foster L, Edmonson E, Wakefield B, Lancaster AEs, Telemed J E Health. 2008 Dec., 14 (10):1118-26. doi: 10.1089/tmj.2008.0021

<sup>3</sup> Rashid L. Bashshur, etal. “The Empirical Foundations of Telemedicine Interventions for Chronic Disease Management” (made available May, 2013) (to be published in Telemedicine and eHealth).

The “Citizen Telecare Service System” (CTCS) –monitors vital signs in elderly patients with chronic conditions as they go about their daily lives. It looks for early-warning signs – in blood pressure, blood glucose, and temperature in order to provide advice and assistance to patients to help them avoid serious and costly health setbacks. Additionally, the CTCS system collected data on health consultation, medical and social welfare referrals, location based living services while providing patient education. The project had five models of care: homecare, community care, nursing home care, workplace and self-managed care. To reach 7371 patients, monitors were set up through “Household Service Stations, Community and Workplace Centers (including centers for bus operators), nursing homes and workplaces. In other words, healthcare went to the patients.

The success of the CTCS telehealth program has been unequivocal. From 2009 - 2011, the system demonstrably reduced high systolic blood pressure (SBP) among its elderly patients. There was a reduction in the percentage of participants with SBP above 140mmHg from 36.38% to 27.24% and a drop in SBP above 120mmHG from 75.05% to 71.24%. Furthermore, a full 84% of those who received care from the service have been satisfied with it, and 82% support continued use of CTCS. The CTCS platform is integrated with Citizen Health Records so that the patient generated health data is automatically captured in the clinical health records. The program was a public-private partnership through National Taiwan University, Yonglin Healthcare Foundation, Intel Corporation, ChungHwa Telecom and International Integrated Systems (IISI).

#### **With the rise of the internet culture, there is a shift from passive to active patients**

Patients and their families are more engaged and more digitally monitored by a growing array of apps and devices. In one indicator, the Intel Healthcare Innovation Barometer—an eight-nation, 12,000-adult survey conducted last year<sup>4</sup>—revealed the following:

- 80 percent of respondents are optimistic about healthcare through innovation and technology.
- 70 percent are willing to see a doctor via video conference for non-urgent appointments.
- 70 percent are receptive to using toilet sensors, prescription bottle sensors, or swallowed health monitors.
- 50 percent believe the traditional hospital will be obsolete in the future, and would trust a test they personally administered as much or more than if performed by a doctor.

#### **We propose six fundamental questions for Congress to consider in removing barriers for telehealth:**

1. **Funding**– Currently Medicare provides no reimbursement for bio-monitoring of patient vital signs for chronic disease and less than \$6 million annually of the \$572 billion Medicare budget (2012) was spent on telemedicine. How does Congress change policy to promote the use of these proven technologies while preventing against overuse and fraud?
2. **Integration into new care models** – Accountable Care Organizations have been established to share savings and risks based upon cost and quality metrics. However, they must adhere to outdated Medicare laws restricting the use of remote care. How should HHS promote innovation as Medicare transitions from a fee for service to an alternative payment model?

---

<sup>4</sup> Survey conducted online by Penn Schoen Berland on behalf of Intel in Brazil, China, France, India, Indonesia, Italy, Japan and the United States from July 28 to Aug. 15, 2013. For more information on the Intel Global Innovation Barometer visit [www.intel.com/newsroom/healthcare](http://www.intel.com/newsroom/healthcare).

3. **Reevaluating CMS codes through a virtual care lens** – how can CMS re-think a coding system that is primarily focused on acute care in the context of a chronic disease explosion. The Centers for Disease Control and Prevention (CDC) announced in June that 9% of the US population has diabetes and one third of adults have “pre-diabetes.”<sup>5</sup>
4. **Licensure** – state based licensure of healthcare professionals limits the ability to scale the use of telemedicine and also caps the potential to create centers of excellence that can use their expertise to treat patients locally as well as nationally through virtual care. How can federal policymakers create a virtual care licensure that treats patients where they are, not based upon the the doctor is credentialed?
5. **Research** - should NIH and NSF be funded to develop a collaborative national research environment and scalable infrastructure to improve the longitudinal study of aging and accelerate innovation and the evidence base for healthy aging and senior independent living?
6. **Patient Generated Health Data** – since biometric data collected daily from patients shows real time health status, should this data be part of the patient’s electronic health record.

