Good afternoon. I'm Nancy Chockley, president and CEO of NIHCM Foundation, and we're just delighted to see so many people here who care about this important topic. NIHCM is a nonpartisan organization dedicated to transforming healthcare through evidence and collaboration. And we bring together leaders like today to tackle important issues in healthcare. Certainly, one of the biggest issues we're dealing with in healthcare is how to build healthier communities. It's an issue that garners bipartisan interest and sizable efforts by both public and private sectors. Because sadly, so many of our communities are in crisis.

For the first time, the average life expectancy is shrinking because of depths of despair, suicide, and drug and alcohol addictions, and there's a growing realization that we need to tackle social determinants of health because of their out-sized impact on communities across the country. Social determinants of health as you all know are the conditions in which we are born, grow, work, live an age. RWJ Foundation estimates that half of health outcomes are influenced by social determinants of health when you exclude genetics. So, the researchers are saying that social factors are more important than clinical care and more important than our individual health behaviors.

Our communities are reporting significant unmet needs despite this growing awareness. Mackenzie recently released a new consumer survey that reported food insecurity and community safety are two of the most commonly reported issues. Those people that reported having their needs met were also reporting that they visited the emergency room more frequently and significantly more frequently, two and a half times for food insecurity, and almost three times for community safety needs when their needs were not met. So successfully addressing social determinants of health care can increase our health outcomes and can reduce costs, especially if you measure costs to society. So, collaboration is key to driving change, and you'll hear that across the panelists today.

Our speakers today are leading the charge from a health care system just focused on medical intervention to one that looks more broadly at the root causes of health problems. We also know that we have a very informed audience here today, and we want to bring you into the conversation, so you'll find in your packet a green card, please go ahead and fill it out. And our speakers will take questions at the end of all of their presentations. You can also share thoughts and questions on
Twitter with the #NIHCMBriefing19. So with that, let me introduce our first speaker Don Berwick.

Nancy Chockley: 00:03:20 Don started his career as a pediatrician, and is now recognized as a leading authority on health care quality and improvement, and his expertise is sought internationally. Don is a former administrator of CMS who currently serves as President Emeritus and Senior Fellow of the Institute for Healthcare improvements, which he co-founded. He has published over 129 articles and professional journals, and has received numerous awards for his many, many contributions to improving health care systems. Don is an inspiring thought leader and is evaluated advisor to NIHCM, and we're delighted to welcome him here today.

Don Berwick: 00:04:06 Thank you, Nancy. And thank you all for this chance to share some thoughts with you in this really important meeting. I think my job, my assignment from Nancy is kind of to set the stage for you. I'm going to give you some background here, my talk is going to be mostly about the magnitude of the challenge we have with social determinants and a definition. I'm going to reference some science. So, I'm trying to give you a science based framework for thinking about what social determinants are, which might be an initial portal to wise public policy, and then I'll close with a few hopeful examples. Places where healthcare systems are getting involved in solving this, and you'll hear from my co-panelists some really wonderful examples of that.

Don Berwick: 00:04:45 A lot of what I'm building on it comes from scholarship in the field of social determinants. Much of this particular talk rests on the work of Sir Michael Marmot, from England. Michael is one of the leaders epidemiologists in the world concerned with this problem, and if you have not read his book, The Health Gap, I suggest you read it. And if you read it, you don't have to hear the rest of this talk because a lot of what I'm doing I'm stealing from Michael. The problem in the US context is pretty serious. As you probably know, the United States is not ranked well in health and wellbeing measures like infant mortality and longevity.

Don Berwick: 00:05:20 A very important Institute of Medicine study called Shorter Lives, Poor Health showed that the United States ranked in fact the bottom of the 17 wealthy countries that we were then compared with in terms of life expectancy. This is the 2007 figure. We're right at the bottom in life expectancy of the 17 OECD countries cited in that report. It's gotten worse. We are
now 26th in the list of OECD countries since more countries have been added. We've just flipped down the ranks. On the worldwide stage, our life expectancy is 43rd in the world, for a country spending more than twice as much as any other country in the world, most other countries in the world on our health care.

Don Berwick: 00:05:56 A vivid way to think about this that I want to acquaint you with is known in the epidemiologic world as subway maps or bus maps. I'll show you what it looks like and give you some statistics. This is London, the map of London, and if you compare here, life expectancy in a wealthy area point. This is around Oxford Circus, to a much less wealthy area of London over in East London, at probably about three miles away, two and a half miles away, you're looking at a difference of life expectancy over about two and a half miles of about 21 years. In other words, there's 2.6 years of life lost in expectancy for every mile traveled.

Don Berwick: 00:06:43 You can find maps like this all over the world and in the US here's the map the New York City for example, looking at 85th Street in Manhattan, where the people walking above you are largely white. Their income on average is well over $130,000 and they're employed. Compared to the South Bronx, where a lot of these are communities of color, incomes are much lower. The loss of life in this two mile journey is about 2.3 years per mile in New York. That's a life expectancy change of 10 years. You can find the same statistics in Chicago from the loop to Westlake Chicago is a 16 year life expectancy difference from the high to low income areas of Flint, Michigan, it's a 15 year life expectancy difference.

Don Berwick: 00:07:29 These are relatively large numbers, and I want to explain to you how large they are. I need to modify your understanding of this. This is not like a gradual decline. This is a cliff of the life expectancy changes occur relatively suddenly when you enter areas that have deprivation, poverty and other kinds of social challenges. How big is the difference? Six months for every minute on the subway in New York, 3.2 years for every mile travel. But let's get a sense of how big that is. And the way I want to show you is with respect to a pretty important breakthrough in treatment and prevention of coronary disease in the United States. As many of you know, one of the most commonly taken drugs in our country right now are statins. Statins lower your cholesterol rate, and they appear... Although the literature is controversial, they do appear to have some
effect on the chances you'll have a heart attack, especially if your cholesterol was elevated.

Don Berwick: 00:08:22 This is a study from the British Medical Journal, which assembled all the relevant data as of 2015 to estimate the effects of statins. And to summarize everything, if you take the most favorable results in research on statins, approximately for every year you're on a statin you gain one day of life. If you're on 20 years of statin treatment, you'll gain about 20 days of life on average. 20 days of life is the effect of taking a statin for 20 years. 20 days of life is what's lost on the [D-train 00:08:54] in Manhattan in seven seconds traveling to the South Bronx. In Glasgow, Scotland, you lose seven days of life on a bus trip in the first 43 feet of that trip. Whatever is creating these cliffs, whatever is producing this discrepancy, a place based discrepancy in health and wellbeing is massive. It's an 800 pound gorilla compared to the relatively puny things we can do with life expectancy of longevity with medical care.

Don Berwick: 00:09:24 Not to say medical care is unimportant. Part of my believes, in a minute that we should deny people access to high tech care if you need coronary surgery you should get. If you need chemotherapy, you get it. If you need statins, you should take them. But complete illusion, to imagine that relying on universal access, which we don't even have in this country in healthcare would be anything more than pushing on a string with respect to the overall life expectancy and health status of the population.

Don Berwick: 00:09:49 So, the term used to describe what this other stuff is that creates these cliffs is social determinants of health. It's a widely used term. I would say surface up on this term. I've worked in healthcare many years. I've known about this for decades. But recently, you can hear this term over and over again in the public discourse, and goodness. You hear it in a bipartisan level in Congress, and it is worth tackling to say the least. But what does it mean? I'm going to draw heavily as I said, on Michael Marmot's work. Michael produced in his book, The Health Gap, a way to understand this. He outlined six components of social determinants of health, conditions of daily life that matter, he called them. And I want to just walk you through the six.

Don Berwick: 00:10:33 I personally believe it's possible to create a policy framework around these six. No one of them would solve it, you have to have a portfolio view in which we tackle on a science based social determinants across a quite a wide range of determinants. The first is the experiences of early childhood.
There are many ways to understand is. What happens to kids around birthing and in the first several years of their life determines their life expectancy as adults strongly. One of the most dramatic findings here has to do with so called ACEs or Adverse Childhood Experiences first developed by a research named Kaiser Permanente in concert with colleagues at the CDC.

Don Berwick: 00:11:12 This is a relatively simple idea. If you ask essentially a kid two, three, four years old about exposure to adverse experiences, which is a list of stresses, 10 stresses in the normal form, and you simply tick the box if they say yes to a stress, like you don't have enough to eat, or you've witnessed violence in your family. The number of yeses correlates dramatically with health status in the long run. People who give four or more yeses as children to the ACE score have double the rate of lung cancer. Double the, more than that rate of heart disease there. They're 11 times higher, I believe more at risk for suicide. They are 14 times more at risk, I believe, for substance abuse as adults. Early childhood experiences determinants of health status as adults.

