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Mark Masselli: This is Conversations on Health Care. I am Mark Masselli.

Margaret Flinter: And I am Margaret Flinter.

Mark Masselli: Well Margaret, we are seeing a lot of growth in the sector of telemedicine and telehealth of late, and increasingly, it's the nation's retailers who are leading the way.

Margaret Flinter: The popular northeast grocery store chain Wegmans has just announced an expansion of their virtual health visit program in which customers can log on between 7:00 a.m. and 11:00 p.m. for a visit with a board-certified physician or psychologist, and they can do it through their tablet, their smartphone or their computer. Wegmans' leadership sees consumer telehealth as not only a great service for customers, but really the wave of the future and a way to promote economy in health care spending.

Mark Masselli: This comes on the heels of an announcement by Walgreens Pharmacy to expand telehealth programs into 25 states. Walgreens' leadership touts the notion that the modern health consumers taking the same 'anytime anywhere' approach to the purchasing habits in the health care space is also about the value as consumers becoming more aware of their health expenditures.

Margaret Flinter: Well conversely, Mark, the health care establishment, that's moving forward a little more cautiously. At the recent meeting of the American Medical Association, leadership decided to shelve to a future date a decision on setting medical ethics standards in telemedicine.

Mark Masselli: But suffice to say consumer pressure to engage in telehealth is only going to increase moving forward, and it's bound to have a significant impact on the health care delivery landscape. Meanwhile, we are not only seeing a trend of consumers seeking care online, clinicians and medical students are increasingly going online to advance their medical knowledge. Our guest today is a thought leader in that arena.

Margaret Flinter: Well, Dr. C. Michael Gibson is the Founder and Chairman of the Board of the non-profit WikiDoc Foundation, the world's largest open source textbook of medicine, and he is aiming to make the world's medical knowledge open sourced and readily accessible to all interested people around the world. Really quite amazing.

Mark Masselli: Lori Robertson, Managing Editor of FactCheck.org stops by, but no matter what the topic, you can hear all of our shows by going to [www.chcradio.com](http://www.chcradio.com).

Margaret Flinter: And as always, if you have comments, e-mail us at [chcradio@chc1.com](mailto:chcradio@chc1.com), or find us on Facebook or Twitter because we love to hear from you. Now, we will get to our interview with Dr. C. Michael Gibson in just a moment.

Mark Masselli: But first, here's 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 Health Care Headlines. With the Supreme Court decision on the legality of the tax subsidies under the Affordable Care Act weighing in the balance, the President says he will continue to fight for the law that statistically has gained favor with the majority of Americans. And according to a recent Commonwealth Fund study, that statement bears out. 86% of people who are currently insured through the Affordable Care Act marketplace plans, or newly covered by Medicaid, are very or somewhat satisfied with their coverage. Nearly seven of 10 adults with new coverage have used it to get health care, many said they previously wouldn't have been able to afford that care in the past.

The administration is seeking to frame the narrative, in case justices rule in King v. Burwell against the law's federal subsidies, and millions indeed will be anticipated to lose coverage should the subsidies be made illegal in 37 states. One of the goals of the Affordable Care Act is to reduce the events of rehospitalization within 30 days of being released, but as study shows, hospitals are failing at that task for a simple lack of follow-up with the discharged patient. The study co-authored by the University of San Francisco showed about 8% of the patients returned within three days, more than previous estimates, and one in five patients made a repeat visit over the next month.

And golf is reportedly the most actively engaged in sport for adults into their senior years, and it turns out it's really not a bad workout at all. Golfers equipped with Fitbits were analyzed for their overall steps taken and calories burned. It turns out walking the course for an 18-hole game brings the average person to the recommended 10,000 steps a day and beyond, burning about 2,000 calories too. Problem is most Americans use a cart to get from tee to tee. Although analysis of the cart users showed far fewer steps taken, about 2,800 steps, they still burned well over 1,000 calories.

I am Marianne O'Hare with these Health Care Headlines.

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Mark Masselli: We are speaking today with Dr. C. Michael Gibson, Founder and Chairman of the Board of the non-profit WikiDoc Foundation, the world's largest open source textbook of medicine. Dr. Gibson is an interventional cardiologist and researcher who served as director of the Coronary Care Unit at Beth Israel Hospital at Harvard Medical School, where he is also a professor. He created the Academic Research Organization PERFUSE, and is Editor-in-Chief of the Clinical Research News. He has also earned numerous awards and distinctions including being named one of America's top doctors by U.S. News & World Report. He received his B.S., M.S., and M.D. from the University of Chicago. Dr. Gibson, welcome to Conversations on Health Care.

