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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, spring has sprung. Easter and Passover are behind us and the mercury has started to rise. Really feels like the time of renewal and new growth is upon us.

Margaret Flinter: And it couldn't come a minute too soon, Mark. It is the special time of year certainly. In the Northeast, people seem reenergized after the long winter. And the debate around Medicaid expansion and the Affordable Care Act also seems to have been reenergized lately. A number of republican-led states are refusing to expand Medicaid to cover more of their residents, even though it's completely covered by the federal government for the first three years.

Mark Masselli: The State of Arkansas approached Health and Human Services and the Obama Administration with the new alternative to the Affordable Care Act provisions on Medicaid expansion.

Margaret Flinter: Well that's really interesting, Mark, because I think most would agree that Arkansas is a state that has a fairly stringent Medicaid program, rather minimal in terms of the benefits. And while the governor was in favor of expanding Medicaid to cover more of his state's uninsured population, his legislature, republican-controlled legislature, was clearly against it.

Mark Masselli: The governor's office approached HHS with a proposal to use those federal dollars that would have been used to expand Medicaid and instead use those federal dollars to subsidize buying insurance on the exchange. HHS is considering the plan, saying it will work with officials there to come up with a formula that might work.

Margaret Flinter: So other states like Tennessee for instance, where the governor is a strong opponent of the Affordable Care Act, I understand is hoping for perhaps a similar deal. And HHS Secretary Kathleen Sebelius is warning state officials who are looking at this option that that's going to be much more expensive than simply expanding Medicaid. So we will see how this plays out.

Mark Masselli: We will. And one thing we do know Margaret is that when children and families live near poverty and they gain access to health care, they end up being much more healthy in the long run primarily because they can access preventative care and early screenings, avoiding more catastrophic illnesses.

Margaret Flinter: And our guest today is one of the world's leading experts on global disease and how that's impacting health and longevity all around the world.

Mark Masselli: Dr. Christopher Murray is Founder and Director of the Institute for Health Metrics and Evaluation at the University of Washington. He is author of the Global Burden of Disease 2010, the world's first truly comprehensive analysis of each nation's disease burden by gender and age.

Margaret Flinter: It's the first real document allowing public health officials and caregivers a global health assessment. So that's a very fascinating conversation, Mark.

Mark Masselli: We look forward to that. And as always, we look forward to hearing from FactCheck.org's Lori Robertson. And you can hear all of our shows by Googling CHC Radio.

Margaret Flinter: And of course, if you have comments, email us at www.chcradio.com or find us on Facebook or Twitter because we love to hear from you.

Mark Masselli: And we will get to interview with Dr. Murray in just a moment. 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 Health Care Headlines. The Obama Administration announced an ambitious goal this week, one that thus far eluded science. The \$100 million project to map the working human brain was kicked off at the White House. The plan would galvanize support for scientists already in the throes of such research. The project will seek to invent new research techniques that can catch your brain function as it's happening and refine the techniques already in existence. The program being likened to the mapping of the human genome seeks to find pathways to cures for a variety of brain diseases like Alzheimer's, autism and other forms of mental illness.

The insurance exchanges aren't supposed to be up and running for consumers until October but the State of Vermont is getting a jump on the competition. They have already posted rates for medical procedures and insurance rates under the exchange plans, offering customers a chance to compare individual insurance rates under the Affordable Care Act. And it's a situation highly unlikely to play out similarly in other states. Vermont's rates for next year are expected to stay relatively flat, whereas analysts predict there will be sticker shock in insurance rates in other parts of the country.

Turns out, grandma was right; fish oil is good for you. In the first longitudinal study of the protective properties of fish oil, a recent study showed a decline in cardiovascular disease in those who consumed higher amounts of Omega 3 fish oils from fish. Several thousand randomly selected people were studied over a 14 year period and those who had higher presence of Omega 3 in their blood were 27% less likely to suffer from heart disease or die from cardiovascular illness than those with lower amounts. I am Marianne O'Hare with these Health Care Headlines

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Mark Masselli: We are speaking today with Dr. Christopher Murray, Director of the Institute of Health Metrics and Evaluation at the University of Washington, where he is also a professor of Global Health. A physician and health economist, Dr. Murray co-created the concept of the global burden of disease which became the foundation for numerous public health policies in countries around the world. He served as the Executive Director of the World Health Organization's Evidence and Information for Policy Clusters, where he pioneered the groundbreaking World Health Report 2000. He was the first director of the Harvard Institute for Global Health. He also earned his undergraduate and medical degrees from Harvard. Dr. Murray, welcome to Conversations on Health Care.

