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Mark Masselli: This is Conversations on Healthcare. I am Mark Masselli.

Margaret Flinter: And I am Margaret Flinter.

Mark Masselli: Well Margaret with Martin Luther King Day behind us I have been thinking quite a lot about the dream of equality in this country and in some ways we have come so far and yet it still seems we have far to go but at least we are starting to see some meaningful parity with the passage of the Healthcare Law.

Margaret Flinter: So many people who struggled in the past to afford health coverage due to near poverty or pre-existing conditions now covered and not just covered but covered with good insurance making a big difference in their lives and for that matter millions of lives around the country.

Mark Masselli: There is a notable drop in the number of people who put off accessing healthcare services due to the cost or lack of coverage, it's the first time those numbers have gone down since the Commonwealth Fund began tracking those numbers.

Margaret Flinter: Well I think it's important to know too though that the study showed folks who live closer to the poverty line still have trouble paying all their medical bills and that's primarily due to the plans with higher "out of pocket cost" but even those numbers showed some improvement.

Mark Masselli: As we know Margaret the best pathway to better health is facilitating access to preventative care and with millions of Americans newly covered under the Healthcare Law we should continue to see some steady improvement.

Margaret Flinter: How we access care in general is also changing Mark. We have a new area of healthcare where televisits will be very sufficient to fill many of our healthcare needs. Smartphone apps can track most of our essential health data, all this hopefully serving to help patients be more empowered in their own care and that's something our guest today is one of the worlds sought leaders.

Mark Masselli: Dr. Topol is a practicing Cardiologist and a Director of Scripps Translational Science Institute so champion of the Potential for Genomics and Telemedicine to reshape the future of healthcare. He will be chatting with us about his newest book The Patient Will See You Now.

Margaret Flinter: Well it's always a pleasure to hear from Dr. Tolpol and Lorie Robertson will be checking in. She is always on a hunt for misstatements spoken about health reform in the public domain.

Mark Masselli: But no matter what the topic you can hear all of your shows by going to [chcradio.com](http://chcradio.com).

Margaret Flinter: And if you have comments, email us at [chcradio@chc1.com](mailto:chcradio@chc1.com), find us on Facebook or Twitter. We would love hearing from you. Now we get to our interview with Dr. Topol 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 am Marianne O'Hare with these Healthcare Headlines. What you pay depends on where you live as tens of millions of Americans gain insurance coverage under the Affordable Care Act. Rates do vary widely across the country while insurance rates in Colorado actually went down slightly, largely due to more choices for those purchasing insurance. Folks in Alaska saw an average 30% hike in cost for Standard Silver Plans on the exchange. It turns out Sun Belt states turn to have rates on the lower end of the spectrum on average. A milestone on the Ebola outbreaks schools have reopened last week across the small West African country of Guinea one of the hardest hit Ebola hotspots. So far the disease has been largely contained to that region of the African continent. More than 20,000 have been infected; roughly half of those patients have died. One of the challenges for scientist battling this current outbreak of Ebola, the genetic structure has changed about 3% from its 1970s genetic makeup. The mutation makes drug development a little more uncertain. China is confirming at least 15 serious cases of Bird Flu in recent weeks three of whom have died, the rest are critical and while China is beginning to look to renewable energy as a replacement for current fossil fuel use air quality continues to deteriorate across the country to a multiple times a legal limit for breathing. Toxic air in China is believed to be responsible for 750,000 deaths per year and smoking is a choice at least to an estimated 450,000 deaths per year in the US you know online financial site WalletHub did an analysis showing smoking cost. The American economy is some \$300 billion plus dollars per year the average smoker if they smoke and survive over a lifetime will have spent about \$1.2 million on cigarettes and will incur an average of \$150,000 in medical bills and will lose an average of \$200,000 of lifetime earnings due to smoking related illness. I am Marianne O'Hare with these Healthcare Headlines.

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Margaret Flinter: We are speaking today with Dr Topol, Cardiologist and Director Scripps Translational Science Institute in LaJolla California an expert on the use of telemedicine in Genomics in Healthcare. Dr. Topol has written several critically acclaimed books including the Creative Destruction of Medicine and most recently The Patient Will See You Now, The Future of Medicine Is in Your Hands. He earned his medical degree at the University of Rochester where he was awarded the highest honor the Hutchinson Medal for his contributions. Dr Topol welcome back to the Conversations on Healthcare.

Dr Topol: Thank you.

