



**Prepared Statement of Bettina Experton, M.D., M.P.H.
Humetrix President & CEO
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Energy and Commerce Committee
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**Hearing on
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Chairman Burgess, and distinguished Subcommittee Members, thank you for the opportunity to appear before you today to discuss the disruptive role of health apps in transforming the U.S. health care system. My name is Dr. Bettina Experton, and I am the founder and CEO of Humetrix, a mobile health technology company, based in Del Mar, California. As a former practicing physician, data scientist and public health officer, I became a healthcare IT entrepreneur focusing on mobile technology because I believed that the best way to treat patients, improve health outcomes, and reduce waste is to put patients' critical health information into their own hands, so they can share that information with their physicians when needed.

With 68 percent of Americans using a smart phone daily¹, and new HIPAA rules giving each of us a legal right to electronically access our health records, consumer facing mobile health applications can be a cure to the *information blocking* which is still plaguing our health care system. After the disbursement of close to \$35 billion in Electronic Health Record (EHR) incentive payments, only 18 percent of physicians regularly exchange patient records, despite the fact that 96 percent of hospitals are now using federally certified EHRs².

In a healthcare environment in which one-third of expenditures are wasted³ on redundant care, and medical errors representing the third leading cause of death in the U.S. today⁴, having immediate access to a patient's health history can literally save lives and also significantly reduce healthcare costs.

¹ Pew Research Center, "Technology Device Ownership: 2015"
<http://www.pewinternet.org/2015/10/29/technology-device-ownership-2015/>

² Joseph Conn, [Hospitals achieve 96% EHR adoption rate: data exchange still needs work](#), *Modern Healthcare*, May 31, 2016

³ Erin P. Balogh, Bryan T. Miller, and John R. Ball, *Improving Diagnosis in Health Care*, 2015; Committee on Diagnostic Error in Health Care; Board on Health Care Services; Institute of Medicine; The National Academies of Sciences, Engineering, and Medicine

⁴ Martin A. Makary, Michael Daniel *BMJ* 2016;353:i2139; Ariana Eunjung Cha, [Researchers: Medical errors now third leading cause of death in United States](#), *Washington Post*, May 3, 2016

Leveraging Patient-Facing Mobile Apps to Cure Information Blocking

Unfortunately, business barriers, outdated technologies, and difficult patient consent procedures leave patients relying solely on their doctors to assemble their health history from multiple records. In contrast, just by opening Humetrix's iBlueButton mobile app, more than 50 million Americans covered by Medicare, 10 million active duty and retired military personnel and their families, and 9 million Veterans actively using VA healthcare services can securely download, understand, annotate and share their medical history whenever they need to from their smart phone.

The average Medicare beneficiary sees seven different doctors every year. And our Veterans receive more than 50 percent of their care outside of the VA health system. Often they are transitioned from the DoD health system with complex health needs and the coordination of their care is not optimum as the exchange of records between these two systems is complex and expensive to maintain.

For millions of patients – Veterans, TRICARE beneficiaries and older Americans – many with complex healthcare needs, safety and care coordination require access to an up-to-date picture of their medical history at every point of care. In today's environment, where hospital systems and doctors don't often share records, the potential for medical errors as a result of incomplete information is high. However, there is a cure: patient-facing mobile technology that puts each patient's medical data in their own hands, securely, and effectively.

The competitive business barriers that keep hospital systems from communicating with one another do not exist between a doctor and his or her patient. Humetrix has developed a suite of standards-based medical apps, which use the existing EHR infrastructure to help solve the interoperability challenge by having patients access and share their personal health information with their own mobile devices.

Humetrix's iBlueButton App: A Case Study for Safer Care of Veterans at VA and Non-VA Providers

Randy Watson, a disabled Army veteran who served in Korea and Vietnam, is an active user of Humetrix's iBlueButton mobile app to aggregate and annotate his health records from the VA, Medicare and his private providers directly and securely on his mobile phone. Watson manages various service-connected health problems, survived multiple heart attacks, and has had several surgeries, some of which were performed by specialists outside VA facilities. Because the closest VA Medical Center is more than an hour away, in emergency situations, he often finds himself in a non-VA hospital closer to his home. He reports that having his VA and Medicare records on his mobile device has resulted in doctors quickly getting his information, and in many cases, avoiding repeating costly tests like MRIs.