Dr. Christopher Murray: Thank you very much for having me on the show.

Mark Masselli: You know, you have been lauded as a pioneer in the world of global health data analytics. Your work, it's been compared to the race to map the human genome and the race to the moon. What was the genesis of this groundbreaking work that you did with the global burden of disease?

Dr. Christopher Murray: Well my own personal interest in this actually goes back to my parents who did missionary work in different parts of Africa. And since childhood, I wanted to know what are the major problems that different societies have and sort of why some places have good health and other places don't. And that led me on a personal journey to try to get answers to that, and I have been very lucky that my that personal interest has evolved into a series of broader opportunities where institutions like the World Bank in the early '90s wanted an answer to this question. And as the drive to more evidence-based decision making has come, there has been both a demand and a willingness from a broad array of scientists around the world to try to sort of come together and provide a coherent answer to those sort of big picture questions.

Margaret Flinter: So, Dr. Murray, when you released the most recent Global Burden of Disease Report in 2012, it looked like there were some pretty remarkable changes in global health statistics in that relatively short period of time since the release of the first report in the mid 1990s. But you generated about a billion different estimates, and I think billion is an accurate statement

here not an exaggeration, estimates of health levels and trends. And you noted that there were five significant areas of change that signaled a shift in disease burden around the globe. I wonder if you could highlight some of those significant shifts in global health trends.

Dr. Christopher Murray: It is true there are a billion results from the study, and I think when you look at some of the ways of understanding the results, you do see dramatic changes just in the two decade period. So first, we see that there has been big decline in mortality rates in almost every age group and that led to an aging of both population as well as profiled who is sick in the population, and it's incredibly fast in places like Latin America or East Asia.

The second big thing that we are seeing is there is a substantial shift towards the leading health problems being non-communicable diseases. The third big factor which was real surprise to us all was how much of a shift towards chronic disability there has been in the world where leading causes of ill health include things like mental disorders, substance abuse, and very predominately, the musculoskeletal disorders be it arthritis, low back pain, neck pain, conditions like that. And then the fourth of the set of factors that are driving change outside of Africa is the shift in the underlying risk factors. Back in 1990, malnutrition in children was the number one global cause of ill health, and now we have things at the top of the list like smoking, diet, obesity and physical inactivity. So it's a huge transition in the profile of risk. But the fifth of the (8:32 inaudible) themes is the fact that in Sub-Saharan Africa, despite a lot of progress in reducing the toll of malaria and HIV, their health problems are still dominated by the infectious diseases, diarrhea and pneumonia in children; HIV, TB, malaria in adults.

Mark Masselli: You know I want to pull the thread a little on the amount of data that you have collected. As Margaret said, you have generated about a billion results from your research on everything about how long people live by gender and region to what makes them sick and ultimately leads to mortality. Tell us about the systems you have created to achieve the task of analyzing this so that all the data could be easily coalesced and disseminated to global health practitioners and policy makers around the world.

Dr. Christopher Murray: So there are four components to trying to put together a coherent picture of health around the world. So the first component is we try very hard with our broad network of collaborators to find world's data on health which is no trivial task and is always incomplete because there is always data that is still being collected. But we have looked across the entire published scientific literature; we have gone through finding hospital data, clinic data from around the world, trying as exhaustibly as we can to find data. And we have a thing called the Global Health Data Exchange where we try to make much of that raw data archived and available to the public. The second component, which the one that I think is why this is such a labor-intensive task, is trying very hard to make all these different data sets and measurements around the world comparable to

each to other. If you want to use data to make meaningful comparison which is core to our view of the world, then we put a huge amount of effort into trying to enhance the comparability of these data sets.

The third component to it is the whole sort of modern era of Bayesian statistical estimation where we try to take all the data and come up with a coherent set of estimate. And because of the cheap computational power now, you can develop and apply a series of methods that weren't there before or weren't possible before. And then the last component to our system, which is probably as important as any of the rest, is trying to figure out ways to make the results accessible to people, and we put a lot of effort into making findings that are sort of complicated in terms of their number and dimensionality, available to people to get some insight into them.

Margaret Flinter: I know you have partnered with Dr. Julio Frenk, now the Dean of the Harvard School of Public Health, previously the Minister of Health in Mexico, who credits your early work for giving him a framework he needed to build a case for universal health care in Mexico and was ultimately successful in achieving that goal. Tell us about that connection with Dr. Frank, how that led to a successful policy change in Mexico which would seem to offer some lessons for how we do this in other states and countries as well.

