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Mark Masselli: This is Conversations on Health Care, I'm Mark Masselli.

Margaret Flinter: And I'm Margaret Flinter.

Mark Masselli: Well Margaret we find ourselves at the start of 2016 with yet another attempt by the Republican led Congress to repeal the health care law. This is the first time both the house and senate may find some agreement over a repeal of the ACA.

Margaret Flinter: Well Mark that underscores the deep divide that still exist over the ACA. While Congressional Republicans are continuing the fight, many Republican governors around the country are beginning to sing quite a different tune.

Mark Masselli: Many Republican governors are starting to understand the cause their political stance has had not just a health of their constituents but as well on the state coffers.

Margaret Flinter: Well, remember Mark the Supreme Court 2012 decision upheld the Affordable Care Act but not the mandate requiring all states to expand Medicaid coverage. Many Republican governors chose not to extend that coverage to their poorest residences as a result the move left millions of American still uninsured and governors left billions of dollars of federal money on the table.

Mark Masselli: Republican governors Arizona and Arkansas, Indiana, Iowa, Michigan, Nevada, New Jersey, New Mexico and Ohio have expanded their Medicaid program, and some of their more reluctant colleagues are starting to see the wisdom of such a move.

Margaret Flinter: We have to pay attention to the numbers for the first time America's uninsured rate has dipped below 10% and that's thanks to the Affordable Care Act. So as the saying goes progress not perfection.

Mark Masselli: And another big influence here in health care in 2016 will continue be the influx of digital health technologies in the traditional health care space.

Margaret Flinter: And our guest today is focusing his efforts on the dramatic potential of this emerging market. Jeff Williams is the Chief Operating Officer of Apple and he also oversees the tech giants foray into the growing health care space with Apple Health Kit, ResearchKit and the Apple Watch.

Mark Masselli: We also will be hearing from Lori Robertson managing editor of FactCheck.org who's always on the hunt for misstatements spoken about health policy in the public domain, but no matter what the topic you can hear all of our shows by going to chcradio.com.

Margaret Flinter: And as always if you have comments please email us at chcradio@chc1.com or find us on Facebook or Twitter because we love hearing from you. We'll get to our interview with Jeff Williams the Chief Operating Officer of Apple in just a moment.

Mark Masselli: But first here is our producer Marianne O'Hare with this week's headline news.

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Marianne O'Hare: I'm Marianne O'Hare with these Health Care Headlines. About two and a half million Americans have already signed up for coverage in the latest round of open enrollment under the Affordable Care Act. The new numbers have brought the nation's uninsured rate to below 10% for the first time but problems still persist cost are on the rise for health coverage and there are rumblings among some big insurers like United Health Care they may pull out of the exchanges in the future. The Republican controlled congress already aiming for another repeal vote as well. The president, meanwhile, ready to use his veto pen if necessary to overwrite any repeal attempt.

What's the biggest health threat in coming decades according to Pew research and other analyst antibiotic resistance could be the leading killer globally by 2050. The rampant overuse of antibiotics in health care as well as in animal production leading to the advent of super bugs that allude even the strongest antibiotics. Resistant infections have caused an estimated 700,000 deaths globally this year but scientist warned that number will be around 10 million per year if action isn't taken. They will also cause the world about a 100 trillion dollars per year.

Opioid abuse is poised to become one of the hot health topics for the coming years as the death toll rises to over a 150,000 Americans from either prescription Opioids or illegal drugs like heroin. An alarming patterns has also emerged as public health officials begin to delve more deeply into the epidemic. Researchers at Boston Medical found that even those patients who overdosed on Opioids and were revived continued to receive their Opioid prescriptions. They say a points to a fragmented care delivery system where the primary prescriber may not even know the overdoses occurred, and the American Cancer Society change its recommendation for breast cancer screenings in 2015 leading to more confusion about diagnostics guidelines raising the recommended start time for a baseline mammography at age 45 instead of 40 and only screening every other year after 55 for the age of the end of menopause. Now come some interesting new evidence on the efficacy of ultra sound as an effective screening tool for women especially those with dense breast tissue and a three year test involving over 2000 women with dense breast mammography was better at detecting

calcifications. Ultra sound however was better at detecting invasive cancers. I'm Marianne O'Hare with these Health Care Headlines.

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Mark Masselli: We're speaking today with Jeff Williams, Chief Operating Officer of Apple overseeing the development of Apple Watch and driving the company's health initiatives including ResearchKit which is aimed at simplifying medical and health research. Jeff joined Apple in 1998 as head of worldwide procurement and he played a key role with Apple's entry into the mobile phone market with the launch of the iPhone in 2007. Since 2010 he's overseeing Apple's entire supply chain as well as service and support and social responsibility initiatives. Prior to his 10 year at Apple Mr. Williams worked at IBM for 13 years both engineering and operational capacities. He earned his master's in mechanical engineering from North Carolina State, his MBA from Duke. Jeff welcome to Conversations on Health Care.