Dr. C. Michael Gibson: Great. Well, thanks for having me on the show today.

Mark Masselli: Yeah. You know, we have a saying at our organization that "Health care is a right and not a privilege," and as founder of WikiDoc, you seem to be saying that access to medical education is a right and not a privilege. And you have certainly created the world's largest open source textbook of medicine. Can you tell our listeners about the origin of this idea?

Dr. C. Michael Gibson: I think you are right that really access to up-to-date medical education and content should also be a right, but unfortunately, so much of that information is cloistered away or hidden away behind paywalls so that only those who can pay can access the information. If you have something that could help someone with a life threatening condition, why wouldn't you be willing to share it for free? In United States, I think we have the perception that many health care providers are very well paid. That's certainly not the case around the world. There are countries out there where physician makes maybe \$100 a month, and the cost of access on the computer is say \$500 a year. So they are really locked out of getting up-to-date medical information. So we do serve an international audience, and one of our goals is to assure that not just the U.S., but developing countries also have access to the same kinds of information.

Many young people who want to become doctors have to pay \$1,500 for a few months of access to questions to help them prepare for those tests that allow them to qualify to become a doctor, and we are about to release 18,000 free questions that they can all use to prepare to take those examinations. So we want to make sure both patients and doctors and trainees, all of them, have unfettered access to critical information.

Margaret Flinter: Well Dr. Gibson, it seems inevitable almost that you will come up against some powerful forces and companies that have proprietary control over medical textbooks and research articles and the like. I wonder if you could share with us a little bit about what you have called your copyleft approach to gathering and disseminating all of this information written by others to counter the copyright infringement or potential infringement issues.

Dr. C. Michael Gibson: Copyright began when we had the printing press. Suddenly, you could make many thousands of copies of something, and the king became very nervous that “Oh my Gosh, what if someone says something bad about the king. Now they have a way to distribute it very rapidly.” And they decided they needed to give people the right to copy. That’s why it’s called copyright. Well after a while, parliament convinced the King of England for instance, that you know, you have got to kind of loosen up on the censorship, and still, until recently, the people who owned the printing press owned the content. Well now that we are in the Internet age and the cost of distribution is negligible, we now have very easy ways to distribute the content to millions of people very simply and freely, and the copyleft doctrine says this, “You are able to share that content,” that’s the whole goal, “as long as you give attribution to the person who originally created the content.” So seeing on how angry I am making everybody, I think I must--

Mark Masselli: You are doing a great job.

Margaret Flinter: Good measure.

Mark Masselli: You know, Margaret mentioned that they are rapidly changing medical knowledge, and I think obviously you have an enormous task at WikiDoc to keep timely information up, and I am wondering if you could tell our listeners how you manage to do this open source editing on over 160,000 pages that you have on WikiDoc. Illuminate us on how all of this gets managed on issues that are obviously of vital importance to them.

Dr. C. Michael Gibson: Wikipedia is more of a general information source. Sometimes it’s a little too complicated for patients, and that’s why we branched out to have WikiPatient which is written at an 8<sup>th</sup> grade level for patients. And then we have WikiDoc which is for doctors which is written at least at a level of a generalist if not a specialist. But for instance, with one disease, it may have, I don’t know, 15-20 chapters. So we talk about the pathophysiology as a chapter, the diagnosis, the treatment, you see how one disease can get multiplied into 15-20 micro chapters. Many thousands of those are drugs, and what we have done is we have assembled a team of 20 people who just wrapped up the project of going to the FDA labels, creating the content straight from verified credible information. We also have content from the National Library of Medicine written at the 8<sup>th</sup> grade level for patients, and drugs are one of the most widely looked up things. So we have made a lot of efforts to make sure we have very credible drug content.

On the disease side, I kind of divide the world into two phases. The first phase is kind of building the Eiffel Tower and the second phase is painting it repeatedly, and we are getting to the point where we have created the Eiffel Tower, world experts and those around them to keep the content green or updated. So we are about to complete the base content. It’s taken 10 years. We have had 100 full-

time, they do nothing but work on this, full-time volunteers working with me here in Boston, people making a million edits to the content over those 10 years. We review everything that every single person is working on, so that's how we do all that we can to assure that the content is accurate.

Margaret Flinter: You know, we have talked about the democratization of the medical information and the democratization of access so the next, I guess, area of democratization is medical education. Can you share your vision for WikiDoc and its role in this larger picture, and how you think this might disrupt in an innovative way the status quo for both medical education and also even the continuing medical education units that all health care professionals are required to maintain overtime?

