

**Moderator:** Welcome to Conversations on Healthcare with Mark Masselli and Margaret Flinter, a weekly show where we speak to the top thought leaders in health innovation, health policy, care delivery and the great minds who are shaping the healthcare of the future. This week Mark and Margaret speak with former administrator of the U.S. Department of Environmental Protection under President Obama, Gina McCarthy, now Heads the Center for Climate, Health and the Global Environment C-CHANGE at the Harvard T.H. Chan School of Public Health, which seeks to promote a greater understanding of the growing health risks associated with pollution and climate change.

Lori Robertson also checks in, the Managing Editor of FactCheck.org. She looks at misstatements spoken about health policy in the public domain, separating the fake from the facts. And we end with a bright idea that's improving health and wellbeing in everyday life. If you have comments please email us at [www.chcradio@chc1.com](mailto:www.chcradio@chc1.com) or find us on Facebook or Twitter. We love hearing from you. You can also find us on iTunes or Stitcher or wherever you listen to podcast. Please feel free to leave a review for us there. Now stay tune for our interview with Gina McCarthy on Conversations on Healthcare.

**Mark Masselli:** We are speaking today with Gina McCarthy, Professor of the Practice of Public Health at the Harvard T.H. Chan School of Public Health and Director of C-CHANGE, the Center for Climate Health and Global Environment at Harvard. She is the former administrator of the U.S. Environmental Protection Agency under President Obama where she initiated a shift towards linking environmental issues to global public health. Previously she served as Assistant Administrator at the EPA's Office of Air and Radiation. She was Deputy Secretary of the Massachusetts Office of Commonwealth Development, advising five Massachusetts governors on environmental policy. She earned a Master of Science in Environmental Health Engineering, Planning and Policy from Tufts University. Gina, welcome to Conversations on Healthcare.

**Gina McCarthy:** It's great to be here, thanks so much for having me.

**Mark Masselli:** When you served as EPA administrator, we saw some really significant steps forward in addressing the cause and effect of climate change, such as stricter auto emission regulations, promoting growth of sustainable energy sources and the signing of the Paris Climate Agreement in 2016. Since then unfortunately we have seen a significant of outface under the current administration. I am wondering if you could share with our listeners your assessment of where we stand now having pulled out of the Paris Accord and watching the rollback of many climate protections that are already in place.

**Gina McCarthy:** I know that many people are following a lot of the news clips on the rollbacks of a lot of the steps we took, not just on climate change, but on real core public health issues like clean water, clean air and I think people are concerned and I am with them. I am concerned but I need them to understand one key thing. These rollbacks they have not been finalized, these opportunities to submit public comments on many of them, these rules that

are in place, they are final rules which means you need to have a rule to get rid of a rule. What we did was follow the science, we followed the law, we did great public process around it and I think we did a really good job at showing you to continue to make progress environmentally, to preserve and protect public health and our natural resources, but you could also at the same time do them in very cost effective, reasonable ways and in fact, enhance our economy and jobs.

And they can have a very hard time in this administration, trying to roll that back, because they are doing them quickly, haphazardly, they are not really following the procedures. And folks should be worried for sure, lot of it that I worry about even more, really fundamental ways that they are attacking science in terms of how EPA and other agencies do their business. That's a critical issue that I think people may be missing the forest for the trees if you will.

**Margaret Flinter:** Gina, you have said that if we are going to bridge the divide over climate change that we have really got to help people understand this inextricable link between the environment and the climate and public health. Mark and I had Dr. Maria Neira from the World Health Organization, joining us earlier this year. And she just was so compelling, talking about the devastating impact of pollution on global health, responsible maybe for 10 million deaths. Maybe you could help our listeners understand the depth of harm to human health from pollution and climate change.

**Gina McCarthy:** Maria is fighting very hard to get people to understand the challenge of pollution. And you are right, we are talking about 9 to 10 million people every year dying prematurely and hundreds and hundreds of asthma attacks for our kids. What people need to understand is that climate change is really about carbon pollution. I think we have talked about climate as some big planetary issue which of course it is, but in the end it's all about whether or not we can continue to live healthy and safe lives. And so the challenge of climate change is that we have talked about it in such elusive terms that people aren't personalizing it.