### **Funding - Reimbursement for telehealth and remote patient monitoring**

For many of today’s chronic diseases, beyond drug therapies, the answer is behavior change and that typically doesn’t happen in the doctor’s office. Although patients hear the instructions to “eat less, walk more and take your meds”, it requires the learnings from behavioral science to reverse course in diet and exercise, especially in older adults. Many people with chronic conditions face this challenge with little daily support. To help make this lifestyle change, remote care plans are a cost effective way to apply well evidenced principles of behavior change. First, people have daily access to trained clinicians through videoconferencing. Secondly, they have the ability to deliver real time information about their own health and personalized education to self-manage their conditions. For example, when the patient’s blood pressure rises during a morning biometric reading, the patient may engage the clinician through videoconferencing to discuss the reasons – was it a heavy meal the night before? During this teachable moment, information is pushed directly to the patient regarding diet alternatives. And it works as noted earlier by the growing body of evidence.

Today’s Medicare program’s telehealth benefit (Section 1834m of Medicare Part B’s reimbursement system), unnecessarily restricts use of clinically proven remote monitoring technologies in the Medicare delivery system where it is most needed and can provide the most benefit.

Major Medicare restrictions in 1834(m) provide no coverage for--

- the 80 percent of beneficiaries who reside in metropolitan counties,
- remote patient monitoring for chronic conditions,
- beneficiaries at home,
- many provider services to the extent otherwise covered for Medicare, and
- some specialists’ interpretation of "store-and-forward"/asynchronous medical images and other data.

### **States are adopting forward looking policies**

---

<sup>5</sup> Centers for Disease Control and Prevention, June 10, 213 <http://www.cdc.gov/media/releases/2014/p0610-diabetes-report.html>.

According to The Center for Connected Health Policy in their November, 2013 report<sup>6</sup> 10 states have reimbursement for remote patient monitoring. One of the most comprehensive programs started in Texas on October 1, 2013 where both equipment and clinician consultation are covered benefits for Texas Medicaid clients who are diagnosed with diabetes or hypertension.

### **Recommendations**

HHS should integrate virtual care into their multi-faceted programs:

- Centers for Medicare and Medicaid Innovation should develop one to two year pilots to evaluate the benefits of remote care and then scale those that are successful.
- CMS should adopt the Department of Department of Veterans Affairs Home Telehealth programs for Medicare patients.
- HHS should include remote care programs in Patient Centered Medical Homes, the dual Medicare/Medicaid initiatives and additional innovation programs run by the Agency.

### **Integrating virtual care into new care models**

Since the goal of the alternative payment models will be to treat patients in the most efficient, comprehensive programs, the addition of telehealth as part of the care plan will tie closely to the goals. Telehealth reimbursement will be used as a tool to achieve reduced hospital readmissions, bed days, and emergency room visits while providing care in the least restrictive mode, at home.

### **Recommendations**

For these reasons, we recommend that HHS immediately consider eliminating the 1834(m) restrictions for chronic disease patients treated through alternate payment models, accountable care organizations(1899), Independence at Home pilots and bundled payments for care improvement initiatives (under section1866D):

- Eliminate the restriction on beneficiary geography;
- Eliminate the stipulation of live voice and video; and
- Eliminate the restriction on location and presence of a health professional for receipt of telehealth delivered evaluation and management services.

### **Re-evaluate CMS codes to allow the use of virtual care for Complex Chronic Care Management**

The complex chronic care management service codes proposed by CMS in July 2013 are a vital first step to transforming chronic care delivery in the traditional Medicare system. With reimbursement for virtual chronic care management, providers can deliver efficient and patient-centered care in the home, with a proactive care delivery model.

### **Recommendations**

As CMS further develops and finalizes standards for complex chronic care management services, we urge the agency to:

---

<sup>6</sup>Center for Connected Health Policy, State Telehealth Laws and Reimbursement Policies, , November, 2013, <http://cchpca.org/sites/default/files/50%20State%20Medicaid%20Update%20Nov.%202013%20-%20Rev.%2012-20.pdf>.

