Mark Masselli: This is Conversations on Healthcare, I am Mark Masselli.

Margaret Flinter: And I am Margaret Flinter.

Mark Masselli: Well Margaret, we are well into the political convention [PH] cycle now the GOP meeting in Cleveland, Democrats in Philadelphia, as expected there are some significant differences in the party platforms at many issues including healthcare.

Margaret Flinter: There was some talk of repel of the Affordable Care Act after Republican gathering but the democrat platform, they are calling for an expansion of the health law including a move towards a public option for folks 55 and older. And the President has issued his own ideas for revising his signature health legislation he is also talking about public options for health insurance especially in parts of the country with little or no competition and higher costs for consumers.

Mark Masselli: The President has issued a special communication on Affordable Care Act in the Journal of the American Medical Association, same with a number of years of experience with the ACA under our belts we have learned what works and what needs improvement.

Margaret Flinter: He also called the law makers to get to work reining [PH] in the high cost of pharmaceuticals and urge the 19 states that have refused to expand Medicaid coverage for the residents to do it.

Mark Masselli: And in the meantime we have to recognize that more than 20 million Americans have gain coverage under the Affordable Care Act, and that is a significant accomplishment.

Margaret Flinter: Well I think we just have to agree there will be big changes probably coming after the new administration takes place and we won't really know what's going to happen until the results of the November Election are in.

Mark Masselli: And something that all consumers will be experiencing more of in the futures having their complex data including genomic information being stored in a way that can be utilized for accelerating health research that can lead to improve population health Margaret.

Margaret Flinter: And that is something our guest today is very passionate about, Dr. Anil Jain is the Cofounder of Explorys a data sharing system in the Cloud recently acquired by IBM Watson Health that allows for storage and data analysis of massive storage of health data all in the pursuit of advancing scientific discovery.

Mark Masselli: And Lori Robertson also stops by, she is the Managing Editor of FactCheck.org.

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

Mark Masselli: And as always if you have comments, please contact us at chcradio@chc1.com or find us on Facebook or Twitter; we love hearing from you.

Margaret Flinter: We will get to our interview with Dr. Anil Jain 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 healthcare headlines. Health officials are tracking what they believe maybe the first case of zika actually acquired in the US. The patient from Miami-Dade County had not travelled outside the country. The source of 1300 or so infections chartered in the US so far had come from travel abroad. Meanwhile, the virus has been largely spread throughout much of Central and Latin America as well as the Caribbean via the Aedes mosquito which is just starting to make its way towards US shores.

Zika can be transmitted sexually from males to females primarily but also from females to males. Zika's greatest danger lies in its connection to serious birth defects in babies, thousands of cases of microcephaly having been recorded across the hardest hit regions from Brazil to Puerto Rico. According to an article in Kaiser Health News a 108 million Americans more than a third lack dental insurance and therefore easy access to dental care. The Department of Health and Human Services has provided $156 million in grants to hundreds of health centers across the country to assist in providing some coverage. The Kaiser Family Foundation study found, even when they had coverage cost of care remained a barrier, about half of those adults with private coverage 49% had a dental visit the last year and for those on Medicaid or Children's Health Insurance Programs the numbers were worse.

And from the everything old is new department the rising threat of antibiotic resistance is creating more impetus for clinicians to seek alternatives for prescribing. Complex issues like chronic sinus infections often lead to multiple antibiotic courses, the study out of Southampton University in England looked at the effectiveness of home remedies such as inhaling steam as well as flushing the nasal cavities with a saline solution. The study looked at 900 patients with chronic sinus infections dividing them into four groups, those continuing their regular treatment, those getting just steam inhalation, those doing

nasal irrigation with a Neti pot and those doing both steam and irrigation. Those in the irrigation group alone were most likely after six months to have reduced bouts of infection and were least likely to need antibiotics during that time or even to require over-the-counter remedies. I am Marianne O'Hare with these healthcare headlines.

(Music)

Mark Masselli: We are speaking today with Dr. Anil Jain, Senior VP, Chief Medical Officer and Cofounder of Explorys, a cloud-based healthcare analytics platform recently acquired to help form IBM's Watson Health division. Dr. Jain served for 16 years at the Cleveland Clinic most recently as Senior Executive Director of Health IT. Dr. Jain is a diplomat of the American Board of Internal Medicine and a Fellow of the American College of Physicians. He is a graduate of the Northwestern Feinberg School of Medicine and completed his residency at Cleveland Clinic. Dr. Jain, welcome to Conversations on Healthcare.

Dr. Anil Jain: Thank you Mark.