Dr. C. Michael Gibson: Doctors learn by looking things up, but I think the main way you learn is when you have a problem, you go and you use a search and you look up everything related to that problem. We want to give doctors credit for the time that they are spending researching and learning, and what we call micro CME, or micro Continuing Medical Education. Why not give someone one minute and 13 seconds of unbelievably intense time that they are looking something up and learning as credit, and you build a bank where you say "Dr. Smith got one hour and 13 seconds today, three minutes and 43 seconds tomorrow looking up topics," and that's how you measure doctor's engagement in the continuing education process.

So we hope to shift away from CME to micro CME. Obviously on the larger issue of education, kind of massive online educational efforts are gaining a lot of momentum. And both my sons attended MIT. I know a lot of the content you can get for free at MIT. I often wonder did he or the other ever go to class or hopped online. I think you will see a growing movement in that regards. But I do think what you will end up paying for in the future is more the piece of paper, the certificate, whereas hopefully the true content itself will hopefully be free.

Mark Masselli: We are speaking today with Dr. C. Michael Gibson, Founder and Chairman of the Board of the non-profit WikiDoc Foundation. Dr. Gibson served as the Director of the Coronary Care Unit at Beth Israel Hospital at Harvard Medical School, where he is also a professor. Let's just take a look at some of the research being conducted in new ways across the spectrum. We are seeing the rises in things like PatientsLikeMe and the Apple new ResearchKit. And you have been conducting longitudinal studies on cardiac protocol in multiple countries around the world, what kind of potential do you see from this increase in patient engagement and new and improved data sharing technologies?

Dr. C. Michael Gibson: Well, I think the potential is massive. Sadly, every time we do one of these trials that I lead at say 800 centers around the world, we have to redesign the whole thing. We have to start all over again; we have to create a database and that costs \$10,000 for every question that you want to ask, and it's

millions of dollars just to design the study. The idea that we would be able to use the same infrastructure over and over and over and over again is very, very appealing because it's much more economical, and we do have these registries in different societies where the data is already being entered so we can tap into it. All we need to do is then randomize someone to one treatment or the other. I think the problem comes in where you begin to have issues surrounding governance, you know who owns this data, what's the role of the patient in deciding who is going to get randomized to what.

So it's going to be an interesting conversation. And then big data sounds very attractive, but unless you do research in a way where you are asking a question where you are randomizing people by chance to one strategy or the other, it becomes very hard to make causal inferences about what's going on. So big data doesn't mean that you get the right answer; you can have unbelievable certainty because of the numbers of people and reach the wrong conclusion. My son works in genetics, in quantitative genetics and the P Value or the number of zeroes that proceeds that final number has to be 50 digits before they reach a statistical conclusion because they are doing so many tests. So a great tool, but it's like a Ferrari, you got to know how to drive it.

Margaret Flinter: Well Dr. Gibson, you have been able to conduct hundreds of global studies certainly with the support of the research community at Harvard. Cardiovascular diseases are leading killer in this country and around the world. What, in your estimation, are some of the more exciting potential breakthroughs for treating cardiovascular disease?

Dr. C. Michael Gibson: Well, I have been really lucky to participate in some of the trials related to stents, the things that pop the arteries open and keep them open, and the blood thinners, things that make your blood not clot, and that's been very rewarding over the past 20-30 years. We have improved mortality by about 30% with all that we do now, compared to just 10 years ago. However, putting a stent in or going on a blood thinner is a little bit like putting your seatbelt on after you have had the car accident. There is already a problem when you are having a stent put in. There is a new class of drugs called the PCSK9 inhibitors which dramatically lower your cholesterol levels down to the 30-50 range, bringing us back to where we were as hunter-gatherers. So, lower bad cholesterol will be more and more achievable. On the other hand, I am running a trial where we are actually going to be infusing real true human good cholesterol. The good cholesterol is like the dump trucks that takeaway all the fat in your arteries. Well, we are going to be giving people good cholesterol, good garbage trucks and see if we can improve their outcomes dramatically. And then heart failure, that's another big area we need to work on.

Mark Masselli: Dr. Gibson, let's talk about a word that seems to come up quite a bit in your world, and that's 'collaboration'. And you say in the old days, the

(inaudible 18:27) medicine was to publish or perish, and the new mantra is to collaborate or perish. But tell our listeners how this new paradigm is altering the landscape in medical education, the practice of medicine in general and perhaps most especially in accelerating the pace of research.

