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Margaret Flinter: Welcome to Conversations on Health Care with Mark Masselli and Margaret Flinter, a 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 Dr. Louis Philipson for National Diabetes month. He's the President of Medicine and Science at the American Diabetes Association and Director of the Kovler Diabetes Center at the University of Chicago Medical Center.

He talks about the huge toll of 30 million diabetics in America and 89 million pre-diabetics and some promising areas of research as well as the need for better prevention in diabetes management tools.

Lori Robertson also checks in, Managing Editor of FactCheck.org, looks at misstatements spoken about health policy in the public domain, separating the fake from the facts. We end with a bright idea. It's improving health and wellbeing in everyday lives.

If you have comments, please e-mail us at chcradio@chc1.com or find us on Facebook, Twitter, or wherever you listen to podcast. You can also ask Alexa to play the program Conversations on Health Care.

Now stay tuned for our interview with Dr. Louis Philipson on Conversations on Health Care.

Mark Masselli: We're speaking today with Dr. Louis Philipson, President of Medicine and Science for the American Diabetes Association, an organization dedicated to improving the health and lives of 30 million Americans living with diabetes.

Dr. Philipson is the Director of the Kovler Diabetes Center and the James C. Tyree, Professor of Diabetes Research at the University of Chicago, a noted researcher in beta cell biology and genetics of diabetes.

Dr. Philipson has published over 180 peer review publications. He's earned his BA from Harvard, completing his MD and fellowship in endocrinology at the University of Chicago.

Dr. Philipson, welcome to Conversations on Health Care.

Dr. Philipson: Well, good morning, and I bring you greetings from all my colleagues at the American Diabetes Association.

Mark Masselli: That's great. We are in the midst of the National Diabetes month. These numbers, I think, for the public are staggering 30 million Americans currently have diabetes. I wonder, if you can just help our listeners understand the economic health and emotional impact of

this enormous burden of disease on the overall population health in this country and what do the numbers tell us?

Dr. Philipson: Well, it is very amazing, I mean, the cost -- firstly, the economic cost is in the many billions of dollars, but even more than that is the personal cost, no only the person who has diabetes, but to their entire family, depending on when you get diabetes and certainly there's many kinds of diabetes. Most people think about Type 1 and Type 2, but the number is just are as you say amazing. We say about 30 million people actually have diabetes, several million of them don't know it yet; but we also think another 60 million have pre-diabetes 60 to 70 million. That means about a third of the country either has diabetes or is at high risk. It is an amazing, sad situation.

Margaret Flinter: Well, Dr. Philipson, as we have learned with most chronic diseases, there are so many co-morbidities that go along with the disease, certainly the increased risk for heart disease, for damage to the eye and ultimately blindness, for impact on the kidneys. Maybe you could help our audience better understand the complexities of this disease and why getting diabetes under control and manage is both such a great challenge, but why that's really the great opportunity.

Dr. Philipson: I think the complexity start out with how do you even know you have diabetes or whether you are at risk? I think many primary care doctors and internists around the country are getting the word out that their patients even in early adulthood need to start thinking about it.

I teach my students doctors that they need to take a family history that you can save a lot of lives by just understanding who has diabetes and as you mentioned, some of it is genetic risk.

There are two main kinds of diabetes that kind that might strike children first and now we know that that blends, so that you can have either kind of diabetes at any age. A doctor can't tell if or what kind of diabetes you have just by looking at you, so tests are necessary.

Then beyond that, sadly, if control is poor, it's incredibly hard. I tell my patients, I say you have to walk that lonely valley yourself. Then as they say, unfortunately complications arise and diabetes remains one of the top leading causes of blindness, as you said, sadly, of kidney disease leading to dialysis and transplant, of heart disease, and then things like neuropathies and amputations, so that paints a very grim picture and what we try to figure out is how do we mitigate the risk, how can we get out of this sort of debacle which continues to grow?