Mark Masselli: It's been about three years since you joined us on the show and so much has changed over this short time since we chatted the Discipline of Genomics in telemedicine have exploded in areas that you say are poised to be the two biggest game changers in healthcare. Your new book just recently published *The Patient Will See You Now* you will examine how far we have come in putting the power of healthcare into consumer's hands and tell our listeners what have been some of the most exciting developments in the Medicalization of Smartphones.

Dr Topol: Okay it's really been an extraordinary jump in the technology where what was a smartphone that changed our everyday lives it has now become capable of a hub-hub medicine that is not just that you could capture all your sensor data like your vital signs to your labs, do imaging but also of course things like your physical exam, being able to summon a doctor treat immediately through your video secured link or even to your home so it's become a little device that could really transform medicine, it could democratize medicine by super empowering consumers.

Margaret Flinter: Well Dr Topol it's like in the space we are entering in the world of healthcare as a kin the development of the Gutenberg Press which democratize access to the written word and you know that there is a long standing tradition of what one could call paternalism but as you said the free flow of information from patient to providers has the potential to democratize healthcare in a way never seen so expand down that a little bit for us.

Dr Topol: Well for all these years millennia the doctors have been in control and patients didn't have access to their own data, well that's going to change drastically because now everything is digitized but now patients are generating their data. That data is going to their phones that they own about their own body. What's going to happen in the short term is that we have a whole new model where the patient will see now that he is much more in charge than ever before and in fact access to information not just themselves but for example cost data you know cost data has been an unmentionable part of medicine but now that all that data will be accessible through ones mobile device so these things are all happening at once. It's happening quickly and of course we have this paternalism that you mentioned and this of course has to give way to this altered I think very improved model. Now your point about Gutenberg and democratization of information and reading I do think that this has the parallel of all time in medicine because we go from the medical community, controlling everything to a whole different lock ward to bottoms up a great inversion of how medicine is practiced.

Mark Masselli: You know we just recently had entrepreneur an Angel Investor Esther Dyson on the show talking about what she looks for when investing in health technology and she said she thinks non-invasive sensors hold the promise for disrupting the status quo in healthcare. It's going to generate a lot of data all that needs to be secured to travel through it, that's an area that still needs some work. Tell our listeners where we are in this to make sure that the information is secured.

Dr Topol: You brought up two critical points, one is about privacy and security of the data which we do not have safeguard in any way. There has been great white papers written by the White House but no action has been taken to control the data, to prevent its sale. Right now the medical data which is so precious and needs to be preserved as private, we don't have that nail down at all that has to get or write it. The other thing that you brought out is about the analytical side and (inaudible 09:19) case I talked about how we are pissed at analytics and then we are that is we hoard all data, bake data but we do very little processing and analytics of data and part of that is we don't have the talent to write all the articles and they are going to do all this great analytics and we have right now for example Esther Dyson is right that the sensors whether they are variable or other ways that we can track ones owned information and how is that going to get processed and ultimately how is that going to be used for predictive analytics to prevent and preempt illness which is certainly possible and so we are way behind in the analytics, we are way behind in the security and privacy, we have got to work on that, that's what's holding us back right now.

Margaret Flinter: I would like you to take a closer look at telemedicine and the promises holds for increasing patients direct access to a provider and are we seeing with the diverging of telemedicine and virtual business but you see telemedicine is a game changer and I would like for you to just paint a picture for us if you would how practices will need to change to embrace this promise of telemedicine?

Dr Topol: Yeah I think the telemedicine is just one dimension to this mobile device makeover and that is because it takes so long to get an appointment with a primary care doctor if the average is over two to three weeks, in some cities as much as 6 weeks well that's not going to work you know this whole content of instead of there is an app for that, there is an over for that and that is this whole thing about you can get what you want immediately and if it's 2 o'clock in the morning and you need to get a counsel you can do that now and now that doesn't mean to undermine your primary care doctor but if the mismatch of demand and supply is profound and part of it is financial that is it costs the same to get an immediate video console as it does it for a co-pay but if you go to the doctor and wait several weeks and you get your answers to your questions on an immediate basis and not only that but telemedicine is going to get enriched because you can do a lot of the physical exam yourself, you can do all this data accumulation about yourself on the relevant condition and so we are not talking about just two people having a video chat, we are talking about actually reviewing of information about the person or the child or whatever so this is very exciting area. We are not geared off for this, none of the medical schools in United States 140 schools teach their student how to be good telemedical doctors. Someday that's going to be part of every medical practice.