Don Berwick: 00:12:00 In the United States, by the way, we don't rank very well. In trying to affect the experience of children and youth, we score very poorly. We're ranked last among 20 nations in this UNICEF ranking of child wellbeing, and investments in children are we rank very poorly. Most countries have re-distributional approaches to see the children in poverty and deprivation have supports. We rank very low in the country, the second worst child poverty rate of 35 wealthy nations. We have not invested in changing the wellbeing of children in this country as a matter of public policy.

Don Berwick: 00:12:34 The second is how people are educated. Education bears a very strong relationship with health and life expectancy. This is a chart just showing educational achievement versus life expectancy for white and black men. It affects both races. We're looking at a decade. That is a New York subway trip experience difference in life expectancy depending on educational achievement. Scientists would ask about the cause of relationship. Is it that poor health causes poor educational attainment, or a poor education attainment causes poor health? I'll tell you scientifically, the direction is worse educational attainment produces ill health. There are countries that ever raised this relationship, again, by focusing on equity and educational achievement, and support. You actually can erase these differences so that even people who don't achieve highest levels of education still have the same health expectancy, as
people who do. That's true today in Scandinavian countries and others that invest in equity in education access.

Don Berwick: 00:13:33 The third is the conditions of work, and this is a pretty big part of things. Of course, it has to do with exposures at work, the safety of the workplace. It also has to do with meaning at work, and there’s really interesting research that shows that people who feel attached to their work and involved in it actually have better life expectancies than people who are alienated at their workplace. That has to do with the conditions of work, the social conditions, but it also has to do with income.

Don Berwick: 00:13:55 We too often talk about fair income or a minimum income or a minimum wage. In the epidemiologic community, the terms used, supply, for example, here by Professor Jerry Morris is a minimum income for healthy living. And that’s larger, it’s a higher level than our current policy approach to minimum wage, or to the poverty limit by the way. The definition of a minimum income for healthy living would be we calculate an income sufficient to achieve food and shelter and also to live a life of dignity and development. That’s a higher number than we aim for by policy in any part of this country.

Don Berwick: 00:14:35 The fourth is an interesting area. It has to do with how we deal with the aged. A topic of increasing interest to me is how you age. It’s kind of weird, but countries that have effective policies for dealing with aging, assuring food security, connectivity, housing for the aging actually have higher health status in the population as a whole. I don’t actually understand why that’s the case, but it’s an independent determinant of the social status of a country. The way it deals with it’s aging. It’s reflected for the aged in isolation. For example, loneliness is a killer, and it especially affects people of... more aged people. This shows look at the risk ratio differences here for social integration as a determinant of longevity.

Don Berwick: 00:15:21 You can see it in statistical predictions of coronary heart disease or stroke. People who report loneliness as a feature of their existence have a 29% higher chance of coronary heart disease, they have a 32% higher rate of stroke. Let me point out there are no drugs or medicines that I know of that produce a reduction of coronary heart disease risk by 29% or anything even close to it and stroke risk by 32%. These are massive effects of a condition called loneliness on risk, and it selectively affects the elderly, and not only the elderly. It’s a kind of weird thing by the way, I’ll just point out that we are in a country where an elder can count on a prescription for a $50,000 drug.
It's their right. But they can't count on food tomorrow. We just have a policy that's aimed at care not at the prevention of the need for the care.

Don Berwick: 00:16:19 The fifth factor is a popery, it's resilience of community. It's probably what you would think of if I asked you what social determinants are, this has to do with the conditions in your neighborhood. My colleagues are going to be talking about some of those, transportation, food security, housing security, violence in the streets, structural racism, these are properties of communities and resilient communities that work on these properties with adequate housing, adequate food, really work hard on racism, and it's end are going to be healthier communities at large. This is shown in a very interesting study by [inaudible 00:16:52] colleagues in Canada. You're looking here at the probability of suicide attempts in native communities, indigenous communities in Canada. Communities that feel empowered, that have structures have far lower rates of suicide than communities that do not. We could show that in the US as well.

Don Berwick: 00:17:09 This is where deaths of despair also count. Nancy mentioned this, as you probably know, last year, I believe was last year was the first year in our records, in which the life expectancy for an adult in the middle years fell instead of rose in this country. All of that change is attributable to the deaths that Angus Deaton, the Nobel novelist economist, and Anne Case have written of as deaths of despair, as Nancy said. That's deaths from alcoholism, suicide, and substance abuse. That's what's eating into life expectancy for people in the Middle Ages in this country, and they are socially determined.

Don Berwick: 00:17:45 The last of Marmot's categories is the biggest, he calls it fairness. It's hard to talk in this country about conditions of communities that are very conventionally talked about in other countries. Conditions like solidarity and wealth redistribution. No matter what party you're in, or where you sit politically, I can tell you the facts. The facts are that societies and communities that attend to fairness, attend to social justice, that are unembarrassed about redistribution at fair levels are healthier, and they live longer. The line that Marmot returns to over and over again is that inequalities and power and money and resources give rise to inequities in the conditions of daily life, which lead to inequities and health.

Don Berwick: 00:18:27 In essence, he's arguing fairness is actually a determinant of the other five social conditions. And to be honest about where we
are in the United States right now, wealth inequalities are growing, income inequalities are growing, people of low and moderate income are losing out compared to people of higher income and that’s the wrong direction if what you care about is health and wellness in societies.

Don Berwick: **00:18:51**

Now, can we do anything about it? Absolutely, yes. The scientific foundations for intervention would take another 20 minutes, which I don’t have to even begin to touch on. But we’re seeing some really good examples. Now if you will think globally, and I urge you to. If you’re willing to drop the idea of American exceptionalism in solving this and look around the world for countries and societies that are dealing with, you will find wonderful examples, and I travel all over the world and see them. And I’m not embarrassed to say we have a lot to learn from other countries. But looking within this country, we’re seeing some really good stuff emerge.

Don Berwick: **00:19:20**

One of the really interesting stories, for example, is what’s going on at Rush University Medical Center, which is leading a project in the Chicago area to reduce that subway map difference between the loop and West Chicago. They’re doing it with a consortium of other organizations, but they’re using the approach now called the anchor mission, or the anchor community approach. I don’t know the number now. It’s several dozen communities in this country have an anchor institution. It’s a very simple idea, and I’d say very American idea. Healthcare is a big purchaser, a big user of American resources, 18% of GDP. That 18% is being spent on jobs and buildings and innovations and developments, and all anchored institutions are doing is taking their portion of the $782 billion that healthcare expense, unemployment, and construction and just maintaining the hospital and spending it locally. It doesn’t cost any more money. You’re just focusing your economic impact on your neighborhood, and on the subway map.

Don Berwick: **00:20:18**

Rush University Medical Center has written the anchor mission playbook. Please get it, please look at it. It’s brilliant. It’s a story about how an organization can take it’s normal business and begin to use it as a lever for improving the conditions of the areas it lives in. It’s a remarkable story. The website is the Democracy Collaborative, it's called, that’s the sponsoring organization. I’m sure if you email Rush Medical Center, Dr. David Ansell there, he'll be happy to talk to you about it. It’s one example, not the only one by any means.
Here's another example. This is an entrepreneurial philanthropist in Georgia began a project, which is called Purpose Built Communities. This is not healthcare led. Healthcare organizations, and some of them participate. I believe there’s about... I want to say the number is about 20 purpose built communities. It's a mobilization of the entire community on social determinants, another way to say what they're doing. With very specific targets, targets on crime and welfare dependency, on unemployment, and on graduation rates. In Eastlake, Georgia, which was a terribly afflicted small community in Georgia. The purpose built community results are shown here. They reduced in less than five years, I believe, a 90% reduction in violent crime. Welfare dependence went from 59% of 5%. Unemployment of non-disabled non-elderly, that is now zero, and high school graduation rates... Actually the graduation rates, they're now up over 80%. They're now I think 94% was the last number I saw. Dramatic results by mobilizing the economic forces in the community to take social determinants seriously. It can be done.

This is not done to communities by the way, it's done with communities. And the idea that healthcare will show up as a white knight on a horse to rescue the community. That's not the right way to think about it. We talk about partnering, and I'm sure you're going to hear that from my colleagues. A good example of that is what's going on with Cincinnati Children's Hospital Medical Center, which has decided to invest its energies in getting the backs of 60,000 children in Cincinnati, children of low income, and changing their health status, but they're not telling people what to do. They're not even... I don't even think they say leading it. What they're doing is setting the table, and I've been there several times now where all the community activists who want to get together and finally work together, get some sponsorship and support from the hospital to begin to get to work on the well being of 60,000 children.

Michael Marmot believes, and I believe that a lot of what we call social determinants of health will depend on national policies, which need to be compassionate, oriented around causes and re-distributional. But he also emphasizes as I strongly believe communities can take responsibility. You see that happen at Rush Medical Center in Chicago, you see it happen in Purpose Built Communities, you can see it happen in every community in this country. At the policy level, though, I think we need to look one other problem in the face and that is, where do the resources come from? And here we have not a very good picture in this country. We are under invested in
dealing with the social determinants. Here are the numbers. In the most OECD countries, most wealthy countries in the Western world, a study by Betsy Bradley who currently president of Vassar, before that a researcher at Yale.