Mark Masselli: You are at this incredible intersection of innovation in healthcare, you and your colleagues at Cleveland Clinic had been working with Electronic Medical Records since 2001 and saw the need to develop cognitive systems that could better aggregate health data from multiple sources, maybe you could walk our listeners through the origins of Explorys and the gap you sought to fill.

Dr. Anil Jain: The health systems that were early adopters in the Electronic Health Records really focused on making sure that they were implementing EHRs in a way that would be most conducive to the practice that the typical internist or specialist would do within their hospitals, the idea that EHR as we are collecting back them up with data and data that simply just didn't exist on the other paper based world. So at the Cleveland Clinic what we are trying to do is create a focal point by which those folks that needed data like for example a folks that might need data for enterprise performance improvement or in clinical research or running a clinical trial they were going to different corners of the organization asking for data. And as the EHR became a central point focal point for patient care, it also became obvious that parts of it could be supplied by the EHR if the data was combined with other information sources.

So what our group simply did was try to bring together all the disparate data sources that one would consider to be important and to create a simplified mechanisms and to be able to aggregate disparate data together and then be able to very quickly start to have a dialog with that data so that a group could get the information they needed at the

right time so whether it was for understanding, whether an entire panel of diabetics was getting all their care needs met or whether there was medications that were affecting the liver or kidney and I think the Cleveland Clinic was an early pioneer in both the EHR implementation. And then what we could do in a secondary use way for analytics for both quality improvement and clinical research and so our group simply made many of those things little bit easier to do and hence when we spun out [PH] some of that technology and process it was simply because we were being asked by many organizations how do we bring that capabilities into our shops. Now when you start thinking about the idea that we can start deploying some of those capabilities to other health systems became a very easy story to tell.

Margaret Flinter: Well Dr. Jain you said that Explorys was founded on the principle that it had to be able to capture the 5Vs of data, tell us what those 5Vs are and what's the relevance to the mastery of data analytics in healthcare which now has so many complex sets of data and streaming in from so many different sources?

Dr. Anil Jain: Really were the 3vs are very commonly known as 'Volume', the 'Velocity' and the 'Variety' of data that comes at us. And in healthcare in particular those 3vs are volume, velocity and variety are directly related to sort of the rapid adoption of health IT that we see within the four walls of a hospital system but also out in the community where there is a large amount of data being generated by the Electronic Health Records and the other ancillary information systems. And all the discrete data that's related to it and all the metadata are all part of stream of information that comes at us in those databases there is lots and lots of data so that's where volume pieces comes in.

In terms of 'Velocity', we are seeing a significant increase in the amount of data being generated by sort of devices and prophecy that we have sort of took for granted as being not typically data intensive but now it's difficult to walk into any hospital in the United States without having a bed or Smart Bed that's generating lots and lots of data. And that velocity of data puts a unique challenge on the traditional hospital-based data systems that really weren't designed for the velocity of how some of these newer technologies are interacting with us.

The 'Variety', the third V is simply relates to the fact that many of us see medicine being practiced in a very local way and no matter how much we think that health information is standardized there are some nuances, and in the variety of data it even differs among providers within the same organization.

The other two Vs are very interesting, one is the 'Variability' even when I have variety, and volume and velocity, medicine advances at a phenomenal rate, the amount of medical knowledge that we are dealing with, and some people say every 18 months it doubles. And so there's a variability of how we do things and that variability introduces a challenge when it comes to understanding it.

And then the final one is 'Value'. If we are not careful, we will start to pick and choose and bring everything in a resource strapped sort of environment that we all live in. It's important to understand the value of what we are trying to do, the value of the data that we are trying to bring in at the end of day, so that's where the 5Vs come from. And every physician and every healthcare provider is different and therefore we need mechanisms to deal with those differences and account for [PH].

Mark Masselli: And Dr. Jain I wonder if you could talk about your partnership with IBM Watson as I mentioned earlier Explorys is a cloud-based healthcare analytic platform which was recently acquired to help form IBM's Watson's Health division and interlay the sort of role Explorys as you have described there is treasure trove of 50 million people playing in the Watson ongoing development.

Dr. Anil Jain: We were acquired back in April 2015 really to form the Watson Health Unit, we were acquired by IBM to create this first division that they have created in 20 some years. When Watson beat Jennings in jeopardy the idea that augmented intelligence or AI platform like Watson can learn, it can understand, and it can then reason and give answers to questions. The much of it has to do with what you use to train Watson and in the case of Jeopardy they used commonly available books and journals and encyclopedias. And if we are going to use this sort of augmented intelligence platform, there is question answer in healthcare, there is two different types of knowledge bases that you need, one would be the journal articles and textbooks, and certainly that is a key part of a Watson Health which is the ability to ingest large amounts of journals, articles and textbooks and to be able to learn what others have spent years and decades perfecting.