Randy, and millions of Veterans like him, can use iBlueButton to aggregate their VA, Medicare and other provider records, into a longitudinal health record that is easy to read and annotate. The app takes claim (Medicare, Medicaid) or EHR data (from VA, DoD or private providers) and decodes it, reformatting the information on the fly into a usable format, so that information about all medications, providers' contact details, and the dates of tests and procedures are easily accessible on the patient's mobile device. And because the information resides on the device itself, it is accessible even without an Internet connection, and is safely encrypted and saved under the user's own control, rather than in the cloud or on servers where it is vulnerable to hackers.

iBlueButton: A Readily Available Commercial Application

iBlueButton offers the VA, as well as other government agencies, the use of a widely available commercial mobile application on both iOS and Android devices that can help bridge this interoperability and data sharing gap that exists between the VA, DoD and private health providers. The VA even recognized iBlueButton as a finalist for the 2012 VA Innovation Initiative (VAi2) and elevated Humetrix to the level of a named Blue Button health partner. Our observation has been that in spite of this official recognition from the VA for our continued excellence in developing state of the art patient-centric mobile health record technologies, the VA is continuing to rely on an approach that models their EHR modernization effort when it comes to fielding mobile health applications. The VA awarded several mobile health apps Custom Development Software contracts in the past several years, some of which have come under question in a preliminary report by the VA Inspector General in terms the procurement process and the type of funds used⁵. The VA has had a very long and public history of trying to build custom developed applications, which have tended to run over budget and delivered less than state of the art solutions given the commercial products that exist on the market that can readily meet the VA requirements in many instances. Commercially available solutions should in most cases be the first source for trying to meet government IT solution needs, before moving out with expensive and lengthy custom development efforts that typically fall far short of capability and are in many cases fielded way behind schedule or not at all.

In its June 30, 2016 report⁶, the Commission on Care appointed through VACCA (Veterans Access, Choice, and Accountability Act of 2014) recommends that IT procurement use "flexible contract structures to allow the onboarding of emerging technologies in a competitive fashion". Although GSA procurement rules under the FAR Part 12 – Acquisition of Commercial Items, allows for and specifies the requirements for the purchasing of computer software from commercial vendors, those acquisition rules still provide major obstacles for commercial firms such as Humetrix to do business with the VA. We have made numerous attempts to engage with the VA on how iBlueButton could best serve the needs of the VA patient

⁵ <https://www.meritalk.com/articles/exclusive-va-spending-on-mobile-apps-and-vista-enhancements-violated-appropriations-law/>

⁶ Final Report of the Commission on Care June 30, 2016; <http://commissiononcare.sites.usa.gov/>

population. Hopefully the Commission on Care June 30 Report will provide an impetus for the VA to take action to truly facilitate the on-boarding of emerging technologies such as iBlueButton, using more streamlined and less cumbersome contracting approaches that can field significant innovations to help Veterans better manage and take control of their health care.

Health Apps for Cost Control in Government Health Programs

Health apps like iBlueButton deliver on the promise of both the HITECH Act and President George W. Bush's 2004 health record initiative by putting their own personal longitudinal health record into the hands of every American. In addition to saving lives, the ability to share records at the point of care can make a huge difference in terms of cost containment for government health programs. The State of New York is planning to provide next year a State Medicaid version of iBlueButton to their millions of Medicaid beneficiaries. By giving Medicaid beneficiaries the ability to share their medical history at every point of care, iBlueButton will help to address both the critical patient safety needs and cost efficiency needs of State Medicaid programs serving a population of Americans who often lack care coordination in a very fragmented system.

Health Apps: EHR Standards-Based and Privacy Focused

Humetrix has been an active participant in efforts led by the Office of the National Coordinator for Health IT to devise standards now required of EHR systems to enable Americans to securely download their records into applications complying with these standards. Humetrix technology is built on the HL7 C-CDA content and "DIRECT" data transport standards and on the upcoming FHIR standard. In recognition of Humetrix's innovative applications of the standards, we have won three ONC/HHS Industry Innovation awards and have recently been named as a winner of the HHS sponsored "Medicare Blue Button on FHIR" code-a-thon. Humetrix has also led a group of technology companies and patient organizations to encourage the HHS Office of Civil Rights (OCR) to require that providers make use of their federally certified EHR systems to transmit machine readable records to patients' applications for them to share with other physicians (see January 30, 2015 Humetrix letter to the OCR⁷).

As a member of the Consumer Technology Association's (CTA) Health and Fitness Technology Board, Humetrix actively worked on the CTA Guiding Principles on the Privacy and Security of Personal Wellness Data⁸ because it is important that consumers understand both the potential value of health technologies and the privacy options they have. We applaud CTA's efforts to drive these guiding principles across the industry, as we believe it will drive adoption and awareness of important medical apps that can literally save lives.