Don Berwick: 00:23:30 Betsy published a landmark article, which asked the question, how much do nations put into social determinants? How much do they put into healthcare? And the ratio in almost every Western democracy is 2:1. Two dollars on social determinants for one dollar spent on healthcare. United States is 90 cents to one. We are spending less than half of what other countries do in dealing with this. As a result, we are paying a very high price, and I firmly believe that one of the only powerful tools we have to get American healthcare costs under control is to find a way to either allocate or reallocate resources to working on true causes. Healthcare is a repair shop. It's fixing bent fenders and dense. How about working on the roads and the safety and that would be moving upstream and would be smart. We could do it, we just have to decide to do it. Thank you very much.

Nancy Chockley: 00:24:27 Don, you just set the stage so beautifully. Thank you very much. Don really wanted to be here today. He actually had a prior place he needed to be at another board meeting. And so, we so appreciated that you carved out this time, you're such an inspiring figure on this. I feel so much more motivated, and I came in highly motivated, so thank you very much, Don. Our next speaker is Curtis Barnett, the president and CEO of Arkansas Blue Cross and Blue Shield, a mission driven nonprofit insurance company, and the largest health insurer in the state with more than two million members.

Nancy Chockley: 00:25:09 In Arkansas, Curtis has led his organization toward value based care in the Medicaid program, which has served as a model for other states and for CMS, and I'm sure many of you are already familiar with that. But Curtis is also a champion of improving the health of all the people in his states by looking at those upstream factors that Don so clearly laid out. A key part of his vision for the future of healthcare is to better address the social determinants of health, including access to nutritious food, stable housing and reliable transportation. Curtis you'll see is a passionate leader about these issues and we're very pleased to welcome him here today.

Curtis Barnett: 00:26:06 Thank you Nancy, and thank you Don for that wonderful... Well, he's gone, but Don for that wonderful lead in [crosstalk 00:26:10] back there, but thank you Don for that wonderful lead in.
Curtis Barnett: 00:26:15 Warren, Arkansas, town of about 6500 people, southern part of our state. Sits in the middle of pine tree country. Lumber and logging are its biggest industries. It's also the tomato capital of our state. Waldron, Arkansas, town of about 3600 people. Far western part of the state near Oklahoma, sits in the midst of the Ouachita mountains, beautiful area, a lot of outdoor activities, wonderful bluegrass festivals they host each year. Belleville, Arkansas, northeast part of the state, sits in the middle of the Delta. Rich farming country, and more recently has become a major manufacturer of steel. These towns are different sizes. They're different geographies, different industries. But they have many things in common. They have great hard working people. They have strong civic minded leaders who want better for their communities. And they have one other thing in common. Unfortunately, they have too many hungry people in those communities. Not only do they share that among themselves, they share that with Little Rock in the central part of this day in Bentonville in what's considered the prosperous part of Northwest Arkansas as well.

Curtis Barnett: 00:27:42 In fact, Arkansas leads the nation, unfortunately, in food insecurity. And when I say food insecurity, really what I mean is too many people don't know where or when their next meal will come from. In our state, we have about 17% of the population who are classified as food insecure. That's about a half million people. We have one county in the Delta where it's over 30% of the people are classified as food insecure. We have many rural areas in the inner city parts that don't have grocery stores, they don't have food pantries, they don't have a food bank there, and so, they're food deserts. And while we've seen positive progress in recent years, going from 20% to 17%, a booming economy doesn't erase the fact that many working families are struggling to provide, and access good, affordable, healthy food.

Curtis Barnett: 00:28:50 Don did a great job of outlining, really, for us, what's going on with social determinants of health in the resilience of communities. And for us, we've really began talking about the social determinants of health really in the last five or six years. We didn't use that term much prior to that. But our commitment to keeping people healthy goes back way before then. We formed the Blue & You Foundation For a Healthier Arkansas in 2001, and during that time period, we have funded more than 35 million projects, over 1800 projects for $35 million in grants to address health improvement needs in our state. So physical environment, to healthy environment, nutrition, access to medical care, and behavioral health and
mental health resources. All those things have been part of that mission.

Curtis Barnett: 00:29:39 The Affordable Care Act changed really our industry forever going forward. Whereas before we were focused on a pre-enrollment basis, how do we identify and price, and in some cases exclude risk to really an industry that identifies and manages risk. We had much greater in direct incentives than ever before to keep people healthy. The mission of the blues, Arkansas is like Craig, and in many other Blue Plans around the country, 36 Blue Plans, it's in our DNA. We have hundreds of employees who devote thousands of hours each year to community health projects to improve those communities.

Curtis Barnett: 00:30:21 The Blue Cross Blue Shield Association puts out a series called Keep America Healthy. And part of that is using big data to understand some of the most pressing healthcare issues of our time. Then finally, we've played a big role in the greatest public health issue of our time, which is the opioid epidemic. We've taken several measures within our plan and three that I'm particularly proud of is we had to make sure that first responders have access to the lock zone, so they can help someone they encounter in an overdose, and we've seen hundreds of lives being saved because of that. We're working with the University of Arkansas for Medical Sciences, our academic medical center on a teleconferencing approach so that rural providers can reach out to a team at the university and discuss pain treatment alternatives for their patients, to get them off of opioids, but still give them away to deal with their pain. Then more recently, we're very involved in how can we extend medication assisted treatment in our state.

Curtis Barnett: 00:31:27 But as we looked at priorities and said, "Where can we make the biggest difference on social determinants of health?" Nutrition and food insecurity kept coming back to the forefront, and part of it is the size of the problem that I referenced a moment ago, but then part of it also is the impact of the problem as well. People suffering from food insecurity are much more likely to suffer from anemia, asthma, depression and anxiety, cognitive and behavioral problems, and have much higher risk of being hospitalized and have an inability to fight off disease and infection and recover from injury. The health related costs associated with hunger and food insecurity has been conservatively estimated at 160 billion dollars. So when we thought about the social determinants of health and our plans for the future, we knew that good health starts with good
nutrition, and that's where we should focus our resources in our attention.

Curtis Barnett: 00:32:31 Our work over the last several years have been addressing the need. Number one has been in the area of supporting grassroots efforts and increasing scale so how could we help fund new programs, and improve existing programs to impact more people? Second, has been really around educating and directing individual members who are baby patients and they need food in order to deal with their illness and to recover adequately. Then finally, feeding the hungry. How can we go into these communities and help feed the hungry, those that are most hit hard by this terrible affliction.

Curtis Barnett: 00:33:08 When it comes to supporting grassroots efforts and increasing scale, much of this has been done through funding and much of is through our foundation. We have a great partner in our state called the Arkansas Hunger Relief Alliance, who really serves as an administrator of many programs, but they also are a convener and advocate for hunger issues and we've worked with them and with food banks, and with local food pantries. Our own local solutions related to this. We have founded a project that turned an old city bus into a mobile farmers market. So it now goes on a regular basis and takes fresh food and vegetables into the poorest neighborhoods of Little Rock.

Curtis Barnett: 00:33:47 We've helped fund backpack programs, especially one and in the south central part of our state, which is a weekend program so kids go home with six meals worth of food that they take with them. And that program has been copied by more than 160 food banks throughout the country, and today it serves over 7000 students in 116 schools in several counties in the southern part of our state. Cooking Matters classes, which teaches groups of individuals how to shop for and how to prepare nutritious foods. Then finally, gleaning were volunteers and many of them from our company go into fields and glean the remaining vegetables from those fields. In this past year, we've gleaned more than a million pounds of food, which is redirected to food pantries.

Curtis Barnett: 00:34:36 On a more personal level on educating and directing as I mentioned earlier, with the Affordable Care Act and our incentives as an industry really changing, it became much more critical that we keep people healthy. To keep people healthy, they have to help take care of themselves, and it's hard for somebody to manage their own health if they're dealing with social issues like poverty, like poor health literacy, like housing
needs, and like transportation. And so, we recognize that in order to get them to help manage their own care, we had to work closely with them to address those social issues. And so, in 2012, we began using social workers in a much more impactful and meaningful way than we have before. And that's now one of the fastest growing areas of our company because we need their empathy. We need their skills and training around how to navigate what has been a complex system.

Curtis Barnett: 00:35:33

So today, referrals, cases are referred to our social workers. In all those cases, they screen 100% or assess 100% of those for food insecurity, and about 25% of those come back positive. But food insecurity is seldom an isolated event. Typically, it is one of many factors that a struggling family may be dealing with. Our social workers use a tool called the Community Health Management Hub, which was created by the Blue Cross Blue Shield Institute. It's a geographic information tool, medical geographic information tool where they can hover over a zip code, all zip codes in the United States, and see what local resources are available. Grocery stores, food pantries, and other services, and make the necessary contacts and referrals to be able to help people out. In Arkansas, we have community based social workers, and so they actually go into the people's homes, those who are the neediest and help them resolve their social issues, and certainly around food insecurity put them in touch with the necessary resources.