Jeff Williams: Thanks Mark, great to be with you.

Mark Masselli: Since his birth in that California garage in the 80s Apple's been synonymous with innovation in groundbreaking technology. We've cycled through quite a few consumer products since then multiple iterations of the Mac, the iPod, the iPhone, the iPad and the most recent Apple launch is the Apple Watch which CEO Tim Cook has described as a new intimate way to communicate from your wrist. Could you tell our listeners about the genesis of the Apple Watch and how its advancing this idea of wearables as the ideal communication device that may help facilitate the advance medical research as well.

Jeff Williams: Yeah actually Mark the process is much more organic. In this case, many years ago Johnny and the ID team started looking at how you might interface with a small screen and we were surprised at how compelling that was, new idea surfaced and it ultimately ended in us producing the Apple Watch but the process is very organic and in terms of health and communication the two biggest things we've seen in terms of response on the watch are actually in those two categories. The first is people are telling us that the watch helps them be more present. The fact that they're able to triage their communications quickly is been really helpful but the biggest impact is actually been on health.

Quite honestly we've been surprised and very inspired so many people have written to us saying it's help them lose weight, it's help them be more active, they were pre-diabetics and have changed course and even we've gotten a ton of emails where people are saying the watch actually saved their life. First thing though I got the only thing on the Apple Watch from a true medical sensor standpoint is the heart rate sensor and anybody can get their pulse you just put two fingers on your wrist and watch the

clock but having the information readily available and possibly more important the fact that it's passively tracked, it's tracked in the background has proved to be profound in a way we didn't anticipate.

We've gotten so many emails where people or their cardiologist have written us and said this person detected something on their watch and came in and they had a life-threatening situation and if we had not intervened they probably would have died, and they look at their iPhone because they have an Apple Watch and they see that wow I can see my heart rates throughout the day and I notice I have this severe drop in blood pressure. The fact that it's monitored it gives people a more continuous view versus just a snapshot into their health and so we think we're just at the beginning and couldn't be more excited about the future.

Margaret Flinter: Well you initially develop the Apple Health Kit as a place for users to be able to store their health data, and other companies certainly had entered the space and we've had some of those participants from those initiatives on the show who thought it was just too soon for people to feel comfortable storing personal health data in the cloud. What's different about Apple Health Kit and what kinds of health data is its design to capture?

Jeff Williams: I don't know that it was too soon. We took a completely different approach, in fact we don't store your information at all, we put the user squarely in control of their health data. Think of your phone inside your phone there's a little save and you are the save manager and so let's say you have a blood pressure cuff whatever that collects input you decide whether to let that device write information into your little save that's on your phone, and then let's say you want to share that data. You got hypertension and you've got a health care provider that wants to track your blood pressure result.

You decide whether you want to allow data to leave that little save on your phone and go to the health care provider through their app and Apple doesn't store your data, it's not out in the cloud and that's the approach but you are right, we did not set out with the goal to go into the health data business. It really surfaces a need we're working on the watch, we needed a place to store data and as we looked at it we said well I think there's a problem to solve and so we don't actually think in terms of markets that this is the health care market. We tend to think in terms of is there a problem that needs to be solved for people and can we produce something that's really inspiring and helpful and that's how it entered here.

Mark Masselli: And if you connect the dots there you have 700 million iPhone users around the world and after Apple launched its Health Kit in 2014 you realize that this

treasure trove of health information was being generated by users, how did Apple Health Kit lead to Apple ResearchKit and how do all of those pieces fit together?

Jeff Williams: We were talking with medical experts because we were building the watch and we had this idea of health kit is a place to store it and the conversations would often drift to problems they faced and in research and as we listen to these problems we saw a huge opportunity to help. In fact there's been such amazing progress in medical research but the number one problem that researchers face is actually recruiting participants and as a result you can have 20, 50 maybe a 100 people in a study if you're lucky. If you participate in a research study you have to usually drive to the location, you have to sign legalities documents for consent. So we saw a huge opportunity to take advantage of the phone the fact that people have it with them all the time, the fact that it has powerful sensors that can aid and research and so we started working on the ResearchKit.

Margaret Flinter: So of course some of your ground floor medical research partners then maybe the kinds of advances that you've seen by tapping into these larger pools of research participants.

