(Music)

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

Margaret Flinter: And I am Margaret Flinter.

Mark Masselli: Well Margaret, there's an interesting new poll out there, Americans response to the Affordable Care Act, it's another poll of course. And according to CNN, 54% of the American still have an unfavorable view of the health care law.

Margaret Flinter: Well I saw that and what's remarkable about that poll, Mark, is that 15% of those who express opposition did so because they felt it didn't go far enough to expand health coverage, that's an interesting spin.

Mark Masselli: Go figure. Well, the law has been in place for three years now and it doesn't rule out fully until January 1st, 2014, 43% of those polls were in favor of the health care law which is about the same level of favorability from 2010, so not much change there.

Margaret Flinter: And the poll also shows continuing deep divide among the generations regarding the health care law while the majority of young American support the Affordable Care Act that support drugs to 31% among seniors who -- I would argue we're going to be affected the least by it.

Mark Masselli: I think they are, but most of them are on Medicare, certainly those over 65. I think poll points to the need from work clear messaging from the Obama Administration on aspects of the health law that are good for Americans there is a massive information campaign being launch soon to foster more understanding about the Affordable Care Act but a big needle to move.

Margaret Flinter: And there does seem to be a real need for that kind of campaign, a recent Kaiser Family Foundation profound that four in 10 Americans don't even know the health care law is on the books. The information campaign is set to launch this summer, will cover all 50 states and multiple media platforms be very interesting to see how they approach it.

Mark Masselli: I think they need to be direct and clear about the aspects of the Affordable Care Act and I think people wants to hear, will be less fearful of the unknown but the drum beat of negative messaging continues on baited in congress if only the political divisiveness over the law which subside.

Margaret Flinter: Well, it's a nice law but it doesn't appear likely, Mark. Just last week Republicans in the House passed yet another repeal measure on the Affordable Care Act and like the ones before one survive the senate but it does show how determine the opponents of the health care law are to see it repealed or to keep that thought in the public consciousness.

Mark Masselli: That same political obstructionism is impacting health care on another front, Margaret. We're in the third month of the sequester and it's impacting quite a few research programs around the country. Out guess today has warn that randomly cutting funding for ongoing health research could have dire consequences.

Margaret Flinter: Dr. Francis Collins is the Director of the National Institutes of Health and also led the team that mapped the Human Genome which is a monumental achievement that not only created this blueprint for genetics moving forward also yield 120% return on every federal dollar spent on the project, that's pretty remarkable.

Mark Masselli: That is, and we'll hear from Lori Robertson Managing Editor of FactCheck.org, always on the hunt for the truth and false. She had spoken about health policy in this country.

Margaret Flinter: And no matter what the topic, you can hear all of our shows by going to CHC Radio.

Mark Masselli: And as always, if you have comments, email us at www.chcradio.com or find us on Facebook or Twitter. We would love to hear from you.

Margaret Flinter: Now we will get to our interview with Dr. Francis Collins in just a moment.

Mark Masselli: But first, here is our producer Marianne O'Hare with this week's Headline News.

(Music)

Marianne O'Hare: I am Marianne O'Hare with these Health Care Headlines. The health care law continues to draw critics and political action from a number of sectors and maybe yet another attempt to pass legislation to repeal the Affordable Care Act in congress last week, political action committees are entering the fray to block elements of the health care law from coming into being. A new anti-ObamaCare Action Group restore America's voice and advocacy of -- the Heritage Foundation and the Tea Party's Freedom Works have align forces to back the role out of the online health insurance exchanges. Well, opposition to the health care program is nothing new, the tactics are changing rather than focusing on repealing the law in Congress and the courts, two avenues had failed so far, the groups are aiming to prevent the corner stone of the legislation, the insurance exchanges from succeeding, their goal is to limit enrollment, drive up cost and make it easier to roll back all or a part of the law later.

Meanwhile the Obama Administration is getting ready to roll out a massive information campaign to inform the public about the health care law and how it works. The Department of Health and Human Service has also planning on mobilizing navigators

throughout the country to facilitate informing the public about the health care law and how to navigate those online exchanges.

Pesticides and Parkinson, another study proving a link between the two, researches at the San Matteo Foundation in Italy compared results from studies done between 1975 and 2011 charting patient, exposure to pesticide and the occurrence of Parkinson's disease and they found that among those with regular exposure, they were 58% more likely to develop Parkinson's. The study looked at a variety of pesticides and the risks seem greater among those with regular exposure on farms and in industrial growing settings. Public used pesticides pose less of a risk.

If you're obese, you're at risk of discrimination from your medical provider. A study out of North Carolina found that a third year med students Harvard Bias against overweight patients and two-thirds of them were unaware of that bias. The study yet had responses from med students in Winston-Salem North Carolina but they say it reflects a wider sub conscious prejudice against patients who are overweight. It could lead to a poor treatment of those patients as well.