Curtis Barnett: 00:36:38

We've spent several years really looking at food insecurity from a high level as a promoter and as a funder, and a very personal level through our social workers. But we felt like we hadn't done enough really at the community level in the area of food and security. We realize that if you're serious about food insecurity, at some point, you've got to feed the hungry, and we made a commitment to do that. So, we know that in order to do that it would take collaboration. We couldn't do it alone. We needed to work with people who work in that space much more effectively than we had been. And we also recognize it would take a commitment of resources. But when we had those two things, the collaboration, the commitment, we then set in motion what we called our Fearless Food Fight for 2018.

Curtis Barnett: 00:37:32

Actually, the genesis of that occurred a couple years prior to that in 2016, where we were involved really with supporting or sponsoring the Hootens High School Football Classic that occurs each year and this is an organization that is the first four football games of the season in Arkansas. In our state, high school football is popular, and it's the same way in many states
as well, and you use any means necessary to connect with your members, and to connect with your community.

Curtis Barnett: 00:38:04 So, as part of that sponsorship, we said, if we're going to be a part of this, we've got to do something more impactful. We've got to have a greater purpose. So we started something called our Pep Rallies With a Purpose. And so, we began going into these communities with a partner called the Pack Shack, which is an organization in Northwest Arkansas. And they have the processes and the ingredients to have these meal packing parties or meal packing events, where you feed the funnel, and it creates these packets of food. And these good tasting nutritional balanced food, with hot water, comes out to eight servings that can help take care of a family.

Curtis Barnett: 00:38:42 We went into these communities and we began having these events, and they were very successful. Each one of those we tended to pack about 30,000 meals that stayed with the local food pantries, but we noticed something and what we noticed is that too many of these kids who were packing these meals were also eating these meals through the local food pantry. And so, we sought to have a bigger impact. And so, as we move toward 2018, which was a 70th anniversary for Arkansas Blue Cross Blue Shield, we wanted to give back to the state that had done so much to help us build our company. So, we said in our 70th year, we're going to pack 700,000 meals in the state of Arkansas, and we're going to do that with partners. We're going to do it with our customers, with healthcare systems, with schools, with colleges and universities, anyone who wants to be a part of this, faith based organizations and local governments, and we set that in motion.

Curtis Barnett: 00:39:37 We thought we would spend most of our time in the Delta and we could have, but we found that the need was overwhelming and the demand was overwhelming. So, we worked in all four corners of our state, in all places in between, and you can see some of the numbers here that we had 29 Fearless Food Fight events. We had over 3500 participants. In one of these, we had over 600 college students who were there. At each of these events we always had between 75 to 100 or more of our own employees who would go out in these communities and be a part of that. We were able to pack more than 1.1 million meals in 2018. We surpassed our goal by nearly a half million that went to the local food pantries, 115 food banks and pantries in our state.
Curtis Barnett: 00:40:21 I just want to give you a sense because we did throughout the year of 2018. We did a video documentary that chronicled much of our work, and I want to give you a sense of one community story, and that's Waldron, Arkansas and the impact that this had on them. So, this is Waldron.

Speaker 4: 00:40:45 We have a tremendous need here in Waldron. We have so many that are out of work, and they need the help. We usually have about 15 to 16 families anywhere ranging from one to six to 10 to 12 kids in a family.

Speaker 5: 00:41:01 If the food pantry wasn't here, I don't know how the families would exist, what they'd do.

Speaker 6: 00:41:08 I had a man tell me yesterday, he hadn't eaten in three days, and he has four children. It's a necessity. It's important that we stand behind our community and our children. Blue Cross has always been a very, very vital part of people's lives in this area and lots of others, and I think that this is wonderful what they're doing.

Speaker 7: 00:41:36 It means a lot for this to happen here because 30,000 meals is going to touch so many lives.

Speaker 8: 00:41:49 I mean, it's just, I just can't envision... I can't see it. It's unreal. I mean, it's like a miracle.

Speaker 9: 00:41:56 I appreciate it so much that Blue Cross and Blue Shield, you will not know this [inaudible 00:42:02] what you're doing for Waldron's [inaudible 00:42:05]. You just won't know.

Curtis Barnett: 00:42:18 So that's a little about Waldron story, but we had similar impact in all the communities that we visited. So, where do we go from here? And as we thought about it as an organization, our commitment hasn't wavered. We think we've done good work in raising awareness of this issue in our state. Through our partnerships, through our collaboration, we've been able to bring much more attention to this problem. We've seen since we've been a part of this, really the network grow of more and more organizations and companies get involved with food insecurity and making that commitment, and we're proud that we played a small part in that.

Curtis Barnett: 00:42:58 We've developed an advocacy voice, which is part of why I'm here today is to advocate on behalf of the people who are suffering from food insecurity, and let's continue to work with them to help them. And we want to pair that with action going
forward as well. But at the end of the day, we're not a food bank, and we're not a food pantry. We recognize that, and we can't pack 1.1 million meals every year. But we do think we can pack at least a quarter of a million every year because we do have special relationships with certain food pantries who need us, and we're committed to keeping that going. But where do we go from here?

Curtis Barnett: 00:43:33 We think some of the more sustainable actions that are needed and that we're going to plan to invest in, number one is around education. We think greater impact can be done through education around healthy eating and around food shopping skills, and through cooking healthy, all of those things matter. And can we take those programs and scale those programs because research has shown that low income mothers utilizing food preparation and budgeting skills experience food insecurity at about half the rate of mothers who lacked those skills. So we think that's a very impactful way that we can continue to address this problem. The decision by the federal government to allow Medicare Advantage Plans to cover supplemental benefits, some for foods, transportation to grocery stores, that's a very positive movement in the right direction that we want to take advantage of.

Curtis Barnett: 00:44:31 Then we're working with our health care economist and data scientists to improve our algorithms and analytics around how can we take consumer data and health claims data and clinical data and improve our predictive modeling in such a way that we can identify someone who is suffering from food insecurity before they have a significant event or episode rather than afterwards so we can intervene with them in a very impactful way.

Curtis Barnett: 00:45:03 But finally, I want to leave you with that our work in addressing food insecurity over the last several years has taught us many things. And the first one is, is that no one chooses to be hungry. The second is, is that no community chooses to struggle. Health plans, like ours, like Craig's can and are playing an important role in building healthier communities. But it's not enough just to send a check or prescribe solutions from afar. We believe the best solutions occur when a health plan takes its resources, its data, its information, its technology, its people, and its funding, and it meets its members in the communities where they live, where they work, and where they play. Like Warren, like Waldron, and like Belleville, and that we work together shoulder to shoulder, to understand and improve people's lives.
That's the approach we think will be most successful. Thank you.

Nancy Chockley: 00:46:22
Thank you Curtis for bringing us all into what's happening in Arkansas and making it all so much more granular and real for us. So, now it's my great pleasure to introduce Craig Samitt, president and CEO of Blue Cross Blue Shield of Minnesota. Craig is an internal medicine physician by training and has extensive experience across multiple sectors within the healthcare industry. He is a nationally recognized expert and thought leader on health care delivery and policy. He has previously served in many senior executive roles and as a commissioner of the Medicare Payment Advisory Commission. Craig is committed to positively impacting all the drivers of health outcomes to build stronger communities, and I can tell you he is someone who makes change happen. We're so pleased to have him with us today to share his insights. Please join me in welcoming Craig to the podium.

Craig Samitt: 00:47:26
Thank you so much, Nancy. Afternoon, everyone. How are you? I'm pleased to actually represent the fine state of Minnesota. I'd welcome you to come visit. I'd hurry up because it only just goes downhill from here. But come and visit us. It's a beautiful place. I want to start with where Curtis ended. The reason why I say I'm representing the fine state of Minnesota is to truly address the issues of health inequities where social determinants of health really takes a village. We can't solve it on our own, hospitals can't, doctors can't, the state can't. The reality is that we need to do it together. We need to stand up shoulder to shoulder, to address what's actually really getting in the way of what our mission warrants, which is to delivering better health for the communities that we serve.