But the other part of it is, what's happening in the real world? It's one thing to say that in this clinical trial using this particular blood pressure pill, lower the blood pressure by a certain amount. But it's another thing to say that when you actually see that 50 million patients care being delivered what really happens? And so for Watson to be able to read all that information and to understand the differences between knowledge driven insights and data-driven insights in the real world is a critical piece, it's how we all learn too. We will go through medical school learning from textbooks and journals and observing on rounds and perhaps even practicing and that practice is a critical piece for any kind of augmented intelligence or AI system. And once Watson does learn something how do you deliver it back into the field? And so Explorys becomes that platform along with the other parts of Watson Health like Phytel and Truven that make that ability to go from the bench to bedside much more effective.

Margaret Flinter: Well Dr. Jain we actually had the Cleveland Clinic CEO Dr. Toby Cosgrove on the show not long ago talking about the clinic's innovation model, can you share with us some of your experience with the Cleveland Clinic Innovations team and how that made this work possible?

Dr. Anil Jain: Absolutely Margaret, I think the Cleveland Clinic Innovations team essentially played a vital role in connecting me with those that had a significant set of

experiences that would help us scale what was really a prototype and something that worked very well within our four walls in order to scale it up to a level in which it becomes a fully functional business entity with a business model. We could have gone from grant to grant or we could try to create external validity to what we are creating going through a tech transfer process like Cleveland Clinic Innovations that connected me with a number of individuals that were looking for interesting ideas that simply needed capital and really some operational experience. And that's how I met the – sort of the entrepreneurs that became the CEO and the president of Explorys connecting me and my group with entrepreneurs who had passion for being in healthcare and more importantly had experience in running companies. And so in many ways I am very grateful to Cleveland Clinic Innovations not only for connecting all the dots, they stayed very engaged and very much a critical piece of our success, even now with the IBM acquisition Cleveland Clinic and Cleveland Clinic Innovations are a strong partner for us.

Mark Masselli: We are speaking today Dr. Anil Jain Senior VP, Chief Medical Officer and Cofounder of Explorys a cloud-based healthcare analytics platform company which was recently acquired to help form IBM Watson's Health division. Dr. Jain you seem to have sort of an endless set of applications for the Explorys platform better clinical integration, at risk population management, outcome measurement in patient, safety and in particular on the last topic medical errors having been cited as the third leading cause of death in this country, and I wonder if you could share with our listeners how your cloud-based system of data storage helps improve patient safety as well as other outcomes.

Dr. Anil Jain: One of the areas where Explorys the Watson Health is absolutely committed to making sure that we can get on top of is, can we make sure that all the data that’s important about the patient, all the information that's relevant is available at the time that a decision is being made. Healthcare is fragmented: in the community healthcare, and occurring in the hospital four walls, in the emergency rooms, so the first step is to make sure all the information is there so that some of these medical errors that happen because of having fragmented information simply get reduced. The other types of medical errors that occur have to do with making sure that the information that is out there, that is in journals and textbooks is made available at the time that a decision is being made with the relevant context. And so part of the Explorys Watson Health story is can we make sure that all the information from the various different sources are first filtered through particular characteristics for the patient and then presented to the specific person making the decisions.

To give you an example, the typical provider when they see a diabetic with high blood pressure might get anywhere up to 10 alerts and in many cases those alerts may conflict with each other and the tendency for most of us who see that volume of alerts is simply to ignore most of it. So part of the medical error issues have to do with just having too much information out there and not enough actionable insight and Watson Health and Explorys certainly are trying to fix some of that.

The other thing that often happens with medical errors is that we cannot know how we should classify some of the outcomes. I think we need a better job of capturing outcomes and part of that is to get at all the data, not just the clinical data but the processed data about how the providers behaved within the Electronic Health Records and the ancillary systems but also did the patients actually do what they needed to, it's all about entire cycle between when the decision gets made, how it got made, making sure that we are leading the provider and the patient to make the right decision with the right information.

Margaret Flinter: Well Dr. Jain I would like to look at another area where I just think there is tremendous promise and that's increase participation in clinical trials, researchers can have reach into the massive database of patients to get an access to a great deal of more potential participants and talk to us a little bit about how Explorys is really helping to advance research through this much greater participation in clinical trial.