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

(Music)

Mark Masselli: We're speaking today with Dr. Francis Collins, Director of the National Institute Health which is the world's largest supporter of biomedical research. Dr. Collins is a physician-geneticist who led the human genome project which achieved it's goal of mapping the human genome in 2003 and is author of the language of life DNA and the Revolution of Personalized Medicine. Dr. Collins is an elected member of the Institute of Medicine and the National Academy of Science. He was awarded the Presidential Medal of Freedom in 2007 and received the National Medal of Science in 2009. Dr. Collins, welcome to Conversations on Health Care.

Dr. Francis Dr. Francis Collins: It's a pleasure to be with you, Mark and Margaret.

Mark Masselli: With the National Institute of Health is responsible so much including thousands of research studies pertaining to medicine and health and the mission of NIH is that the sick knowledge about the nature and behavior of living systems and applying that knowledge enhance health like the life and reduce the burdens of illness. So can you share with our listeners some of the broader aspects of health in America and what are the really important health issues that need to be address?

Dr. Francis Collins: Well first let's point out that we have made a lot of progress when you look over the last century, the ways in which medical research have taught us about what are the causes of illness and what we could do about it, we've come a long way. Human longevity and the United States has been increasing about one year every six years for the 30 or 40 years and now stands at age 79 and you can look at certain causes of serious illness or premature death, that are actually diminishing quite

significantly. It happen slowly enough, maybe people don't notice but heart attack deaths are down by 60% of where they were 40 years ago, death from stroke down by 70%. HIV/AIDS which used to be a death sentence now associated almost like a normal life span and even cancer which we still have a lot of work to do on is dropping and each cause of dead about 1% every year which is progress. What are the big challenges now? Gosh, it's a very long list but certainly areas of particular need and scientific excitement will include cancer, Alzheimer's disease, obesity and diabetes, big threat of course to our nation because of the epidemic, we are encounter here of that condition and all of it's consequences. HIV/AIDS we have the chance to actually end that epidemic which is a bold thing to say but I think we could see a path forward to that or something like autism which is frustrating and growing and it's frequency and need to understand it and come up with better intervention. So our plate is very full at the national institutes of health, we have programs and all of those disorders and many others trying to find answers.

Margaret Flinter: Dr. Collins, I really appreciate your leading with that good news and optimism and I do think people don't realize the progress you've made and reducing dust from heart disease and so many other things as you've said, do you personally have had the opportunity to lead in one of the most transformative breakthroughs at the modern medical error, the complete mapping of the human genome took 13 years and $4 billion which your team did in 2003 and just 10 years later we've got the technology down to where a person could chose to have their entire genome sequence in a day for maybe a $1000.00. So here we are on the threshold of the ultimate tool for clinicians I think who seek to provide true personalize medicine. Tell us about the promises and the challenges and maybe the limitations to genome mix and transforming the way health care is practice in not too distant future?

Dr. Francis Collins: Well the genome is the instruction book for human biology, it's that wonderful information molecule called DNA with all the letters that make up each of our instruction books about three billion of them in fact it's the human genome and by having not only sequence that first reference genome but now having a huge amount of information about differences and how they associate with disease risk and a lot more about how the genome actually functions. We really are in a position to be able to do some pretty interesting things and one area is the ability to use information about your DNA along with your family history to predict what you're at risk for and the future and to give people a chance to practice more individualize preventive medicine instead of one size fits all. I think another area where genomic is already having an impact is the ability to predict for an individual who has a particular disorder where treatment is needed, what's the right drug and what's the right dose for that person? And a lot of that is determine by differences in DNA and we can measure those in make better predictions, we called that Pharmacogenomics which is a lot of syllables but I think you get what that's about and maybe though the place where genomic is furthest the long in terms of its impact on health is cancer. Cancer is a disease. The genomic comes about because of misspellings in the gene somewhere that causes the cells to grow when they should have stopped. But every cancer is different, that's what we're learning and so the one size fits all approach to breast cancer or prostate cancer

doesn't look like it's the right answer now either if we could actually identify for each individual, what's driving their cancer and then pick from the list of more targeted drug therapist, what's the right mix for that person, we probably be on the path towards much better outcomes and less toxicity.

Mark Masselli: Dr. Collins, I really love your simple description of that we have the instruction book. What are the challenges and the opportunities and I want to go back there, is there anything where on the precipice of a revolution in the way that we treat certain disorders and also is there some concern that once people think we have the instruction book that we will get to these answers right away?