Craig Samitt: 00:48:24
Minnesota is a special place for those of you who know. I think the state has often been, and it's why I went there. Has often been a vanguard of transformation and of pursuit of a better way. Long before the ACA was passed, I think there was a significant focus toward value based transformation in Minnesota, and in other states. I was in Wisconsin at the time, the upper Midwest had that pretty prevalently. But Minnesota is also a state that very much focuses on public private partnerships. And really not just talking the talk, but standing up and walking the walk, and truly taking action to address things that we see that get in the way of supporting the health of all Minnesotans.
Craig Samitt: So, before I actually talk about social determinants, I want to highlight the fact that Minnesota has been here before. I actually want to go back 25 years for those of you who remember in 1994, Blue Cross Blue Shield of Minnesota and the state of Minnesota filed an unprecedented lawsuit against Big Tobacco. That at the time, we thought our case was straightforward and that we needed to collectively address what was getting in the way of community health. Blue Cross Blue Shield of Minnesota, and the state of Minnesota prevailed in that suit and settled with the tobacco companies to really put in place a foundation that would address and resolve and prevent the ravages of smoking in the state of Minnesota.

Craig Samitt: We created an organization called the Center for Prevention as a result of that settlement that has essentially focused for now over a decade on health and wellness and prevention. With the reality being that we'd like to find other examples like tobacco cessation that will improve the health of the communities that we serve. So, the reason why I wanted to come and why this is so relevant to the work we're doing in Minnesota, is that the reality I would say is that the healthcare industry does not live this long standing premise that an ounce of prevention is worth a pound of cure. If we talk honestly and think realistically about our industry, we profit off of sickness, or most stakeholders in our industry profit off of sickness. And what happens if we actually shift from a profitability of sickness to a profitability of wellness and leave this notion that an ounce of prevention is worth a pound of cure?

Craig Samitt: I had a little bit too much time on my hands so I actually did the math. So obviously 16 ounces and a pound, and so the material calculation here is that if we put $10 million into food and security, or loneliness, or homelessness, or frankly true wellness and prevention and gap closure, we should save 160 million dollars in unnecessary, unwarranted or preventable sickness and the complications that come from sickness. So, from my point of view, the issue of social determinants of health, health inequities, wellness and prevention all fall into the outs and the desire for organizations like ours, especially as one of the stakeholders that frankly benefits not when people are sick. But when people are well, that this is an area where organizations like ours very much need to invest our time and energy.

Craig Samitt: As a result of that, our organization has realized that we need to reinvent ourselves. We just actually finalized and presented our new strategic plan to our board. And the reality is our strategy is all about becoming something completely different than what
we were. Health plans are traditionally known as claims companies or network companies. Well, maybe we actually need to be in the disease curing business or the opioid or other epidemic prevention or resolution business, or in the retail business or in the customer adherence and behavior change business, or in the social determinants of health business, or in the care delivery business, or in data and technology business. Maybe the approach that we've taken, hasn't really achieved the results that we want to achieve.

Craig Samitt: 00:53:51 We're going to come back I think in the questions regarding opioid because we've got a lot more to say and a lot more evidence to share but I actually want to concentrate the remainder of my remarks on social determinants of health. What we learned, we actually began to address the opioid epidemic before it was actually being more broadly discussed throughout the community. We actually established something called the high complexity case unit. Because we realized that individuals with complex illness, whether it was addiction, or multiple chronic diseases, often had needs that went beyond the clinical needs. Don mentioned this beautifully. It was much more than just the 20% of care that happens in the clinical world. It's the 50% of care that happens in the social related world.

Craig Samitt: 00:54:47 We realized that needs went far more broadly than just our day jobs and that we needed to expand and reinvent our day jobs. So somewhat similar to Curtis, I wanted to share some examples of how when we step into a new lane and think about social isolation, or food insecurity or transportation, what impact do we have on people's lives? So, I'll show you a sample of our work with our HCCU.

Antonio: 00:55:24 I'm a miracle. I can see, I can walk, but I feel great today. Excited to meet Miss Mercy. She was my angel. She didn't give me no medication, but her medicine was talking.

Mercy: 00:55:48 Today I'm going to get an opportunity to meet Antonio who is a member that I have been working with for a little bit over a year in the High Complexity Case Unit, the HCCU Department. Hi, Antonio. This is Mercy, the nurse at Blue Cross Blue Shield of Minnesota. How are you doing? We get the most complex members and we look at health diagnosis as but also things that might impact the social situation if there's any barriers that they're facing, like with housing or food insecurity. So, it's really a holistic approach to case management. Yeah, definitely
[inaudible 00:56:23]. Antonio triggered to me in the summer of 2017, after he had suffered a stroke.

Antonio: 00:56:29 I have survived. I didn’t have one stroke, I had four.

Mercy: 00:56:34 Part of the lingering effect that he was having from the stroke at that time was it was affecting his eyesight. He cannot read the medication bottles.

Antonio: 00:56:43 When I was blind, I don't know what I was going to do. I was going crazy. I said, "How I'm going to cook? How I'm going to do this? How am I going to get medication?" I said, "Miss Mercy, I need your help."

Mercy: 00:57:01 I called out to the nursing agency if they were planning to get out there in a day or two, and I talked to them and let them know that he really needs somebody out there today to get these setup for him, and they got out there that evening.

Antonio: 00:57:16 From there, I knew I had to make a lot of changes in my life. [inaudible 00:57:24] talking got me up, gave me the right direction to be up.

Mercy: 00:57:31 He’s very appreciative of Blue Cross. He is appreciative of me as the nurse reaching out to him. He has expressed that it’s been an asset to his life and his health care plan. I am looking forward to meeting him and just putting a face with the name, and the gentleman, and the relationship that we’ve had for the last year.

Antonio: 00:57:52 Miss Mercy.

Mercy: 00:57:52 Antonio.

Antonio: 00:57:56 [inaudible 00:57:56].

Mercy: 00:57:58 Oh, it's so nice to meet you.

Antonio: 00:58:00 Nice to meet you [crosstalk 00:58:00].

Mercy: 00:57:59 Oh my gosh.

Antonio: 00:58:03 This is great.

Mercy: 00:58:04 He's trying very hard to make positive changes in his health to hopefully improve it in the future.
Antonio: 00:58:12 I don't to be sick. Believe me guys, I don't want. I want to say, "Miss Mercy, I'm good. I feel better."

Mercy: 00:58:20 People after a negative health occurrence for a month or two might be like, I'm making the changes or I'm going on the new diet, but it's been well over a year and he's done really well to maintain the changes that he's made.

Antonio: 00:58:33 My health has been improved a lot. I mean, like I say I'm a miracle. I'm grateful.

Craig Samitt: 00:58:54 I remember when I was in Wisconsin, looking somewhat jealously at Minnesota across the state line, because I knew that the quality of care in Minnesota has historically all been very high. What was remarkable when I actually got to Minnesota and looked under the covers as well, we are one of the healthiest states in the nation on average. We're home to some of the worst health disparities and health inequities in the nation. This is not Minnesota. This is South Paulo, Brazil, but picked the image to make the point. I think Don's was very effective with the subway map, but we struggle with the same thing. Within a three mile stretch within our capital city of St. Paul, there's a 13 year difference in lifespan. So race, income gender, social circumstance, drives some significant variations in the equity of the care that we provide, and our focus is on stamping out health inequities.

Craig Samitt: 01:00:06 In Minnesota, African American and American Indian babies die in their first year of life at twice the rate as white babies in the state. So we feel just as Minnesota always does that we need to stand up and take action and do something quite differently than we've ever done before. As I said, it takes a village. And so, because it takes a village, I wanted to end by sharing with you four different simultaneous approaches that we're taking to try to pilot and resolve social determinants of health. Because frankly, we don't know which one is going to be most effective. So, we're seeking to try all of them.

Craig Samitt: 01:00:53 Let me start here. So this is the Staples, Minnesota, Lakewood Health System is a small community hospital that began to see that they were having a surge even to Don's point of emergency room visits. And they found that a significant percentage of them were because people were hungry, and they knew that they would actually get a good healthy meal for themselves in their family if they came to the ER, so they came to the ER. Lakewood Health System began, created what they called a Food Farmacy within... a F-A-R-M farmacy, and every month
began to grow and distribute two tons of food for their community as a way to keep them healthy and keep them out of the emergency room and keep them at home.

Craig Samitt:  01:01:51  We actually recognized Lakewood Health System with a Trailblazer Award because what we really wanted is for this innovation to spread throughout the state. My long held belief is that we don't have an innovation problem in healthcare. We have an imitation problem in healthcare. We constantly hear very good examples of great stuff that folks are trying. Why is it that we don't actually extend that everywhere? So we've created our first innovation, which is we began to talk to consortiums of health plans and hospitals in the state.

Craig Samitt:  01:02:27  There's a group called ICSI, which you may have heard of, which is a consortium of nearly every health system and every health plan in Minnesota. Our first intervention is we said, "What if we work together to solve a single social determinants of health, like food and security." Health plans and health systems should be interfacing with or touching nearly every community member in Minnesota. So, what if we collectively took it upon ourselves in combination with the state to address a single social determinant? And can we move the needle? Somewhat similar to what Curtis is doing, but even more broadly with other partners. It's not just about Blue. It's about everyone, especially those that we don't necessarily insure, this is the statewide effort. So, this is the Staples, Minnesota story.