One of the reasons why I am at the Harvard School of Public Health, directing this new center called C-CHANGE, the Center for Climate Health and the Global Environment, is to try to cut carbon pollution [inaudible 00:05:27]. Let's have people understand carbon pollution is directly impacting our health. It is actually exacerbating the air pollution problem that we are seeing. And people will be dying in larger numbers and they will have more kids challenge, because of the wide sweeps in temperatures that we are seeing, whether it's the temperature is getting too hot or it's because we are driving too much, those challenges with transportation will need to be addressed, but it's all about putting carbon into the atmosphere from burning fossil fuel and that is having a direct impact on our health today.

I am at C-CHANGE to try to personalize it. Harvard School of Public Health was the place where air pollution was first identified in so many critically

important scientific ways. The challenge that climate change poses to that is also now well understood. It's all about now taking it out of a planetary realm and really making it personal to individuals so they can understand that they can do something about it.

I think climate change was such a big issue that we made it so big that people thought it was somebody else's problem and we missed our opportunity to talk about the direct public health, not just air pollution, but the way in which we are seeing disease ranges change. That when diseases are transmitted by vectors, by ticks and mosquitoes you are seeing different types of outbreaks of different diseases, you are seeing contagious disease on the rise in some ways and infectious diseases, because of changes in climate next to water, either that's too much or too little. And in both cases, you are going to have contaminants getting into your water systems that are creating a problem.

We want to really at C-CHANGE not just bring it down to size, but we really want to focus on kids, because I think everybody loves their kids, everybody loves their family, this is about them and their families and their family's future. And that's an important thing I think for us to get across now, when we have an administration that really is focused on, now you are shoving science aside, we need to get it front and center in front of people, because in this country, people matter.

Mark Masselli: In addition to your many other attributes you are a great educator and really focusing on making this understandable at the individual level. In spite of all of these changes within the current administration we do see the impact on climate change advancing in other countries, Germany is now generating most of their energy through renewable. China well arguably the world's biggest polluter is really focusing on the push for solar energy. You also say the market forces here in the U.S. are driving the industry, I wonder if you could tell our listeners how these marketing governmental forces aimed at reducing pollution and fossil fuel emission are impacting climate change.

Gina McCarthy: I think one of the most important things is that people are so focused on the everyday news that they sort of lose the opportunity to sort of step back and see what's happening in the real world, because even here in the United States the clean energy train has really left the station and it's not going back. It is remarkable how inexpensive renewable energy is in particular solar and wind and how pervasive now people are looking at geothermal, all these types of opportunities are now built into the market place. It's basically already built into the energy system and because renewable energy in energy efficiency which remains a big driver of change. All of these things are now the least expensive choices that utilities and their customers can make, to both save money as well as reduce the air pollutants that come along with the burning of fossil fuels.

So in the clean energy market today in United States, it's really remarkable, we have seen a tremendous shift into inexpensive natural gas and then towards a renewable energy system, because that's not only reduced the

opportunity for pollutant that fuel climate change, but also reduced traditional air pollutants like particulate matter, like ozone is no longer being formed in as many places as it has been before. People will in watching and talk about bringing back coal but frankly coal units, half of them have closed since 2010. And that's really not a direct result of EPA rules or rollbacks. It's really a result of clean energy being the cheapest, most inexpensive in the result of terrific energy efficiency opportunities that we have had that have kept that energy demand down.

Now in transportation we are seeing the same kind of revolution, even though they are talking about rolling back some of the car standards. Because we are seeing that the young people today aren't as in love with their cars and it's a good thing. We need new transportation systems and there is tremendous investment now, part of it thanks to the Volkswagen settlement when they made a mistake, basically saying they were selling really fuel efficient diesel engine vehicles when they weren't as a result there is more than two billion that have been distributed across the U.S. states that are supporting the shift to building, charging station, proactive vehicles and bring in some great electric boxes.

When we make that shift in public transportation, you tend to be able to help the individuals and communities that are most vulnerable, because it's the low income minority communities and it's the young people that are most at-risk to air pollution. If you can get clean transportation systems, you are looking at tremendous opportunities to improve public health. So while the U.S. companies maybe barking that they don't want to do a standards and meet standards overtime that they actually help to negotiate, it's important before this administration. They are doing very well in the marketplace, we are seeing renewable energy jobs are growing in the fastest in any sector, we are seeing twice as many folks working in solar and wind than we ever have seen in our coal industry. It's not just the faculty at Harvard that I hang around with that are very smart students get it. They want a different way of doing business. Good things are happening in the real world.