Dr. C. Michael Gibson: Well, it wasn't too long ago that things worked like this. Someone made an interesting observation, then they worked with industry to say what if we made this mousetrap, what if we made this innovation, and the industry said yes, let's do that. And at a single hospital, they would deploy that innovation like a stent, and the guy at the single hospital would publish his experience with that new technology. That is so 1990s. We have moved from single center observation and trials now to multicenter and multinational trials, because the numbers of patients that are required to really show benefits at this point are very large, tens, twenties, thousands of patients. So, in order to make bold claims, it requires a lot of bold data and lot of big data as we have just been talking about from around the world, and if you are going to try and enroll 20,000 patients in a trial to answer a question. it takes a lot of collaboration.

Margaret Flinter: We have been speaking today with Dr. C. Michael Gibson, Interventional Cardiologist, Founder and Chairman of WikiDoc, the world's largest open source textbook of medicine. You can learn more about his work by following him on Twitter @CMichaelGibson or going to [www.wikidoc.org](http://www.wikidoc.org). Dr. Gibson, thank you so much for joining us on Conversations on Health Care today.

Dr. C. Michael Gibson: Thanks for having me guys.

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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 U.S. politics. Lori, what have you got for us this week?

Lori Robertson: President Obama made some misleading claims in a speech boasting of the accomplishments of the Affordable Care Act. Let's look at one of them. Obama said that before the ACA was passed, 85% of Americans already had health insurance, which is about right. He went on to say that those Americans still got "a better deal" under the health care law, mentioning that insurers can't deny people based on pre-existing conditions, can't charge women more than men, or put annual or lifetime caps on coverage. That's all true, but the new protections aren't a better deal for everyone. Before the ACA, premiums on the individual market, where people buy their own insurance, could be significantly lower for those who were young and healthy, not anymore. The

ACA doesn't allow insurers to vary rates based on health status. The law also requires a certain level of minimum benefit standards. That's good news for some, such as people with health conditions, that boosted their premium or affected the coverage they could get. Others now pay more as basic plans for healthy folks are no longer available. With such major changes to how the individual market is priced, there were going to be some who got better deals and others who didn't. Even Kathleen Sebelius, the Former Health and Human Services Secretary, acknowledged that before the exchange was launched. In March 2013, she said that "Women would see lower cost, and men would pay more. Older customers could see a lower premium, and younger ones could see an increase." And that's my fact check 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 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](http://www.chcradio.com). We will have FactCheck.org's Lori Robertson check it out for you here on Conversations on Health Care.

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Mark Masselli: Each week, Conversations highlights a bright idea about how to make wellness a part of our communities and everyday lives. Falling is a common experience among the elderly, and that is not good news.

Drew Lakatos: If you are over 65 and you fall and have broken your hip, 25% of them will die within 12 months. Another 25% will never be able to live independently, and a full 75% will never regain full mobility.

Mark Masselli: That statistic got former airbag executive Drew Lakatos thinking what if you could apply the technology used in airbags to create wearable devices that protect a person from the impact of falling.

Drew Lakatos: So similar to the auto industry, our government has spent billions in about two decades on fall prevention programs for the elderly. What I am suggesting is we make that same strategic shift that the auto industry did and we begin focusing on intelligent protection of our elderly.

Mark Masselli: So they did their research and found a combination of accelerometers and other sensors on the band worn around the waist could deploy within six milliseconds of sensing an imminent fall, and protective bags unfurl around the hip joints before impact with the floor.

Drew Lakatos: With the right technology, we can ensure that these people that meet that inevitable and movable object, which is the floor, can not only survive that accident, they can walk away.



Mark Masselli: He founded ActiveProtect Technologies, and while his initial focus was providing a significant barrier to devastating injury in adults, he has additional potential markets as well.

Drew Lakatos: With this type of technology, we can protect against concussions, we can now protect (inaudible 24:22) patients; we can protect our military soldiers from IEDs.

Mark Masselli: A simple retooling of airbag technology in a wearable device that could greatly reduce the devastation of hip fractures leading to better health outcomes and better quality of life, now that's a bright idea.

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Margaret Flinter: This is Conversations on Health Care. I am Margaret Flinter.

Mark Masselli: And I am Mark Masselli, peace and health.

Conversations on Health Care, broadcast from the campus of WESU at Wesleyan University, streaming live at [www.wesufm.org](http://www.wesufm.org) and brought to you by the Community Health Center.