Dr. Francis Collins: Well, we do have to be careful and not to over simplify or imply that answers are immediately at hand, the genome is an incredibly complicated instruction book and we're still learning how to read it, we still have way too short of list interventions available, we have to work very hard and what you'd called translational science to take the discoveries about what it is that causes cancer and connect those up. Where there a few instances and we all can tell dramatic stories of people who had far advanced cancer where everything seem to failed and then the cancer got analyze and they had Achilles heel sort of finding that, oh my gosh, if you just try that drug which you never would have thought out for that tumor and maybe you'll get a response and people suddenly find wow, that tumor is melting away, six months later the person is back at work. I guess another area where the whole idea of genomics is starting to play a big role and is to try to figure out what's going on with children with birth defects or other kinds of unexplained difficulties in childhood and once in a while you have a dramatic result, I'll tell you one about it, there are twins from Texas who had their DNA sequence to try to find out why this twins were having this progressive neurologic disease that seem to be threatening to shorten both of their lives fairly dramatically by the time they were teenagers and what was discovered was a glitch that was immediately clear what was going on, they were missing an enzyme that was necessary for their bodies to make a particular neurotransmitter that could supplemented actually in their diet and they're both now remarkably vibrant and healthy young people which is pretty amazing from a kid who was considered unlikely to make it through her 18th birthday.

Margaret Flinter: You know Dr. Collins you talk about there are being five Ts to medical research and that influence the technology, talent, threat and telling stories and I think ---

Dr. Francis Collins: I can tell the story.

Margaret Flinter: You just told the story that will permanently stick with me because it's a very compelling story which is why they're so important.

Dr. Francis Collins: Yes.

Margaret Flinter: Tell me about the transitions, is this really about how we get the knowledge of what was accomplish in that specific instance into practice and disseminated through the health care community, maybe you can talk a little bit about that and how that works on a policy level at the NIH as well?

Dr. Francis Collins: So translation generally means taking the basic science discoveries about how life works and how disease occurs which are pouring out of the laboratories at NIH Supports and making sure that those don't just sit there but they actually moved into new ideas about diagnosis and devices and therapeutics and actually provide benefit to patient in the clinic as quickly as possible, that means trying to identify what the bottlenecks are and they occur all the way along depending on which technology you're trying to move forward.

Mark Masselli: We're speaking today with Dr. Francis Collins, Director of the National Institute Health which is the world's largest supporter of Biomedical Research. Dr. Collins is a physician-geneticist who led the human genome project. He was awarded the Presidential Medal Freedom and received the National Medal of Science for his ground breaking work in genomics. Well Dr, Collins, I want to pull the thread a little, the conversation you were just having about the value proposition that NIH provides for our country and look a little behind the scenes at the business paradigm that supports the research, walk us through a little bit about the struggle that NIH is always facing but perhaps now more than ever.

Dr. Francis Collins: Yeah, it is now more than ever and I think we all understand why that is given the physical stresses, our nation is facing with ballooning deficit and the need to do something about that. At the same time if you are looking for a way to deck the economy out of the difficulties that's in, you probably want to search for investments that are known that have a return, this is not only the best investment for advancing human health, it's also one of the very best investments you can make in the economy. People have looked at that and come up with some pretty staggering numbers. The NIH supports directly about 488,000 jobs but when you consider all the ways in which that supports what goes on in small businesses, biotech and pharmaceutical industry, we're probably talking more like seven million jobs that are directly related to what NIH puts their funding into and on top of that it's clear that every dollar spent on biomedical research returns more than two fold in just one year and 85% of our dollars go out to grants, to our nation's finest universities and all of the 50 states, so that's where the economic benefit occurs. Maybe a one startling example of how to return can occur, you mention the genome project a little bit ago, and that's something I'm fairly proud of in terms of how it turned out. But somebody recently look to say just $4 billion that was spent over 13 years, what have we gotten so far as far as economic return? And they calculated like a year ago but it already added up to $796 billion in just the US. So even accounting for inflation that came to a 141 to one return on investment, it is serious right now in terms of how those decisions play out particularly in terms of one of those five keys you mentioned which is talent. I'm particularly worried about young scientist or just getting started who are full of ideas and creativity at a time where science has never had more potential than right now and yet their chances of getting supported by NIH are

at historically low levels and could plumb it to almost an imaginably low level which would make it very difficult for many of those young scientist to keep going.

Margaret Flinter: Dr. Collins, it's always my sense that one of the not as well known as it should be treasures of the United States, how the research agenda is set for NIH and the leadership of NIH in setting the research agenda is important to all of us across the country, so perhaps you could share a little bit of your thoughts with us on that.