Margaret Flinter: Gina, you have spent almost four decades working on environmental policy and I want to go back to this C-CHANGE, the Center for Climate, Health and the Global Environment at Harvard which just sounds like a tremendous partnership. And I understand it's between Harvard and Google and that part of your focus and your opportunity there is you have got a level of data and knowledge in the form of that data that you may never have had access to before, even you know back at EPA. So tell us about the initiative?

Gina McCarthy: Businesses by Google are realizing that they have to really invest in their business. But they also have to think about the reputation and they have to be part of these broader solutions. Google has been working with Harvard University, because we have a great program on healthy buildings. Green buildings are great but the tighter you make a building the more you hold the air within it. An individual spend an exorbitant amount of their time

indoors. So the quality of the air indoors is extremely important. As Harvard was building new buildings and thinking about how to make their students healthier, they would have been thinking about how they not just build them tighter, but also what does it mean for air quality within and for the performance of those students and their health.

So we have had a big program that's now run at C-CHANGE, in addition to working with the sustainability folks at Harvard to take a look at indoor air quality. Google has been helping because there are new monitoring technologies that can tell you what the quality of the air is. They are using modern technology to tell you what a healthy building is, so they can talk to the HVAC system and make it all work together and provide an atmosphere for your students that keep them just as smart and performing just as well as the day they came in, if not better. We are developing building standards and standards for products so that others can learn and we are doing all kinds of research and buildings across the world.

We are doing a variety of tasks at C-CHANGE. I want businesses to understand why it's a real benefit to go to green healthy buildings. We want to work with cities to tell them if you are buying electric buses, put them in the places where the air quality is worse and need them most. We are talking about how you connect kids and climate and do research on connections that we see between kids and autism or seniors in dementia. We are looking at women's health issues and kid's health issues and for those of the areas in which we are trying to fill all the gaps, bring science to the table that will inform more, but also that make it very personal and actionable for individuals and families and businesses. It's just like the 60s, when I grew up man, information is power. I want people to have that information and that's what C-CHANGE is all about.

Mark Masselli: We are speaking today with Gina McCarthy, Professor of the Practice of Public Health at the Harvard T.H. Chan School of Public Health, and Director of C-CHANGE, the Center for Climate, Health and Global Environment at Harvard. She is the former administrator of the U.S. Environmental Protection Agency under President Obama.

Question comes to mind around battery storage, it seems to be the next disruptive technology in the power sector and low cost storage could transform the power landscape and there are lot of folks thinking about it. What excites you in this world where we are trying to move to renewables but we know what of the big issues that we have to overcome are really focusing on the whole issue around technologies around batteries.

Gina McCarthy: You are absolutely right; batteries have become the place where it can stop progress from happening but also the incredible place where it opens up tremendous new opportunities. When I left the administration I joined as an advisor to a private equity firm in New York City called Pegasus Capital Advisors. I really had never worked in the business sector before and I think investment is where it's at, companies like Pegasus focused on

sustainability and wellness. For new technologies to blossom, if we can shift our investment there and businesses are really jumping into this, because they understand the world is not just changing, but needs to change and that a low carbon future is really where it's at, and they would love to attract the best students and the best employees ever, to go to their firm and to do that they have to really be understand the equities and the issue that surround us.

One of the things I know about now that I never did before is the Bloomberg New Energy Outlook, who to figure that I would ever be reading or thinking about things like this. But it just happens to speak to this very issue because it talks about not just cheap renewable generation making a huge impact, but falling battery cost. There is opportunity is huge, \$500 billion or more is planned to be invested in battery capacity by the middle of this century globally. And that's going to make a huge difference in the world because it allows more renewable energy to be where you need it empowering where you want it.

With the EPA and the Department of Environmental Protection that I have worked on, they are all about public health. We love birds and bunnies, but they are not our measure of success. And I think energy because of it's connection with fossil fuels and its potential huge impact not on the planet but on our public health, energy matters, just like clean air matters. And if you can think about both at the same time then you can actually look to a public health lens to identify most important benefits that we can provide to public health and that will not only keep people healthy, but it will raise our ability to give people an opportunity to live healthy lives. You began with Maria's understanding that 9 million people at least die every year from poor air quality, what you may not realize is that over 90% of that damage happens in middle and low income countries. We know that we have to do better.