Jeff Williams: Maybe the best way to explain ResearchKit is to talk about a disease. Let's talk about Parkinson's, Parkinson's a movement disorder it affects millions of people. If you think about how you would study Parkinson's today you would have to recruit patients, they have to come into the office, they have to have assessments from doctors, and there is problems with that. So we did something different, we took advantage of the fact that there are powerful sensors on the phone. One of the prime ways that you study Parkinson's is to have a patient walk in front of you and the doctor assesses their gait imbalance.

With ResearchKit you can use the accelerometer and the gyroscope on the phone and a person can just do a walk test put the phone in their pocket and conduct a walk test and they can do it anywhere not just in the doctor's office and so what this did is it allowed people all over the United States and other parts of the world participate in the study that in a prior process would have required them to go to a physical location and now they can sign up, they can participate, they can do it multiple times a day, you get much better data, and so what ended up happening when this app was released is within 24 hours it became the largest Parkinson study in the history of the disease and so what's even more interesting is as you pointed out we're already seeing insights usually it takes a long time in these studies to see insights and we're already seeing cases where it's clear that the medication that people are taking is not helping their symptoms.

We also believe that this app or some modification of it could ultimately diagnose Parkinson's which is -- which is just powerful when you think of the democratization of medicine. So we think the potential is huge. You know, another example is asthma, Mount Sinai wanted to study what are the exacerbators of asthma and Mount Sinai is based in New York if they were doing the study in the traditional process they would have had people around New York City. So with ResearchKit they launch an app and people all over the United States now are sending information into the ResearchKit study. The GPS on the phone tracks where the person is going, the Bluetooth inhalers that they use for asthma record how often they're using their inhaler and so it's this fascinating way that you can study in a broad population in getting these powerful insights.

Mark Masselli: We're speaking today with Jeff Williams Chief Operating Officer of Apple, overseeing the development of Apple Watch and thriving the company's health initiatives including ResearchKit which is aimed at simplifying medical and health research. Jeff there are approximately 50 million Americans now utilizing some health tracking wearable device and but statistic show that some of these devices tend to sort of fall off. Tell our listeners how you envision the growth of the health sector within Apple, what are you envision the future will look like from Apple's perspective?

Jeff Williams: We think Apple Watch marks the end of single function wrist devices in the same way the iPhone mark the end of single function cell phones. The fact that you interact throughout the day with your Apple Watch for communications and payment and scheduling so we're just at the beginning of this. We don't as I mentioned really think in terms of segments and markets, we think in terms of what do people want and I'm a strong believer that people want to be more active participants in their health. Physicians will tell you that having the consumer engage in their own health will have more impact than any medicine they can give them and we think we have a huge opportunity to help do that.

Margaret Flinter: Well Jeff when you think about global health in the world's underserved population give us a little bit of an insight or understanding of how scalable is this technology in advancing global health research and improving global health and how are you going to bring this to bear maybe in some of the third world markets?

Jeff Williams: Yeah I think that's one of the things that interest us most in Apple. We're big believers in the democratization potential of this. The injustice of fantastic health care available in some parts in the world and others suffering needlessly and so I'll give you an example. One of my favorite ResearchKit study apps is on autism and the early detection of autism. The goal of the study is to determine whether you can use a cell phone to detect autism at an early age, and when they first approach me I thought does it really make a difference just labeling a child early and it turns out it really does

because there are interventions but you need to do these interventions while the brain's developing and if you -- you wait till a child is five or six or seven years old it's too late.

The average age of diagnosis in the US is about six years and so in other countries it's even later than that and so the concept here is put the child your lap, you play a little video on the phone and the front face in camera actually watches the child's face the special recognition and looks for how the child response to the video, and they believe with a high degree of certainty that they can detect autism and so not only could you do the diagnosis and screening the interventions are largely activities that you would do to help develop the brain and you can actually deliver the therapy and treatment over the phone. In Africa what they told us is there are 55 people in all of Africa that are trained specialist in autism to do this, for a population of over a billion and so the power of taking smart phones into that region and having an impact on people's lives in terms of their IQ and their social skills by intervening early on autism. That's the kind of thing that makes us get up in the morning.

Margaret Flinter: Yeah.

Mark Masselli: Yeah and that's exciting morning. You have a pretty big portfolio at Apple and liked you to just share a little of the work that you've been doing the company social responsibilities initiatives not only here in United States but around the globe.

Jeff Williams: Yeah we're big believers that anybody involved in the process of working on an Apple product they deserve to be treated with respect and dignity and we've really decided that workers rights are human rights and we do a lot of work to make sure that workers are protected and we are training workers on their rights, we've trained millions of workers on their fundamental rights. We are bringing new levels of health and safety into regions and it go -- extends well beyond Apple. We set up universities to help develop skills that train people on how to run safer factories and let me tell you no company wants to talk about child labor, they don't want to be associated with that.