Mark Masselli: We are speaking to Dr Topol Director of the Scripps Translational Institute LaJolla California. Dr Topol has a new book The Patient Will See You Now the future of medicine is in your hands. Now let's take a look at the role of Genomics that's increasing the playing of role in tailored protocols for treating things like cancer in fact if

you sight the case of Angelina Jolie who lost her mother to ovarian cancer and she had herself tested for the BRCA gene which increases the likelihood of both breast and ovarian cancer and chose to take a proactive approach. Can you tell us why you find her case so compelling?

Dr. Topol: She is a real sign of all times. That famous offbeat that she wrote My Choice, her choice of having this mutation screening and then after finding that she had one of the serious mutations to have the bilateral mastectomy and her choice of trying to teach the world about her whole situation each individual gets to make the call. This isn't for everyone but the point is there is an opportunity of having an access to their information. She is also going to undergo ovarian removal, a need or not a lightweight decision so the fact that she is such a immense public figure you know you can have your own genome sequence and over the next few years millions of people are going to have their genome sequence and that's going to help in making choices for each of those individuals.

Margaret Flinter: I guess that the question is, is it possible to do this apps and ever having in person contact or having a relationship with the primary care provider of hypertension would lend itself to being diagnosed because you checked your own blood pressure certainly the physical exam one could use the stethoscope component of the Smartphone, one could do a micro drop of blood pretty soon and get all of their lipid panel and so forth I guess as a cardiologist are you comfortable with thinking that all this can happen outside of ever needing to see the person? Are we really moving to a place for all of this can be done remotely?

Dr Topol: Well not all of it, so much of it the fact that the intimacy of the human touch factor between a doctor and a patient I don't believe that's ever going to get lost but I do think it's going to be decompressed so the fact that you can offload back to the patient all of this data collection and for example you mentioned hypertension Margaret well there will be a watch or ways to get blood pressure, every heartbeat going to your phone and while you are sleeping, while you are in traffic times when everyone had that measurement before these are not things that doctors have that context but the consumers do and that's what's a whole different look here so basically you have go this consumer patient armed with their information and then we come together for providing guidance, the wisdom and experience of the doctor. That is so much of the doctor's work today besides having to fill out forms, collecting data that the person eventually will do almost all their routine lab tests themselves.

Mark Masselli: Dr Topol we recently had Dr Erik Virre on the show, the Medical Director of the Xprize Competition. We are getting closer to that ever handheld diagnostic tool that really puts the power of healthcare management in the hands of consumers and you also know that things are changing in medical school arena as well for instance medical students at Mount Sinai in New York are no longer being given stethoscopes but instead are being trained to use Smartphones with sensors. I don't know how we are going to recognize them as physicians without their stethoscope around their neck. Tell us not only about the cultural changes that are going on within medicine but the

revolution in technology, how is it going to assist clinicians in the task and the implications for training new providers?

Dr Topol: Well this is all part of this across the board revolution and stethoscope which is the icon of medicine and as you pointed out Mark it's how you identify healthcare professionals. It's an obsolete 200 year old analog now recording anything.

Margaret Flinter: But I love my stethoscope.

Dr Topol: I know but it's worthless basically listening to sound I mean I used to teach on round I mean I loved it, that time was strange you know they all just slipping in the second heart panel you think.

Margaret Flinter: That's galloping.

Dr Topol: Yeah, yeah all that stuff. It's all a bunch of a past tense you know it's like you can see everything with a high resolution ultrasound you can carry in your pocket and once you see everything you say why would I ever listen to that stuff, that is so old because we order 130 million ultrasound studies a year in this country which is well over \$100 billion, if we just do this as part of our physical exam we wouldn't have to order too many of those studies.

Mark Masselli: Well we just had Steven Brill on the line last week on the show and he would agree with you. There is too much, too much.

Dr Topol: Yeah I know Steven is right on, on me but in fact in his book that just came out I mean he didn't really get into this whole side of the innovation which is of course that's what it was really to me so extraordinary, so remarkable that we can harness things that exist today and have drastic reductions in cost but we are not doing it because of the profound resistance within the medical community.

Margaret Flinter: We could go on for hours with you but let me see if I can wrap up with the question that is always front in center in my mind on this. All of this makes perfect sense particularly around single isolated issues for patients but when people and particularly we would say perhaps people who are most familiar with people who are lower income and confronted with lots of different complex challenges in their lives present it's really for an issue it's for an entire kind of multiplicity of issues, what's the solution out there for complexity in healthcare, there is complexes treating hypertension or rashes or those things which are often put forward when we talk about telemedicine and e-councils and (inaudible 18:13) it's when you wrap all that up, wrap it in the context of people's emotional life's, their health habits, chronic illness as well as preventive care needs that things get kind of sticky. What do you see out there, is that the place where the provider still sort of has a place for separating things out with people and helping them get hands alone many issues not just single issue?