Margaret Flinter: We have been speaking today with Gina McCarthy, Professor of the Practice of Public Health at the Harvard T.H. Chan School of Public Health and Director of C-CHANGE, the Center for Climate, Health and the Global Environment at Harvard. You can learn more about their work by going to [www.harvard.edu/c-change](http://www.harvard.edu/c-change) or follow her on Twitter @HarvardCCHANGE. Gina, thank you so much for your commitment to making a better world and thank you so much for joining us on Conversations on Healthcare, today.

Gina McCarthy: Thank you so much.

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Mark Masselli: At 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, 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: We have recently published our second quarterly update for 2018 for a feature we called Trump's Numbers. One measure we examined is the number of people without health insurance, the number of the uninsured went up only somewhat under Trump but millions are expected to drop or lose coverage next year and in subsequent years. The most recent report from the National Health Interview Survey estimates that 29.3 million people were uninsured during 2017. That's an increase of 700,000 people from 2016. But it's still 19.3 million fewer that were uninsured in 2010, the year President Obama signed the Affordable Care Act.

Polling by the Gallup organization found a larger increase estimating that 3.2 million Americans entered the ranks of the uninsured in 2017. Trump failed to repeal and replace the Affordable Care Act as he promised to do. But in December he signed a tax bill that will end Obamacare tax penalty for people who failed to obtain coverage. At that point Trump told reporters that "Obamacare is finished, it's dead, it's gone" but that's not so, the mandate penalty remains in effect until 2019. The number of people signing up in December through the ACA exchanges for coverage in 2018 dropped only slightly to 11.8 million, that's down from 12.2 million in 2017 and 12.7 million in 2016. That's according to the government's final enrolment report released April 3<sup>rd</sup>, according to an estimate by the nonpartisan Congressional Budget Office, the end of the mandate penalty next year will cause 4 million people to lose or drop coverage in 2019 rising to 12 million, 2 years later and 13 million in 2025.

CBO said that ending the mandate would cause average policy premiums for those buying individual market policies to rise 10% in most years. That's because healthier people would be less likely to buy insurance causing overall premiums to rise and then more people to not get insurance. 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 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 Healthcare.

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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. In the emergency room or the ICU clinicians are confronted with a myriad of unpredictable medical crisis that sometimes can be challenging to diagnose --.

Male: Especially if you are in a busy Tertiary care hospital and it's 04:00 in the morning and there is almost nobody else to talk to, and that's the existential

dread of medicine, to be able to stand next to a patient and know that you need to help them but you can't because you don't have the knowledge you need in the moments you need it.

Mark Masselli: ICU physician Dr. Joshua Landy was noticing a growing trend of image sharing via smartphones to crowdsource second opinions from friends and colleagues across the country. But he also was concerned about the potential violation of HIPAA regulations. So he developed an app for that, he created Figure 1, a sort of Instagram for doctors in which images can be shared across a dedicated social media platform that would allow input from clinicians within their network.

Joshua Landy: And what the network does is it lets you take a picture of a case and submit it for conversation for learning, for teaching. If it's something you have never seen before and you want to record it, you take a picture of it something you need help with, you take a picture.

Mark Masselli: Doctors are using the app to communicate not only with colleagues within their hospital settings but around the world where someone might have superior expertise with a certain condition.

Joshua Landy: A nurse in Haiti put up a picture of a little baby. So once baby was born with unusual skin condition, she didn't know what it was and if it was safe to let the baby live. So she put up a picture of an old Figure 1 and within a few hours, 16,000 people like logged hundreds of responses and the one that was wrote at the top and agreed upon was from a pediatric resident in Vancouver. And what that means is we can change what is the traditional way of a patient accessing medical care.

Mark Masselli: Dr. Landy sees the potential for this platform only growing as more young digital natives enter the medical workforce.

Joshua Landy: It's not just the workflow that we design for in healthcare but also thinking about the way we learned. We are learning every time we see a new case, right education and clinical practice are meaningfully connected.

Mark Masselli: A free downloadable app offering secure HIPAA compliant image sharing among clinicians around the world, tapping the collective expert instantly. Now that is a bright idea.

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Mark Masselli: You have been listening to Conversations on Healthcare. I am Mark Masselli.

Margaret Flinter: And I am Margaret Flinter.

Mark Masselli: Peace and health.

Moderator: Conversations on Healthcare is recorded at WESU at Wesleyan University, streaming live at [www.chcradio.com](http://www.chcradio.com), iTunes or wherever you listen to podcast. If you have comments please email us at [www.chcradio@chc1.com](mailto:www.chcradio@chc1.com)

Gina McCarthy - C-CHANGE

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