Mark Masselli: Dr. Philipson, let's talk about the work you do at the American Diabetes Association as President for Medicine and Science. You see this huge network out there of 20,000 clinicians and researchers

working in this space and close to 600,000 diabetes patients and their families are also actively involved in sharing their data with this research community.

One thing that we're very proud of is that we joined early on, we were asked by NIH to participate in the all of us research project to look longitudinally at lots of bits of data and how they might impact chronic and complex diseases.

I wonder, if you could tell us about some of your current research that you're focused in and how you'll be able to collaborate across such large populations.

Dr. Philipson: There is a network, I mean, unfortunately, they're just not that many endocrinologists in the country. I did a PhD in biochemistry, and then I went to medical school, and then I went through internship in residency, then I became an endocrinologist ---

Mark Masselli: Then it just started.

Dr. Philipson: -- right. It takes a long time for that sort of training. I consider the sort of the front line are really the primary care folks, who far outnumber the diabetes oriented endocrinologist, so that the cohort taking care of people, the docs taking care of folks with diabetes is much larger. The American Diabetes Association by hosting, say the annual meetings which usually gathers about 16,000, attendees, those sorts of platforms help bring people together from all over the world.

My colleagues really in the science are in Europe, in Asia, they're in South America, and a growing number of them are in Africa, because diabetes is an amazing international problem as well.

My own research, which, as you say, has some similarities to what all of us is trying to do is really based on genetics, families with diabetes, individuals who might have unusual forms of diabetes, part of the initiative, say from the American Diabetes Association and the EASD, which is the European Association is to understand how to make diabetes precision medicine.

That's one of the most exciting initiatives we've been talking about in a long time, so we're borrowing from the cancer doctors who now can tell you something about your tumor and this proteins and things that might be attacked. How can we take those principles and put them into diabetes, trying to sort of wrap everything together, this precision medicine idea, includes things like measuring blood tests, we have things called biomarkers, which are say the presence of antibodies, which tell us that you might have a certain kind of diabetes all the way through ideal therapies, developing new therapies that are cost effective.

The third part is, in fact, the person with diabetes, have to say we're not diabetic, we are people with diabetes, we need to understand all the factors that allow people to thrive, how can they do better with the right choice of drugs, so this is one of the great new initiatives that I'm pleased to be a part of with the American Diabetes Association.

Margaret Flinter: We come from the world of the community health center is the largest primary care system in the country. 28 million people, disproportionately people who are low income, very diverse on all measures, and over the years have noted differences in racial ethnic incidences of diabetes and of course, all the social determinants of health.

When we begin to think about the larger groups, our Hispanic population, our Native American population, African-American population, what's the conversation going on in the field about how we train a generation of people to care for these individuals most effectively, and who else needs to be on the team?

Dr. Philipson: Every year, the call center fields over 100,000 phone calls from people who want to know more about diabetes, feel they're not getting, as you say, the who is the team. Most people don't have a doctoring team, they see a primary care doctor and they say something well, meaning you know, lose weight, exercise and take your medicine and check your blood sugar and that really doesn't actually get most people anywhere. The number one question at this huge call center is what should I eat?

I mean, your question resonates with me in that way is that we know so much about medicine and cells and DNA. Some kinds of diabetes can be prevented, certainly not Type 1, not yet. We're getting closer. Some people who have a tendency to Type 2 diabetes might avert the severe decree with lifestyle changes, it doesn't work for everyone.

In the United States, we are other minority groups elsewhere, they're the majority group; but why is it that we think about non-Hispanic whites, we think about African-American people, and very importantly, Asian people, so it's not well understood that more people in the world who have diabetes are in fact, Asian people.

There are mysteries here, some of which have to do with how much insulin an individual person can make. Someone from South Asia, for example, may not look large to Western eyes; but in fact, they're already overweight. When we get into this notion of anything that gives you more calories, it doesn't have to be an American fast food restaurant, those extra calories combined with decreased calorie expenditure, in other words, [Inaudible 00:09:55], so all of those things together make more calories in, because of better agriculture

and supply and fewer calories out, and for a lot of folks that can spell a predilection to Type 2 diabetes, and all of us will help us gather folks from all different backgrounds and that could be a gold mine to understand why this person from South Asia has diabetes and they weigh, you know, 135 pounds.