Dr. Christopher Murray: Well, Julio and I have been working together for nearly 20 years. We met after the first burden of disease work, and he was in Mexico at the time and thinking about health reform as early as around about 1993. And then what happened was that we worked together in the '90s and we both ended up at the World Health Organization. And in that period of time, together we came up with this framework for thinking about health system performance and we then actually went around benchmarking the world's health systems on several dimensions, what they were doing for health, what they were doing for the sort of client-oriented aspects of health care, what we call responsiveness, and what they were doing about protecting households from financial catastrophe in paying for health care. And that framework when Julio was asked to be on the transition team, and then ultimately Minister of Health in Mexico, served a very useful purpose to sort of say where was Mexico. It was sort of doing okay on health but doing really poorly on terms of financial risk protection or protecting households from financial catastrophe. And I think that helped Julio launch the universal health insurance efforts that he was a key architect of in Mexico. We have kept working. Julio is the chair of our board at the institute and we have kept this partnership going.

Mark Masselli: We are speaking today with Dr. Christopher Murray, Director of the Institute for Health Metrics and Evaluation at the University of Washington, a physician and health economist. Dr. Murray developed the Global Burden of Disease, which became the foundation for numerous public health policies in countries around the world. Dr. Murray, you have received your initial funding

from the Gates Foundation, which has established a goal to help eradicate disease around the globe. And Bill Gates stated that it's in the areas where good measurement happens that progress is made, especially in health care. Tell us about these visual measurement tools you have created that have been deployed to assist global health workers and policy initiatives.

Dr. Christopher Murray: What happened is that I have always wanted **them** used both in data quality and communicating to other people graphs. And one of our young fellows from our post-bachelor in Global Health Program came up with the first prototype of dynamic data visualization because he was tired of making so many graphs. And when we saw this and started to use these visualization tools, a light bulb went off in everybody at the institute and everybody that we have worked with. And we have invested a lot of effort now to build a set of intuitive interesting fun to use ways to see patterns in the data. And since one of our core beliefs is it's the comparison across diseases and risk factors that gives you insight, a lot of the tools are focused on helping you see those comparisons. So the lead tool is called GBD Compare because of the desire to get people to look how they are doing compared to other settings. We have now recognized just because of the response from ourselves and everybody that we work with that there is as much importance in what we do around getting the science right on the measurement as getting these visualizations out to everybody so that they can explore the findings on their own.

Margaret Flinter: But you know, the Global Burden of Disease framework also allows for ongoing data input on social determinants of health, things like income and education, using real data from each country's unique perspective. And at a presentation that you and your colleagues did recently, you noted that the system is also going to allow for compilation of genetic information to be added to the data set. I don't know if that's a near or a little bit longer term step but it would seem that would also be a huge boost to researchers attempting to understand variations in global health and then improve it. Tell us about some of those collaborations and how do you envision that aspect moving forward.

Dr. Christopher Murray: The vision there is that we created this resource for people to use for helping understand the world around them. But the world is changing quickly and so we are now committed to keeping that resource up-to-date and using and building our collaboration of scientists around the world hopefully having scientists who are interested in population health in every country in the world participating to keep the basic description of health and its risk factors up-to-date and expand it as you mentioned. And the dimensions that we hope to expand into include things like making forecasts for the disease in the next 10 or 15 years for some types of decision making. One vision would be to capture genetic information. I think that will come. Also, we want to try to extend the vision of the continuously updated resource into where money goes because if we can both understand what people's health problems are and where

resources are going, we think that will be further fuel for a more insightful conversation about health priorities.

Mark Masselli: You have pioneered methods in identifying causes of death in low resource settings and you have also increased the level of accountability in financial reporting. Tell us how these features of the Global Burden of Disease model are continuing to impact policy approaches for eradication of diseases and can you give us some examples?

Dr. Christopher Murray: I do think that you can see how the process of changing policy has to start with recognizing a problem. And so in some of the earlier results in Burden of Disease where we found a surprising burden in many countries of mental disorders, we have seen an array of policy responses in countries to at least try to understand their own mental health problems and substance abuse. Even though we just released the results of the Global Burden of Disease 2010 in December, we are already seeing a pretty serious engagement in some countries in trying to use the results to chart the next direction for their health systems, rich and poor. So, in the United Kingdom, interestingly, they have taken the results and we have had a collaborative project with the new leadership of Public Health England to say how is the UK doing compared to the rest of Europe. And it's doing much worse than they expected and that's leading them to want to focus on some of the diseases and risks where they (17:59 inaudible) table of their comparator countries. Similar process underway in China. So I see their information as fuel for a more informed national discourse about health priorities.