We shine a light on it, we go out and search for cases where an underage worker is found in a factory somewhere and then we take drastic actions with the supplier, the upstream labor groups to try to make change and then we report it publicly every year and we take a lot of heat for that but we think the only way we're going to make changes to go hit ahead on and talk about it. So we're doing a lot of work in the space, we post that on our web I don't know that a lot of people read it but if you go there you'll see a lot of information about what we're doing and I couldn't be happier.

Margaret Flinter: Great. Well we've been speaking today with Jeff Williams Chief Operating Officer of Apple. You can learn more about their work by going to Apple.com or follow them on Twitter @Apple. Jeff, thank you so much for joining us today on Conversations on Health Care.

Jeff Williams: Thanks it was a pleasure to be with you.

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Mark Masselli: At Conversations on Health Care we want our audience to be truly in the know when it comes to the facts about health care reform and policy. Lori Robertson is an award-winning journalist and managing editor of FactCheck.org a nonpartisan, nonprofit consumer advocate for voters that aim to reduce the level of deception in US politics. Lori what have you got for us this week?

Lori Robertson: Hillary Clinton made a shaky claim about cost shifting in the December democratic debate. She said that private insurance premiums have gone up in some states that didn't expand Medicaid because hospitals shifted their cost for providing emergency care for the uninsured but we found no data to support that claim and the idea that such cost shifting occurs is debated among experts. Clinton describe the controversial concept of cost shifting the idea that hospitals charge higher rate to those with private insurance to cover uncompensated cost for caring for the uninsured. The federal government does provide some payments to hospitals that treat low income patient but they aren't enough to cover all of the uncompensated care cost.

Some researcher say this cost shifting occurs and other say it doesn't but we could find no research that shows cost shifting has led to increased private premiums in states that didn't expand Medicaid compared with states that did. It is the case however that uncompensated care cost are higher in non-expansion states than they could have been if those states has expanded Medicaid but it's still not clear that hospitals would shift that cost on to private insurers. A 2010 review of the available literature determines that cost shifting does occur but at a low rate and in urban institute analysis in 2014 found limited evidence to show an increase in the uninsured led hospitals to charge the privately insured more, and that's my fact check for this week I'm Lori Robertson Managing Editor of FactCheck.org.

Margaret Flinter: FactCheck.org is committed to factual accuracy from the country's major political players and is a project of the Annenberg Public Policy Center at the University of Pennsylvania. If you have a fact, that you would like checked, email us at www.chcradio.com. We will have FactCheck.org's Lori Robertson check it out for you here on Conversations on Health Care.

Mark Masselli: Each week Conversations highlights a bright idea about how to make wellness a part of our communities and everyday lives. Cancer research could be long laborious frustrating isolating and often when research breakthroughs in treatment or pathology occur they remain in trends within their respective institutions for far too long before being shared with a broader clinical populations. Researchers at the University Of Pittsburg School Of Medicine have launched a program to address that research

fragmentation. They've created a new system that facilitates data and bio specimen sharing among cancer centers that may significantly speak cancer research findings from the laboratory to patient care.

Dr. Rebecca Jacobson: You know, one of the major problems is that the data is very siloed and information system and the data that is probably the most relevant especially when you're interested in sharing and using bio materials. The data that's most relevant is often in text. So not only is it locked away sort of within a vendor clinical system but it's also in a lot of ways locked away in the text.

Mark Masselli: Dr. Rebecca Jacobson Professor of Biomedical Informatics at Pitt School of Medicine and Chief Information Officer at the Institute for Personalize Medicine says the system they've created the TIES Cancer Research Network or TCRN was built upon their development of an advance data texting system that can easily share a complex research data across a broad spectrum of users. With the TCRN they can now aggregate and access data and biomaterials across multiple institutions.

Dr. Rebecca Jacobson: Our software is combined with the legal agreements, the procedures that enable individual researchers at different institution to be able to access data across the network and once they know that they have a sufficient number of cases then they can use the policies and processes that we've set up to be able to get a set of biomaterials from those institute.

Mark Masselli: They already have a number of partners connected through their TCRN federation of cancer hospitals and are hoping to significantly expand their research scope to many more partners. The TIES Cancer Research Network linking cancer researchers on a new sort of data and biomaterial sharing super highway aimed at getting researchers the breakthrough information they need to accelerate the path to cures. Now that's a bright idea.

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Margaret Flinter: This is Conversations on Health Care, I'm Margaret Flinter.

Mark Masselli: And I'm Mark Masselli, peace and health.

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