This person from Germany, you know, is a solid 250 pounds and doesn't have diabetes. I think for the -- the FQHC, the Federally Qualified Health Centers are trying to fill that gap, but there's a huge gap between what we know how to do as doctors and teams and what we actually are doing. I mean, we need to keep the science going. There is a growing understanding that healthcare delivery and behavioral medicine and understanding how people relate to doctors and their teams like this is as critical as the next cellular therapy for diabetes.

Mark Masselli: We're speaking today with Dr. Louis Philipson, the President of Medicine and Science for the American Diabetes Association.

You were talking about the work that you're doing in the genetic area and obviously we're all keeping an eye on all the excitement that's happening in the gene editing world with CRISPR technology and the like; but it's also true that there's incredible work going on as a result of members of the diabetes community sort of hacking the science, if you will.

There's one case of an engineer whose son had Type 1 diabetes and it led to the development of an artificial pancreas. Families are impacted. They're very motivated community. I'm wondering if you could talk a little bit about how this non traditional way is impacting some of the traditional research that's going on.

Dr. Philipson: I know exactly the story you're talking about; but way before that, there were many groups, many companies working on exactly how to do this. I think artificial pancreas is actually a misnomer. I mean, it's not pancreas. It's simply that in many cases, just the cells that give insulin. There's a group in Boston that's working on the concept of giving insulin at times and glucagon at another time.

One company does have a product that has a glucose sensor, which by themselves are revolutionizing high insights into diabetes. There sometimes some days, I feel like I couldn't practice medicine anymore, if not for continuous glucose monitors, it haven't even been on the market for more than --

The marriage of continuous glucose monitors with insulin pumps has been going on for now quite a few years. These are for people who have essentially no insulin, or very little insulin for the most part, there are some other examples; but people with Type 1 diabetes, who

make very little insulin can benefit tremendously from these automatic systems.

The company you mentioned started with a father and a son and are coming along. None of those are in market, so there's a whole population of people who are you know, sort of we are not waiting kinds of banners, who are developing their own closed loop system. Using basically hacked devices with a cell phone controller and a pump and a sensor and of course people are rushing ahead.

All the manufacturers admit that they are not where they want to be and so to have individuals sort of drive the system to have more competition, 2020 is going to be an amazing year for that.

Just a minute or two on the genetics part, my group at the University of Chicago, there is a professor here, Graeme Bell, and our current Dean Ken Polonsky, around 1995 started working on genetics of diabetes in a different way. They were looking to see whether there were single genes, so they did find that we could identify a handful of genes when there was one small mutation in that gene each child had a 50/50 chance of having diabetes.

Mark Masselli: Wow.

Dr. Philipson: That's been the cornerstone of my work for the last decade or so. We picked up on that, it kind of went away for a while, big excitement that it was discovered and then it was thought, well, you know, it's like 1% of the population, why should we care; but once you start looking for them maybe it's 2%, but now we're talking 2% of 30 million. That's a lot of folks. Every doctor who sees enough patients with diabetes is seeing these atypical.

We usually think of people with Type 2 diabetes wrongly as being larger folks and people with Type 1 diabetes as being thinner folks, that's wrong. In this case, they're mostly thin, they're mostly young, so they were unusual and oftentimes extended families.

The big win here is, in fact, precision medicine, that the other name for these is called Mody M-O-D-Y, which stands for Maturity Onset Diabetes of Young people; so far in our clinic, we've already accumulated about 1,000 people who have one of several different genes.

As I said, the beauty is that if you have a specific gene, sometimes we can have a specific treatment. In many cases, specific treatment is something inexpensive, well known, but we didn't know that it exactly fixes this defect over here.