⁷ http://www.humetrix.com/letter_2015_01_30_ocr_direct.pdf

⁸ <https://www.cta.tech/News/Press-Releases/2015/October/Association-Unveils-First-of-Its-Kind.-Industry-Su.aspx>

Humetrix Health Apps to Tackle Biggest Public Health Challenges in the US and Abroad

On November 5, 2015 before the French parliament in Paris, at the invitation of the French Secretary of Health, Humetrix highlighted iBlueButton as a model of how to provide French citizens mobile access to their personal health information. In the UK, Secretary of Health Jeremy Hunt recently announced that British citizens will have mobile access to their health records, citing the US Blue Button initiative and commercially available U.S mobile apps such as iBlueButton as models. In the UK, two other Humetrix mobile health technology platforms, SOS QR and TENSIO, have both been selected this year for deployment by the U.K.'s National Health Service (NHS) as part of the NHS England Innovation Test Beds program, which is focused on modernizing NHS services.

SOS QR: An Award-Winning Smartphone Application for Emergency Care

SOS QR was designed to keep individuals safe wherever they are. Available for iOS and Android devices and the Apple Watch, SOS QR lets anyone easily create an emergency record that includes medical conditions, medications, allergies and emergency contacts, and makes it available via a QR code on the lock screen of the user's device. The SOS QR code can also be printed on a wallet card or stickers.

Using any QR code scanner, emergency responders (EMTs, ED personnel, Good Samaritans) can scan the SOS QR code and quickly access pertinent medical history. In addition to providing critical information, when activated, the app automatically generates messages to the user's emergency contacts, including the GPS location where the incident took place.

SOS QR also features an SOS Button that allows users to notify their own emergency contacts of the need for help and their location with the touch of a button; and an OK button that can let contacts know when help has arrived or if they are safe in a disaster scenario. For Apple Watch users, the SOS and OK buttons can be accessed with a quick tap on the wrist, turning SOS QR into a personal alert system.

SOS QR also dynamically changes the language of the record retrieved by emergency responders as users travel to different regions of the world; automatically pulling the local versions of medications that correspond to the ones the patient takes at home. SOS QR is available in English, Spanish, French, Portuguese and Mandarin Chinese.

The app is designed for use by anyone – young, old, able or disabled – facing an emergency situation, or who might need to communicate his or her critical health and personal information. In June 2016, SOS QR was recognized as an important tool to help individuals with disabilities lead independent lives, receiving the prestigious FCC Chairman's Award for Advancements in Accessibility. As legislative milestones like

ADA, IDEA and ABLE continue to expand opportunities for people of all abilities, technologies like SOS QR support independence through the transformative power of mobile technology. By making it easy to call for help and share critical personal information in an emergency, SOS QR turns consumer devices into mobile personal alert systems, providing the security and accommodation that people of different abilities need to achieve greater independence. In France, SOS QR was also recently selected as a 2016 finalist of the prestigious international “Prix Galien” award for digital health.

Humetrix’s SOS QR technology has also been recognized with an Industry Innovation Award given by the Office of the National Coordinator/Department of Health and Human Services in October 2013, and was one of three mobile apps showcased at the White House Innovation for Disaster Response and Recovery Demo Day in July 2014.

TENSIO Addresses the Needs of the 75 Million American Adults with Hypertension

TENSIO was especially designed to help the 50 percent of diagnosed hypertensive patients whose blood pressure (BP) cannot be controlled with the usual clinic-based care. TENSIO uses mobile technology to advance the recognized need for home blood pressure monitoring and includes a life style modification approach to hypertension treatment. By integrating data from self-monitoring devices (BP monitors, digital scales, and activity trackers) with the patient’s own medical record data automatically imported from iBlueButton, and an onboard expert system for personal coaching, TENSIO provides alerts and notifications on the patient’s smartphone or Apple Watch so they can better manage their prescribed medication, diet, and exercise regimen. Alerts and notifications are generated by the app itself and immediately appear on the user’s device without requiring an Internet connection. This technology approach bypasses the need for any personal information storage in the cloud where it can be vulnerable to hackers. Armed with ongoing guided personal coaching, consumers can actively manage their health, and in communication with their doctors, achieve better treatment and blood pressure control.

Conclusion

In closing, I would like to thank you again for allowing me to testify today. At Humetrix, we believe that disruptive mobile technology, developed in the private sector, and placed in consumers’ hands, can be the needed disrupter to change the face of health care. I look forward to answering your questions.