Craig Samitt:  01:03:23  The next story that I want to talk about is in Willmar. Willmar is a small rural city of just 20,000 people about 100 miles west of Minneapolis. And over the last several decades, Willmar has become increasingly racially diverse with growing communities of Latino and Somali immigrants. And Willmar couldn't look any different today than it looked even 10 years ago. So we actually came in and what's special about Willmar is that most of Willmar is insured by Blue Cross Blue Shield of Minnesota. So, in many respects we are accountable for and committed to the health of nearly the entire town.

Craig Samitt:  01:04:11  Our focus in Willmar is what if instead of solving for a single social determinant, we solve for all the social determinants, and we said whether it's social isolation, or housing insecurity, or affordability, or food insecurity. Let's work with this community and create resources, not as a directive, not to the community, but for the community. Because we wanted to determine whether this notion is true that an ounce of prevention is worth
a pound of cure. So take a look at some of the feedback from our work in Willmar.

Speaker 13: 01:04:49 If people don't feel safe with where they're at, they don't feel comfortable with the people that they're around, they're not going to seek the help that they need.

Speaker 14: 01:04:59 Blue Cross Blue Shield came to the table. They started looking at how can we partner and make the community stronger? How is the community healthy together?

Speaker 15: 01:05:08 When this idea was first pitched to me, I thought, yea, right. An insurance company is going to come to Willmar, Minnesota, invest time, resources and talent, and they're going to let us drive the bus? I don't think so. But that's exactly what happened.

Craig Samitt: 01:05:40 So, our third intervention is about getting into the care delivery business. We've talked at Blue Cross Minnesota about becoming the change we want to see. If we live in a world that profits off of sickness, and we stay in our lane and think just like clinicians, where all that our responsibility is, is paying claims, having doctors and networks and curing disease, then we're not really playing a part in reinventing care delivery as it should be. We announced just a couple of months ago a partnership with North Memorial Health in Minnesota, which is a community health system that has a significant ambulatory presence. Our focus here is reinventing care delivery. What if the focus of care was not in doctors offices, and not in hospitals, and not in ambulatory surgery centers, but it was in the communities, in the home, online.

Craig Samitt: 01:06:45 What if we didn't think of it as internists, we thought of it as upstreamists, or residentialists or I'm being on creating new specialties that don't exist. But should we reinvent care delivery that is inclusive and integrates behavioral health, social determinants, wellness and prevention, not just the traditional model as we know it. So more come as we continue to build out these reinvented care delivery models. But that is our third approach.

Craig Samitt: 01:07:25 Then finally, I wanted to come back to the Blue Cross Blue Shield of Minnesota team. And this slide has two purposes. One just as Curtis described, nearly every one of our associates gets involved to some degree in social efforts, community efforts. This is one of our teams that was actually building a house for Habitat for Humanity, but we also have a community giving
garden. We give back as part of our daily week. Not just on the weekends to help the social health of the community. This isn't the fourth example that I want to give you.

Craig Samitt: 01:08:04 The fourth example I want to give you is, we wondered whether before we can start to solve for social determinants throughout the state of Minnesota, we have to figure out whether we have problems with our own associates. So, we thought we likely didn't. We're one of the larger corporations in Minnesota, our folks are very well paid. We would be immune from social determinants, right? Or that is at least the philosophy perhaps that corporate America has. So, we actually surveyed our people, and we asked about all the things that we normally do to screen other patients. You would be heartbroken if you saw the results that we saw about our own people that don't know if they can stay in their home, don't know where their next meal is going to come from or the next meal for their children, or frankly, even some examples of our own associates that could not afford Blue Cross and Blue Shield of Minnesota insurance.

Craig Samitt: 01:09:14 So, our fourth intervention is to look at address and eliminate social determinants and health inequities for our own people. I want to end with where I started, is it takes a village. Just because we're a health plan doesn't mean we need to act like one always. We can be a catalyst for change, and we must be a catalyst for change if we want to make healthcare more sustainable. Thank you very much.

Nancy Chockley: 01:09:50 Craig, thank you for sharing what you're doing in Minnesota and we look forward to hearing about your results and especially about how you're trying to deal with all of the social determinants of health in one place. I think that's a very interesting idea, and small enough scale that you can make be really move the needle. So very exciting. Now we'll hear from Grant Baldwin from the Centers for Disease Control and Prevention, and he serves as the director of the newly created Division of Overdose Prevention where he helps lead CDC's response to the prescription drug overdose epidemic. And it's very timely that we have him here today because you may have seen yesterday CDC just released new guidelines for clinicians who are considering tapering patients opioid prescriptions. So, we're just delighted to have you.

Nancy Chockley: 01:10:44 Grant is a longtime leader at the CDC and a national voice on injury prevention. Grant has always impressed us by his passion and dedication to improving the lives of Americans and in fact, we you've enjoyed working with him several times. With you
and your team, you've got a terrific team as well. Grant is here to share the CDC's ongoing work in responding to the opioid crisis and we're delighted to welcome him to the podium.

Grant Baldwin: 01:11:16

Well, thanks so much, Nancy. It is an honor and a privilege for me to be here. Opioid overdoses should be never events. They should never happen. If we have a society and a system of care and supports that protects us at every turn. For those who have an opioid use disorder, that means increasing access and availability to Naloxone, that opioid overdose reversal drug. It also means increasing access and availability to medication assisted treatment, which is the standard of care plus the wraparound services that we know are absolutely essential for long term recovery.

Grant Baldwin: 01:11:54

For others, this means continuing to attend to the problematic opioid prescribing, more aggressively dealing with the illicit opioid landscape. I'll talk at length about that. And addressing the... which is really the focus of today's conversation, the upstream drivers that put people at risk for opioid misuse, abuse, and overdose, those contextual and life course factors. As was mentioned, I'll talk about the historical trends, how we got here, and then I'll focus the bulk of my remarks on CDC's prevention and response activities.

Grant Baldwin: 01:12:28

Drug overdoses in this country have never been higher. We've lost over 700,000 of our fellow Americans, 700,000 since 1999, this includes over 70,000 in 2017 alone, that's 190 people per day. This is a time series map showing county level drug overdose mortality shifting between 2003 and 2017. The growing abundance of read showcases an epidemic that really continues to worsen. So in those 70,000 deaths, we know that two out of three of those deaths are opioid related and now two out of three of those deaths are illicit opioid related. So, when you think about the opioid epidemic, you need to think about it in three distinct, but overlapping and reinforcing waves.

Grant Baldwin: 01:13:17

First beginning in the late 90s, 1999, with an increase in prescription opioid related deaths then a surge in heroin related deaths. And finally, an exponential increases, a skyrocketing of deaths associated with illicitly manufactured fentanyl and fentanyl analoga. Fentanyl is 50 to 100 times more potent than morphine, and some of those fentanyl analogs like carfentanyl is 10,000 times more potent than morphine. It's actually used to tranquilize large game animals. As was mentioned, the impact of the epidemic is so pronounced, it's influencing US life expectancy. The only thing I'll add to what was said earlier is
that three year decline in life expectancy, the last time
the US had that. That was the 1918 flu pandemic.

Grant Baldwin: 01:14:03
And now opioids are nested in a broadening drug overdose
epidemic driven by psychostimulants like cocaine and
methamphetamines. From 2010 to 2017, death rates involving
cocaine and other psychostimulants, like methamphetamines
increased 230 and 430%, respectively. Opioids were involved in
over 70% of cocaine involved deaths, and 50% of meth involved
deaths. So the rise in cocaine involved deaths is largely co-
occurring with opioids. But the increase in methamphetamine
deaths is happening with and without opioids. When I travel the
country I hear, "Yeah, we have a huge opioid problem, but we
also have a huge meth problem."

Grant Baldwin: 01:14:49
So, the original title I was going to use for this slide was It's
Fentanyl, Fentanyl, Fentanyl. This is data that we released a few
weeks ago that looks more holistically at all drugs involved in
overdose deaths in the first six months in 2018 from 25 states
using data that CDC collects. Note that two out of three of those
deaths highlighted with the arrow now involve fentanyl. A third
of those deaths just involve fentanyl with no other illicit opioids
involved. So that means fentanyl alone is a problem now. And
finally, just 17% of deaths were prescription opioid alone, and
deaths from prescription opioids are actually continuing to
decline. So, that's the good news. The bad news, unfortunately,
is that those improvements are being offset and outpaced by
deaths involving fentanyl, and over 60% of suspected fentanyl
deaths include either cocaine, methamphetamines or
benzodiazepines like Xanax. So, we're also seeing an increase in
the number of fentanyl deaths west of the Mississippi that we
weren't seeing before. That's something that we're obviously
very concerned about.