Mark Masselli: That's exciting. Single -- it's a single gene variation that --- [Overlap] sickle cell anemia has a single gene.

Dr. Philipson: That's been amazing and so it has taken over our lives and every day we're talking to families and doctors about atypical cases they're seeing, so that's been an amazing, you know, I feel something like Moses, you know, I can see the Promised Land, but it's like when you can have targeted therapy for specific genetic causes of diabetes.

I think one small example is something called MODY2, which is a mutation in important enzyme called glucokinase. This enzyme controls actually how blood sugar gets into the liver or the insulin secreting cells. The important thing here is that if you have such a mutation, your blood sugars little bit elevated your entire life, they don't progress.

Right now, the evidence is that these folks don't need any treatment at all, except maybe in pregnancy. That sort of insight is amazing. We can tell our families, you're not going to get complications of diabetes and that is to me one of the most rewarding we can do.

Margaret Flinter: I was thinking we take care of about 100,000 people a year, 6,000 of them have diabetes, and we're charged really with the health of our whole community, not just the health of the people sitting in front of us.

The policy implications of trying to keep people fit, trying to keep people active seems like the biggest net that we can throw out there and the prevention of things moving forward. I'm sure you have a position on what is important from a policy perspective to slow this progression from pre-diabetes to diabetes. we'd love for you to comment on that.

Dr. Philipson: One of the biggest studies that was sponsored by the National Institutes of Health and the NIDDK, which is the National Institute of Diabetes and Digestive and Kidney disease, which funds a great deal of diabetes research along with the CDC, the Center for Disease Control, which also has a diabetes translation desk. Including the American Diabetes Association, have been doing a program called the Diabetes Prevention Program now for decades. This program, it's an absolutely a win, so identifying people with not only pre-diabetes, but the highest risk group to go on to pre-diabetes, using a team approach for exercise, nutrition, cooking at home, often without any kind of drugs at all.

The results have been astounding that the fact people can delay or prevent Type 2 diabetes. The problem is, is that it's expensive, so the economics of our healthcare system kind of work against us. That we know these things work, we know that diabetes centers even work, but the expense has been a big barrier.

Of course, there's all sorts of lifestyle issues, if you're working two

jobs, if you are also taking care of three children, where do you find time to walk 10,000 steps a day. We don't know how to do that. We know what to tell people. We don't necessarily know how to help them do the thing.

That's why I say the health care delivery aspect, how do you help people with lifestyle intervention. In several centers, they really had some amazing ability to incorporate and exercise facility. We certainly offer classes on cooking on lifestyle modification basically.

Two small examples, there's a great film right now from the American Diabetes Association and a pharmaceutical company narrated by Viola Davis, the noted actress of stage and screen.

Viola talks about her pre-diabetes diagnosis and narrates this very beautiful film, really introducing the concept of diabetes in all sorts of people, so that outreach is very important.

The other outreach we do is that is legislative. I have been on the Hill twice this year, advocating for funding for diabetes research, but also for Diabetes Prevention Program, so there's lot going on.

Mark Masselli: We've been speaking today with Dr. Louis Philipson, President of Medicine and Science for the American Diabetes Association and the director of the Kovler Diabetes Center at the University of Chicago. You can learn more about his important work by going to diabetes.org or follow them on Twitter.

Thank you so much for the contributions that you're making, the research that you're doing, and the impact that it's having on so many families and individuals with diabetes. Thank you for joining us on Conversations on Health Care.

Dr. Philipson: Thank you so much. It's great to be here.

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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 healthcare 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: In his campaign rally speeches, President Donald Trump often boasts of his administration's plan to end the AIDS epidemic in the U.S. in 10 years. It's true he has proposed funding for that initiative, but he's wrong to say that the Obama administration "spent no money" on such efforts.

In fact, the Obama administration spent about the same per year on

AIDS research and prevention as the Trump administration has and that's only because Congress actually writes the budget, because while Obama routinely sought to increase funding until this year, Trump has proposed cutting it.