Dr. Francis Collins: About half of NIH research dollars go into basic science which is not targeted towards developing a direct advance in medicine and the other half is focus on translation or in clinical research where they really is that intention and our mission in compass has both of those activities but factored into that is public health needs, so we pay attention to what are the disorders that are causing the greatest amount of mobility and mortality and where are the scientific opportunities to make advances in those areas and then we try to place our bets in that regard. But we can't do just that or we would neglect rare diseases, at the same time by studying rare diseases we often learn things and the whole thing is actually supported by the best peer review system in the world where any grant that comes to NIH that has to be reviewed by experts, who'll look at it and say what's the promise here, what would happened if this actually work, what's the likely if it's going to work, that is the main reason why NIH has been so successful over these many decades is that we have absolute rigor in terms of how we decide where to fund them.

Mark Masselli: Dr. Collins, NIH open up a new division, the National Center for Advancing Translational Science. So it seems to me that you're doing the -- from the translational research hopefully to the transformational breakthroughs in primary care but then back to the transactional work that happens in the day-to-day settings in primary care --

Dr. Francis Collins: Yeah.

Mark Masselli: -- or other places, so walk us through that cycle and tell us a little bit about the impact that you're having on those hospital and clinic practices.

Dr. Francis Collins: So, sure, the center you mentioned National Center for Advancing Translation Science or NCATS is a new arrival on the scene but there are all kinds of other places along this long complicated failure prone pipeline from an idea to a new therapy that's been widely accepted where we aimed to try to knock down barriers. If you really like to know when you're contemplating giving a new drug to somebody for a disease that desperately needs a new treatment is the drug going to be safe and the way we traditionally have done that has been using small animals and large animals and hoping they would predict human toxicity but we all know it's not that reliable. We're working with the Department of Defense namely DARPA there, wild and crazy group of bioengineers, to try to develop biochips loaded up with human cells derived from this new stem cell technology that allows you to develop those from any individual representing liver or kidney or heart or brain and to be able to assess in a much more

realistic situation is this drug going to be safe or toxic for that individual? It's kind of revolutionized the way we both developed drugs and tested them for safety in the next five years. This notion that once you have develop something it looks like a good intervention, you got to be sure it works in the real world, I'm on the board of the Patient-Centered Outcomes Research Institute (PCORI) which is new enterprise supported by the Affordable Care Act which has this main mission trying to develop research protocols to figure out what really works in the real world and let's be sure that we are asking the patients whether they agree and not just checking to see what the measurements are in the laboratory and that's going t be I think a major entry into the space and trying to provide primary care physicians with useful information that they can act upon and be confident and it's going to apply in their environment.

Margaret Flinter: We've been speaking today with Dr. Francis Collins, Director of the National Institutes of Health, the world's leading support of biomedical research. Dr. Collins led the team to first sequence the human genome and as the recipient of the National Medal of Science. Dr. Collins, thank you so much for joining today on Conversation on Health Care.

Dr. Francis Collins: It's been a pleasure. Thank you.

(Music)

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 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, Mark and Margaret, we recently looks at claims about the Affordable Care Act from a group called Americans for Tax Reform, the group made the claim that under the law employers must offer preventive coverage that includes abortion but that's not true. The law does require an insurance plans sold on state based exchanges, cover preventive care but the state is a one that assign what that preventive coverage is. Some states already have banned abortion coverage beyond acception for rape **(22:14 inaudible)** or a danger to the life of the mother and 20 states have banned insurance companies from offering plans that cover abortion on this state based exchanges. Other states will allow plans to cover voluntary elective abortion but the law then requires those states to offer one plan on the exchanges that doesn't cover abortion. 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, e-mail us at www.chcradio.com. We will have FactCheck.org's Lori Robertson check it out for you here on Conversations on Health Care.

(Music)

Margaret Flinter: Each week, Conversations highlights a bright idea about how to make wellness a part of our communities and everyday lives. One in six people in the world lacks access to drinking water or basic sanitation and statistic show that diarrhea is a leading cause of death for these populations. In Africa the numbers are staggering with 46% of the residents have sub -- so here in Africa having no direct access to clean water. In 2005, artist Tracy Hawkins went to Tanzania to see what she could do about it, clay pot water filtration has been around for several hundred years where simple clay pots lying in the bottom of silver oxide can remove up to 99% of the impurities from most water sources but no one had undertaken a dedicated program to produce and distribute this pots. Tracy founded the Sing'isi Pottery Project and began making the pots with local artisans in this region of Tanzania, she and her team were able to get a factory built so that they could increase production. The project has served multiple communities and continues to expand. Independent researchers have determine the system to be safe, effective and the best part, the health of entire communities has been improve significantly once each village resident is provided with a clay filtration system. The pots are inexpensive to produce, easy to handle and the factory has also create a jobs for local residents, they had since change the name of the organization to Safe Water Ceramics of East Africa, a simple easily manufacture solution that improves access a portable water for community, one that improves health, well-being, and economic conditions at the same time, now that's a bright idea.

(Music)

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, and brought to you by the Community Health Center.