Dr Topol: Right I mean this is as you are alluding to another simple matter I do want to just touch on the poor and the digital divide for a moment because you mentioned that Margaret and that is it may wind up being far more prudent to give people smartphones who don't have to end service contract because that's a total minor cost compared to \$4500 a night in the hospital and all the other things that are involved with emerging over this in our healthcare system today in fact we have just done a randomized trial we gave half the people the device and service contract so there is a digital divide that exist. There is a problem around the world without access to care but there is a new way of collecting data information for each individual and what I have learned is that patients are really eager to have their data that you know and all the surveys indicate 80% to 90% would like to have their data information but the precious involvement to review that with a doctor will never be lost. It's just that it's a different way they are going forward. It's something that it's an evolving way of partnership and to me that's exciting if we let it happen.

Mark Masselli: We have been speaking today with Dr Topol Cardiologist and Director of Scripps Translational Science Institute LaJolla California. Dr Topol's new book is out The Patient Will See You Now the future of medicine is in your hands. You could learn more about his work by going to [www.stsiweb.org](http://www.stsiweb.org) or you can follow him on Twitter @Eric Topol. Dr Topol thank you so much for joining us on Conversations on Healthcare.

Dr Topol: Well thanks so much for having me.

Mark Masselli: Conversations on Healthcare we want our audience to be truly in the know when it comes to the facts about healthcare reform and policy. Lori Robertson is an award winning journalist and managing editor of FactCheck.Org a non-partisan, non-profit 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: Well do retiring members of Congress get free medical care for life? No they don't. Attained email about "House Minority Leader Nancy Pelosi "makes that false claim and also a great way to exaggerate what Pelosi could receive as a pension. We will stick with the healthcare claim. Members of Congress don't receive free healthcare while they are in office or upon retirement. Under the Affordable Care Act beginning in 2014 insurance coverage for members of Congress switched from the Federal Employee's Health Benefits Program that's the government's employer sponsored private insurance market for federal employees to the healthcare market places created by the law. Under both systems workers and the government both pay for insurance coverage. Like most employers sponsored plans the government pays a certain percentage of premiums, in this case 72% and the workers pay the rest. That's still the case for congressional retirees. They don't get free insurance. They pay the same share of premiums as active federal employees. According to the office of personnel management retirees will be eligible to purchase insurance through the Federal Employee's Health Benefit Program if they meet certain criteria. They must be eligible for retirement and they must have been continuously enrolled in one of the

government's employer sponsored health plans for 5 years before retirement and that's my FactCheck for this week. I am 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 Anna Bird Public Policy Center at the University of Pennsylvania. If you have a fact that you would like checked email us at Chcradio.com. We will have FactCheck.org's Lori Robertson check it out for you here on Conversations on Healthcare.

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Each week conversations highlight's a bright idea about how to make wellness a part of our communities in everyday lives. It's a known fact that the current generation of American children is more obese than any previous generation and out of Washington DC Community Health Center Unity Healthcare a pediatrician was in a quandary over how to tackle this growing health scourge. He began with the unique solution targeted to a teen patient whose body mass index or BMI had already landed her in the obese category. What he did was write a prescription for getting off the bus one stop earlier on the way to school. Dr. Robert Zarr of Unity Community Health Center understood that without motivation to move more, kids just might not do it. The patient complied with the prescription and his move from the obese down to the overweight category, certainly an improvement. He then decided to expand this program by working with the DC Parks Department mapping out all the potential walks and play area kids have within the city's parks mapping 380 of them so far.

How to get there? Parking, is parking available if someone's going to drive bike racks.

Dr. Zarr writes park prescriptions on a special prescription pad in English and Spanish with the words Rx for outdoor activity and a schedule slot that asks, "When and where will you play outside this week?"

"I like to listen and find out what it is my patients like to do and then gauge the parks I prescribe based on their interests, based on the things they're willing to do."

He wants to make the prescription for outer activity adaptable for all of his patients and adaptable for pediatricians around the country. His plan to create an app for his parks database where providers and patients like and use it and one day he would like to be able to track his patients activities in the parks. Rx for outer activity, partnering clinicians, park administrators, patients and the families to move more, yielding fitter, healthier young people. Now that's a bright idea.

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Margaret Flinter: This is Conversations on Healthcare. I am Margaret Flinter.

Mark Masselli: And I am Mark Masselli. Peace in health.



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