Grant Baldwin: 01:16:01
At the outset of this epidemic, those most impacted were white
rural male, and between the ages of 25 and 54. But now as I say
on the title of this slide, it's really an everybody problem.
Between 2016 and 2017, opioid overdose deaths road for men
and women, all races, and for persons, all people over the age
of 25, with particularly striking increases in deaths among
African Americans, those over to the age of 65, and deaths in
urban areas, which we think all of those trends reflect the illicit
fentanyl marketplace permeating other drug supplies. And it's
an everywhere problem. So, it's not just in Appalachia, in the
Midwest, or the Northeast. Between 2013 and 2017, the
number of opioid deaths in the United States nearly doubled
from around 25,000 to over 47,000. A total of 35 states saw
statistically significant increases in their drug overdose deaths rate. Just for context, to put all of this in perspective in 1999, there were 8000 opioid deaths.

Grant Baldwin: 01:17:12 So, how did we get here? First pain was designated the fifth vital sign, and chronic pain was increasingly treated with opioids without a clear indication that opioid use, the benefits of opioid use outweighed the risks. Second, there was an under appreciation of the addictive potential of prescription opioids. There was a limited literature with very serious methodological flaws that mischaracterized the risk of addiction at less than 1%. There was very aggressive marketing of these drugs to clinicians. Purdue Pharma, the maker of OxyContin as a specific example spent over $200 million dollars on marketing of OxyContin in just 2001 alone, and they made at its peak $3 billion in 2013, on the sale of that drug.

Grant Baldwin: 01:18:01 Fourth, rogue actions by clinicians who ran pill mills that profited from overprescribing. Pill mills are typically cash only operations where nefarious doctors prescribe at will with very limited physical examination. And the last couple are associated with illicit opioids, sophisticated actions of drug traffickers that open new heroin markets that made it just as easy to get heroin as it is to order a pizza. Think of the power of the smartphone. And finally, the perfect storm that is illicit fentanyl that makes it highly sought after because of its potency, but it’s also easy to make and traffic while generating very, very astronomical profits for drug traffickers. Just as a point of reference, you make 20 times if you traffic fentanyl, what you do if you trafficked heroin.

Grant Baldwin: 01:18:59 What is our North Star? What is CDC doing about it? Our North Star, this is what guides everything that we do all decision making all investments is to prevent opioid overdoses and deaths now, as well as attending to some of the upstream drivers that put people at risk for substance misuse, abuse and overdose. But there really is an urgency of the now given the data. We have five strategic pillars. They are to improve data quality and track trends, to strengthen state, local and now tribal capacity, to scale up evidence based programs, to improve patient safety by giving clinicians the tools resources and guidance that they need, to strengthen the relationship that we have between public health and public safety especially because the illicit marketplace, and to link people into treatment. And finally, to empower the public to make safe choices. I’m going to talk for the rest of my time at the podium about how we’re implementing each of those five strategic pillars.
This is a map of the 66 funded jurisdictions who are now part of our overdose data to action cooperative agreement. 47 states, 16 large cities and counties, DC, Puerto Rico and the North Mariana Islands. This integrates all of CDC's state based funding into one announcement, and is about using data to inform better prevention and response activities. The scope, the scale, the complexity, the urgency and frankly, the ambitiousness of what we're hoping to achieve have all grown in recent years. And that's why you see a broader array of prevention activities supported by CDC, again, with a focus now on the partnerships between public health and public safety, as well as trying to link people into care. Overall, states will receive anywhere between 2.3 and $7.5 million in support.

Let me mention just a couple of things, both on the surveillance side and on the prevention side. So on surveillance, our credo is more timely, more localized, more actionable data. And to create data that is sought after, easily accessible and readily used. We do this both for morbidity and mortality. On the morbidity side, we use syndromic data from folks having a nonfatal overdose who visit an emergency department. And now we're going to have those data at CDC within two weeks of the overdose event. And the mortality side, we're also collecting more timely data, comprehensive data with all the key risk factors, and frankly, all the drugs on board at the time of the death. We're also supporting innovation as well. You see that at the bottom of slide. So for example, why not test drug paraphernalia that's dropped off in certain service programs to understand how the drug marketplace is changing. So, that's what some of our states are doing. And there's a whole variety of activities that they're enabled to do.

On the prevention side, I'm just going to talk about one of our prevention components and that is to how we can better enhance and maximize the use of prescription drug monitoring programs. So we're trying to incentivize healthcare providers to use PDMPs. Integrate PDMP data better into clinical workflow through EHRs and other means and giving clinicians clinical decision support tools that make it easy for them both to use and find utility in PDMP data flow. So, for the first time, CDC funding is going directly to the hardest hit counties, cities and communities. So in addition to the 16 jurisdictions that I mentioned earlier, the New York, Chicago, Houston, Phoenixes of the world, 20% of the prevention dollars that states receive have to go through mini grants and sub awards to communities that are particularly hard hit. So we're really proud of that.
This graph or this chart is really an outline of the kind of coordinated activities that we at CDC think need to be in place. So for example, local health departments can use emergency department data to alert a community of a surge in an overdose, or EDS can provide Naloxone to high risk patients to prevent future overdoses or link those patients to mental health and substance use treatment services. Public safety and law enforcement can identify changes in the illicit drug supply. And finally, community based organizations are often best able to mobilize community responses for those most at risk, like some of those essential harm reduction services. So again, it is an integrated and braided web of services and supports.

As I mentioned, CDC funding is going to try, for the first time we are funding 11 tribal epicenters with a total of $2 million each year for three years. And you see the epicenters listed on this slide to provide technical support to tribes and other key partners on data collection, use, and data sharing. As important to me personally, we're also giving $10 million each year for three years and funding 15 tribes across the country to implement proven prevention and response protocols. Basically replicating what we're trying to accomplish with overdose data to action. As I mentioned a couple of times, we are working eagerly to try to strengthen the partnership between public health and public safety. And one signature program is the overdose response strategy. This is a partnership between CDC and the Office of National Drug Control Policy and their high intensity drug trafficking areas program.

The goals of ORS are fairly straightforward, but they include to coordinate data sharing better between public health and public safety, and to develop and support and implement evidence based prevention programs. Giving some of the success, and frankly the inventiveness of the program. We're looking to expand it. We're going to add six new states this year and we're hoping to go nationwide in the not too distant future. Here's another example of a innovative partnership where we're trying to spur innovation. We're co-sponsoring this initiative. It's got attention acronym, but it's a fantastic program. This is the COOLCI program, which stands for Combating Opioid Overdoses Through Community Level Intervention. It is innovative and evidence based and community led, and examples that you see here listed on the slide. So like post arrest diversion to treatment for folks with an opioid use disorder in Kingman, Arizona. On call coaches and referral to treatment within fire departments in Providence,
Rhode Island. And the expanding have access to MAT within the Cuyahoga County, which is Cleveland, their jail system.

Grant Baldwin: 01:25:33 The goal moving forward, as was mentioned earlier, is to scale up these programs. And so we’re aiming to do that. You heard earlier from Don and others about the power of ACEs. So I’m going to largely skip over this slide. But I think the graphic tells a story about how some of those adverse societal conditions play out in the context of adverse childhood experiences and ultimately impact those diseases of disconnection and despair. This graph shows specifically the association between ACEs and a whole variety of health outcomes, but I focused in, not surprisingly on the impact on drug use. So, somebody with an ACE score of five or more is six times more likely to ever have a drug problem. So, obviously part of attending to the opioid epidemic means addressing ACEs at a very societal level and assuring that safe, stable nurturing relationships and environments are in place for our children.

Grant Baldwin: 01:26:33 We will be releasing our flag for you later this fall, Vital Signs, which is one of CDC’s monthly publications. It’s focused specifically on ACEs, so please look for that. One particularly innovative project, it's also a COOCLI is called the Martinsburg Initiative. It's focusing... It's implemented in a small town in the Eastern Panhandle of West Virginia. It's a police, school, community partnership spearheaded by the Martinsburg, PD, the Berkeley County school system, and Shepherd University as well as the Washington/Baltimore HIDTA. It focuses on ACEs to create trauma informed community, working together to build resilience for their children. It’s a tiered program that includes both universal supports that benefit everybody in the community, as well as targeted prevention programs and then those wraparound services for those kids and families that are in most need. So again, it’s both a primary prevention and trauma informed care.

Grant Baldwin: 01:27:33 Just a couple of more programmatic examples, this is ODMAP. This is a cutting edge tool that can identify hotspots and potentially provide outreach and connection to services. This was started in March of 2017 by the Washington/Baltimore HIDTA. What you do is you GO code at the location of a fatal or nonfatal overdose, where that location is and whether or not Naloxone was administered. So, for our part at CDC, we’re working with the Bureau of Justice Assistance to fund eight states to implement ODMAP statewide, and to try to highly improve coordination between public health, behavioral health and public safety.
What if every month anyone and everyone who had a leadership role in your community to address the opioid epidemic, from health to law enforcement, from behavioral health to prisons, from housing to just about anybody you can think of in a community. What if they came together to discuss the trends and to review a number of cases about looking for gaps and opportunities to improve outcomes. That is the RxStat program. It was started in New York City in 2012. It's not just your typical fatality review, because everyone has agreed to that overarching goal of what is going to reduce overdoses now, and there's a mandate to innovate, rapidly test new strategies and follow up to determine if they're working.