Dr. Anil Jain: So one of the things that Explorys and Watson Health is doing is making sure that information about clinical trials in what clinical trials a patient might be eligible for is made easier for the provider. At some of these large healthcare systems there could be hundreds and thousands of clinical trials occurring and how is anyone expecting the primary care provider to really be able to offer the patients the right clinical trial. So one of the things that we are working on is Watson for Clinical Trial Matching we are working with some academic health systems where we are able to use Watson's ability to read, looking at clinical trials protocols in the capture space and think which of these patients are going to be most eligible for these different trials. And we are starting in oncology because it really is a shame when a patient doesn't get offered a clinical trial or a protocol that might be life saving you know we are also going to be branching on to the metabolic areas, neurosciences. But really our first step is to make sure that we have got a good sense of how this is going to work around oncology and some of the areas where I think there is a certain very reasonable expectation by every provider and every patient that every patient should be offered a clinical trial when appropriate.

The other area is asking the simple questions, does every single new bit of innovation insight need a randomize controlled trial or can you use the data that's already accumulated, can we use that information to really understand what happens in the real world, and to start to create these almost virtual clinical trials or hybrid studies where we look at a little bit of a real world evidence and then hone in on what we really want to study so we can make the randomized controlled trials little bit less expensive and still get the same benefit to society from those trial, all the way from matching the right patient to the right trial to using the data to really reengineer the way clinical trials are conducted in the first place.

Mark Masselli: We have been speaking today with Dr. Anil Jain, Cofounder Chief Medical Officer and Senior VP at Explorys, a partner with IBM Watson Health providing a cloud-based data analytics system for healthcare. You can learn more about their

work by going to explorys.com or follow them on Twitter and @IBMWatsonHealth. Dr. Jain, thank you so much for the work that you do and for joining us today on Conversations on Healthcare.

Dr. Anil Jain: Thank you Mark, thank you Margaret

(Music)

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 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: President Barack Obama said there have been huge drops in the murder rates in cities like New York, Los Angeles and Dallas. Republican presidential candidate Donald Trump said "violent crime has increased in cities across America." Which is it? We will score this one for Obama. The long-term trend is a decline, not only in the murder rates per population but the total number of murders in the cities Obama mentioned and nationwide, the same goes for violent crime. Trump was referring to a recent year over year increase in murders in some cities.

Let's take a Dallas as an example, murders there peaked in 1991 at 500 for the year, but they totaled nearly half that, 231 in 2000. In 2012, the murders in Dallas were lowered yet, 154. The murder rates offenses per 100,000 in population dropped significantly too, but Trump pointed to a New York Times article on an uptick in 2015 in the number of murders in several cities including Dallas as compared with 2014. All totaled 2015 Dallas saw a 17% increase in the number of murders from the year before. But as criminology and statistics experts told us, we can't discern a trend from a few years of data, the violent crime rates which includes murders, aggravated assaults, rape and robbery for the nation also hit a peak in the early 1990s and has been declining since. 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 Healthcare.

(Music)

Margaret Flinter: Each week Conversations highlights a bright idea about how to make wellness a part of our communities and everyday lives. As the saying goes, “Music soothes the savage beast.” And according to a recent study conducted by Queen's University in Belfast, Ireland there is some empirical data to back that up. In a first of a kind longitudinal study children suffering from a variety of behavioral and emotional conditions who are exposed to music therapy in addition to traditional therapies had far better outcomes than those children in a control group that offer traditional therapy without music therapy.

Dr. Sam Porter: It's not a matter of them been given music or choosing music, they actually make music along with music therapist assisting them. So the idea is for them to express themselves through music.

Margaret Flinter: Lead researcher Dr. Sam Porter said there has been anecdotal evidence that music improves mood in children and adolescents as well as adults, but his study revealed just how effective the music therapy was.

Dr. Sam Porter: Our primary outcome was an improvement in communication, and there were two very interesting secondary outcomes, levels of depression and levels of self-esteem. And in the secondary outcomes we find a statistically significant difference between the control group and the intervention group.

Margaret Flinter: Dr. Porter says in the group given musical therapy, it showed over time more interaction with their surroundings and a better response to the traditional therapies as well.

Dr. Sam Porter: I mean that's one of the marvelous things about music therapy, there are no side effects, it is not a dangerous therapy to get kids involved and it is a – it is a productive way of getting kids to improve their health. So it's just such a good way and a harmless way of doing things, so it's really satisfying to know there is also an effective way of doing it.

Margaret Flinter: The study was conducted in conjunction with the Northern Ireland Music Therapy Trust which sees the promising findings as an incentive to incorporate this relatively low cost non invasive therapy into standard protocols as an additional tool to enhance outcomes for the youth population which often suffers negative side effects from powerful medications. A simple targeted music therapy approach showing great efficacy and improving outcomes for young patients with minimal side effects and lasting benefits, now that's a bright idea.

(Music)

Margaret Flinter: This is Conversations on Healthcare, I am Margaret Flinter.

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

Conversations on Healthcare, broadcast from the campus of WESU at Wesleyan University, streaming live at www.wesufm.org and brought to you by the Community Health Center.