- Make Medicare beneficiaries diagnosed with a chronic condition for which virtual care is beneficial eligible for the service. Extensive literature and clinical work show that heart failure, chronic pulmonary obstructive disease, diabetes, and high blood pressure are among the chronic diseases for which virtual chronic care management reduces high intensity utilization and lowers costs. Beneficiaries with these chronic conditions experience some of the highest costs, utilization, and system dysfunction that is solved by virtual chronic care management.
- Establish access to patient electronic EHR's on a 24 hour a day, 7 day a week basis for all clinical staff providing after-hours care as a standard.
- Work with providers and industry to establish standards through best practices for remote care.
- Permit "subsequent complex chronic care management" for billing for on-going monitoring conducted over a 90 day period that engages clinician time of 60 minutes or more. The preventive aspects of remote care go beyond the typical episodic sick care approach and provide tools to help chronically ill patients avoid the next episode.

### **Change the State Based Licensure Laws**

The US has locked itself into the 50-state model of regulating physicians, running counter to the concept of telemedicine connecting people across borders. Interstate licensure of physicians and a more uniform approach should be considered to enable wider use of telemedicine. Today, telehealth and remote patient monitoring are limited by the difficulty of establishing centers of excellence at local, regional, and national levels since doctors are licensed on a state by state basis. The vision of remote call centers where patients are coached and monitored on a national scale would provide efficiencies and expertise not possible through current licensing restrictions.

### **Recommendation**

U.S. House of Representatives legislation such as HR 3077, the Tele-Med Act introduced by Congressmen Nunes and Pallone would allow Medicare providers to treat patients electronically across state lines without having to obtain multiple state medical licenses as long as they were licensed in their own state.

### **Research**

Intel along with a number of research institutions including OHSU, NSF, and NIH started the SILvR Network, an initiative to develop and sustain a collaborative research environment and scalable infrastructure to improve the longitudinal study of aging and accelerate innovation in senior independent living. Much like the Framingham Heart Study, the Network was envisioned to be a multi-faceted study of diverse aging populations. Although great progress was made in designing the framework, the study was cut short from lack of funding.

Just last week, many of the original researchers convened a workshop to revisit the progress and gaps in research and to think about a re-start of the SILvR Network concept. NIH will prepare a white paper describing a research agenda to inform new federal research on home health technologies needed for an aging population that will optimally lead to discerning the kinds of randomized trials needed to test the use of these technologies. More information can be found at: <http://www.cra.org/ccv/visioning/visioning-activities/aging-in-place/411-aging-in-place-workshop>.

### **Recommendation**

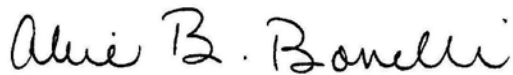
The US Congress should consider funding a longitudinal study on independent living that would connect studies across the country to provide, for the first time, a large cohort of seniors to measure the impact of technologies combined with data analytics to both assess and predict how best to provide for extending the active and healthy aging of US seniors. The studies should focus on health and wellness, communication and engagement, home safety and security. The studies would remain technology agnostic, but focus on understanding aging and the process tools and behaviors that enable independent living.

**Patient-generated health data is essential for a comprehensive patient record and should therefore be required for EHR integration.**

Telehealth and remote monitoring give an accurate, longitudinal dashboard of patient health. This data is far more reflective of a patient's health than the periodic visits to the doctor or specialist and should be an integral part of the EHRs. Additionally, the data should be required to demonstrate compliance with open industry standards for interoperability for patient monitoring equipment/devices.

In summary, we applaud the Senate Special Committee on Aging for investing the time and resources to study the value of telehealth and remote patient monitoring as tools to improve the health of aging patients. Please call upon Intel or Care Innovations should you have any questions regarding our engagement in the research and development of independent living solutions.

Sincerely,

A handwritten signature in black ink that reads "Alice B. Borrelli". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Alice B. Borrelli  
Director, Global Healthcare Policy  
Intel Corporation  
202-626-4393