This year in his State of the Union address, Trump announced that his 2020 budget would "make the needed commitment to eliminate the HIV epidemic in the United States within 10 years", and that was backed by Trump's budget with proposed $291 million in spending for that initiative.

The President, however, has falsely stated that his plan would "eradicate AIDS in America once and for all." The Centers for Disease Control and Prevention says the term epidemic refers to an increase in the number of cases of a disease beyond what's normally expected in a certain population and area. Ending an epidemic would mean reducing cases below a certain level.

The goal in the administration's plan is to lower the number of new HIV infections by 90% by 2030. If that milestone were achieved, one could argue that would end the HIV AIDS as an epidemic; but that does not mean HIV AIDS would be wiped out entirely.

One of the key strategies to reduce new diagnosis of HIV is to target initial efforts on geographic hotspots and to provide pre-exposure prophylaxis pills to protect people at the highest risk of getting HIV. That biomedical prevention tool was approved by the FDA in 2012, and helps reduce the risk of getting HIV.

That's my fact check for this week. I'm Lori Robertson, Managing Editor of FactCheck.org.

Margaret Flinter: FactCheck.org is committed to factual accuracy from the country's major political players and as a project of the Annenberg Public Policy Center at the University of Pennsylvania.

If you have a fact that you'd like checked, e-mail us at chcradio.com. We'll 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. Currently, some 30 million Americans have Type 2 diabetes and that number is expected to climb substantially in the coming decades.

Patients who were newly diagnosed often find it difficult to process the behavioral change required to keep their disease in check. Amazon, the creator of the interactive voice technology known as

Alexa, and pharmaceutical entity, Merck teamed up to launch a competition for developers to create a tool using existing technology that would help folks better manage their diabetes. The winner Sugarpod developed by Seattle based startup Wellpepper.

Anne Weiler: The challenge was how do you help someone newly diagnosed with Type 2 diabetes and we already had interactive care plans for people with Type 2 diabetes and then we thought, well, sure, we can voice enable those care plans, but isn't that what everyone's going to do.

What we thought that was the most interesting was the integrated care plan that included a device which is a voice powered scale and foot scanner that looks for diabetic foot ulcers. We thought that the scale was a nice way of fitting into a routine that someone already had in their day.

Mark Masselli: CEO, Anne Weiler says they were intrigued by the opportunity to incorporate Alexa's voice technology for coaching purposes along with some simple technologies that exists.

Anne Weiler: The three components are voice-enabled, scale and foot scanner, a mobile care plan, because voice isn't always the best interface and then a voice interaction that could happen with any sort of Alexa device.

Mark Masselli: Chief Technology Officer, Mike Van Snellenberg said they got great feedback from consumers who said they quickly adapted to the Sugarpod interface.

Mike Snellenberg: Yes, but anytime you want to do interventions on people, you need to have very low touch lightweight interactions, things that don't interfere with a person's life and can kind of gently nudge them in the right direction. I think voice is a great application for that.

Mark Masselli: Well, weights are measured in feet photographed. Alexa offers suggestions for weight management, diet and exercise and other behaviors that will empower patients to make lasting behavior changes.

Sugarpod is simple constructed Alexa-enabled weight and foot ulcer scanner, providing a flow of important clinical information for their providers who can benefit from the real time monitoring of patient health data. Now that's a bright idea.

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Mark Masselli: You've been listening to Conversations on Health Care. I'm Mark Masselli.

Margaret Flinter: I'm Margaret Flinter.

Mark Masselli: Peace in Health.

Margaret Flinter: Conversations on Health Care is recorded at WESU at Wesleyan University, streaming live at chcradio.com, iTunes, or wherever you listen to podcasts.

If you have comments, please e-mail us at chcradio@chc1.com, or find us on Facebook or Twitter. We love hearing from you. This show is brought to you by the Community Health Center.

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