Margaret Flinter: Dr. Murray, you are one of the keynote speakers at this year's TEDMED gathering in April, always an exciting gathering and presentation. But this year, the theme is the Coming Tsunami of Alzheimer's Disease. This is particularly interesting one I would think for the work that you are doing as countries and nations try and prepare for an incredible challenge for which we have no treatment, at least at present. How do you envision your work aiding epidemiologists and governments and health workers to prepare for a challenge like the coming Tsunami of Alzheimer's?

Dr. Christopher Murray: Well I think in the visual pools, you see things very quickly and incredibly simply about the enormous rise in Alzheimer's in a country like the US, where it's now the number four cause of death, coming up from well much, much lower rank back in 1990. And that just takes about 5 seconds of looking at one of the visuals to see that. So it aides I think in the recognition of many problems that are on the rise like that, not just Alzheimer's. I think another example in the US is drug use disorders, where there is a huge increase. I also think that as these measurements become annual, more the bread and butter of what we are all looking at, we will have a very powerful tool to start to ask the question about are we making progress on these rising problems. So I am hopeful that not only does it help us identify problems as they are rising but also

help us to be more objective about where we are making progress on tackling some of these new problems.

Mark Masselli: We have been speaking today with Dr. Christopher Murray, Director of the Institute for Health Metrics and Evaluation at the University of Washington, and creator of the Global Burden of Disease model. You can learn more about his work by going to www.ihmeuw.org. Dr. Murray, thank you so much for joining on Conversations on Health Care.

Dr. Christopher Murray: Well thank you very much.

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

Lori Robertson: Well, Mark and Margaret, New York Mayor Michael Bloomberg has said that more people will die from over-eating than under-eating this year for the first time in the history of the world. He told David Letterman this in March and added, it's all happened in the last 20 years. So will more people die this year from obesity than from being underweight for the first time ever? No. This has been the case worldwide since at least 2005, according to the Institute for Health Metrics and Evaluation at the University of Washington. But there has been a shift in these risk factors for death sometime in the last 20 or so years. Bloomberg has repeated this talking point many times, and when he says it's the first time in the history of the world, it's a bit confusing. This year isn't the first time this will happen, and in fact, public health experts have been predicting this for a long time.

It's children, the vulnerable population, that die from being underweight. While obesity has become more of a health issue, the change in risk factors also shows that there has been success in fighting infectious diseases that affect underweight children. Efforts to immunize and nourish kids worldwide has helped greatly in this regard. Between 1990 and 2010, child deaths due to being underweight decreased by 63% while deaths due to being overweight or obese went up by 70%. 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. 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. Asthma is one of the leading causes of trips to the emergency room for children. And there is often a correlation between high density, low income neighborhoods and more trips to the hospital for treatment and intervention. When officials at Boston Children's Hospital noticed a spike in asthma outbreaks in certain neighborhood clusters, they decided to do something about it. They launched the Community Asthma Initiative. They realized that if you could treat the environments in the patients' home that might reduce the need to treat the patient in the emergency room.

Dr. Elizabeth Woods: The home-visiting efforts work with children and families that have been identified through their hospitalizations and emergency room visits as an identification of having poorly controlled asthma and also it's a teachable moment.

Mark Masselli: Dr. Elizabeth Woods heads the program and says the first step is to identify the frequent flyers, those kids who make repeated trips to the emergency room. Then they match with the community health worker who visit their home several times and assesses the home for asthma triggers.

Dr. Elizabeth Woods: And they work on three areas: understanding asthma itself, understanding the medications and the need for control medications, and then working on the environmental issues.

Mark Masselli: Families are given everything from HEPA filter vacuum cleaners to air purifiers. They are told not to clean with certain toxic products, and the homes are monitored for the presence of pest or rodents. The result, says Dr. Woods, has been pretty dramatic.

Dr. Elizabeth Woods: What's remarkable is that there was a 56% reduction in patients with any emergency department visits and 80% reduction in patients with any hospitalization.

Mark Masselli: And while this program is expensive, there is a return on investment in reduced hospital cost and healthier children. The program has been so successful, it's being deployed in other hospital communities around the country. The Community Asthma Initiative, a simple reshifting of resources, aimed at removing the cause of disease outbreaks in the community, leading to healthier patient populations, 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.

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