It works because everyone is held accountable to that large outcome. So we're investing in the expansion of RxStat. We are funding a best practices toolkit and piloting it in Pennsylvania, thanks to the support from Bloomberg Philanthropies. And now this is I think what Nancy was really eager for me to talk about. This is some of the work many of you have probably seen in March of 2016. We came out with CDC's opioid prescribing guidelines for chronic pain for primary care clinicians outside of active cancer, palliative and end of life care. Those guidelines are not a rule, regulation or law. They are simply intended to inform clinicians discussions with patients and their prescribing decisions based upon the best available evidence at the time. This slide shows some of the translation work that's happened to date. I will talk at length in the Q&A if you'd like about some of the others, but this specifically is I think, where there's some energy.

We came out, part of our translation efforts. The author guidelines published a commentary first in the New England Journal of Medicine in April, where they address the misapplication of the guidelines. Specifically, some policies and practices purportedly derived from the guideline were in fact inconsistent with and went beyond its specific recommendations. This included no longer providing treatment for patients on long term opioids or abruptly discontinuing patients from their opioid prescriptions. It may also mean aggressively tapering folks where it's not warranted and potentially leading to bad outcomes.

There was also some sensitivity around that those cautionary thresholds that CDC had in our guidelines, the 50 and 90 morphine milligram equivalents were mandates for hard stops, and that was obviously the case. So, this commentary was a preview for ultimately what something that a document that
Nancy mentioned came out yesterday, which was a tapering guide showcase that there are really no shortcuts to safer opioid prescribing and that individual patient situations and care needs really need to drive practice.

Grant Baldwin: 01:31:07 We're in the process of determining whether or not an update to the guideline is necessary. And we'll be making that decision very, very shortly, but did want to call your attention to that tapering guide that was released yesterday that although information around tapering was included within the original CDC guideline, we wanted to... HHS more generally wanted to bring it more top line and so really excited about that resource being out there.

Grant Baldwin: 01:31:31 Finally, I wanted to share with you how CDC is making a priority to raise awareness about the risks of prescription opioid use and opioids more broadly. We launched a communication campaign in September of 2017. It's based on the past success of other testimonial campaigns. You may have seen the tips from Former Smokers Campaign. This sort of takes a page from that playbook, people who have lost loved ones to the opioid epidemic or who are living in recovery, them telling their story. It's a very successful campaign, 175 million impressions across multiple channels, a huge volume of people visiting the CDC website and resources. So, please check it out.

Grant Baldwin: 01:32:17 Obviously, we need to end stigma, and lift each other up and not shame each other down. Individuals, families, communities, this is CDC's effort to do that. It's my last slide and I wanted to close on an optimistic note. Obviously, the challenge before us is daunting and overwhelming. And sometimes feels like the end game is constantly shifting. And that's fair because as you saw with the data on fentanyl because it actually is shifting and changing. But we've been bold and we can continue to be bold, and with determination and persistence and resolve and courage and some openness. I have a great degree deal of confidence that collectively we will ultimately turn the tide on this epidemic.

Grant Baldwin: 01:33:00 Unfortunately, because of those skyrocketing fentanyl deaths, I think we lose sight of some of the progress that we have made. I'm going to end with a quote from Nelson Mandela, he said, "It always seems impossible until it's done." And together, I think we can get it done. So thank you very much, and I look forward to the conversation.
Nancy Chockley: 01:33:28 Grant, thank you for that great presentation and all the amazing work that you all are doing on CDC. It is hard to end on an uplifting note when the statistics are so daunting, but if anyone's up to the challenge, I know that you all are and it's great work that you're doing. So at this time, I'd like to open up the questions for the floor. So, if you all could fill out your green card, and pass it forward. And why we're collecting those. I'd like to follow up Grant's presentation where he took a federal perspective of the CDC crisis, and why we have people really in the heart of things in the states turn around and ask them what's happening in your states and the opioid crisis, Curtis and Craig.

Curtis Barnett: 01:34:21 Thank you, Nancy. And really for Arkansas, we've seen a slight decline in the opioid prescription rate over the last year. But unfortunately, our rate is still about twice of what the national average is. So, there's considerable amount of work that still needs to be done in that area. But I think the place that we're focused most today and where we think the greatest impact is needed is really around treatment. And specifically medication assisted treatment, or MAT is where we're focusing a lot of our attention and the need is great in our state. So, this is when a physician would prescribe medications such as Suboxone, which would help the patient or the individual control their cravings and allow them to live a normal life and to work while they're going through therapy.

Curtis Barnett: 01:35:12 That type of treatment is vastly underrepresented in our state. It requires for physicians to be able to subscribe a drug like Suboxone, they have to have a DEA waiver to be able to do that. And when you look at Arkansas, in a real estate like ours, we have a underrepresented number of physicians who have the DEA waiver and it's also not geographically distributed in the way that we need for it to be. And so, we have a drastic need there and we're trying to rally the healthcare system and the physician community in such a way that we can improve the right of the individual doctors who have the DEA waiver, especially emergency room doctors, primary care physicians in rural parts of the state. And really embed that in our residency programs as well so that all residents who come out do have that waiver, regardless, especially from day one.

Curtis Barnett: 01:36:06 Grant and I we're talking a little bit about this prior to the beginning of our event today. And really, that's just to get us to the starting point where we need to be. We recognize that the treatment protocols and the services that are going to be needed built around that is still a considerable amount of work
that needs to be done there. But we've got to get to the starting point that we need first, and that's around medication assisted treatment.

Craig Samitt: 01:36:34 We're seeing some positive results from our actions over the course of the last several years. We've taken a four pronged approach. One is to continually adjust our internal policies to help support members that are struggling with addiction, and we're not alone. It goes back to my comment about it takes a village. There are actually seven Minnesota health plans that are working to reduce chronic opioid use and to share the results. Preliminary statewide data from the Department of Health shows drug overdose deaths and opioid deaths decreased in Minnesota by 17% over the course of the last year, which is a change in trend since 2010, opioid related deaths had doubled. So, we have essentially bent the curve.

Craig Samitt: 01:37:22 The second is we introduced long term pain treatment and addiction issues into our HCCU, which I had referenced earlier, where we’re much more attentive to script trends with personal outreach. The third, as Curtis described, we promoted medication assisted treatment, mostly in conjunction with providers as well, and we specifically removed prior authorization, which had been a barrier before. And then finally, we work with providers on ways to reduce the overall number of scripts. At Blue Cross Minnesota, we’ve seen a 77% reduction in high risk opioid misuse, as defined by CMS over the past five years. And as I mentioned, we had started this before this became part of a national conversation. So we’ve seen some good results.

Nancy Chockley: 01:38:18 Thank you very much, and thank you for all these terrific questions. I think because we are here on Capitol Hill, I'll start with a question submitted from office of congressman Jeff Merkley's office and it says, how can we engage his congressional offices? If you could wave a magic wand, what would be the one issue that you would change or like to see change the most, and that's to the panel. How would you like to engage with congressional offices? We're here on Capitol Hill. I feel like I might have set you guys up on that one. I thought that what a great question from the audience, here we are. [crosstalk 01:39:03]. Go ahead.

Grant Baldwin: 01:39:03 I'll start. For me personally, it's around continued vigilance and support. There's so much that needs to occur, especially as the drug epidemic that I'm helping to respond to is changing. We need continued vigilance and support for the prevention
activities that CDC is responsible for. So, for us it's making sure that Congress is well aware of how we're using our appropriated dollars, the progress that we're making, and how we're trying to make a difference in the lives of Americans. We take our responsibility as you would appreciate very seriously.

Craig Samitt: 01:39:41 I would have to and I assume that you're asking the question more broadly, how do we advance support for social determinants and health inequities? The two that I would pick is sort of having degrees of freedom for health plans and health systems to do more for their members and patients in the form of supplemental benefits or other things that traditionally we would exclude from the world that we live in. I think having the opportunity, whether it's transportation or food or other strategies freeze up the opportunity for us to address upstream issues. The second is I'll be a broken record. I think we need to reward better care, not more care. And I think whatever we can do that really in sense, the profitability of wellness, not the profitability of sickness. We won't be the only ones getting into the social determinants of health and health and equity business, everyone will get into the social determinants and health and equity business.

Curtis Barnett: 01:40:44 Yeah, and I think, from my standpoint, and hopefully a theme that all of you heard today is we need more partners. We see our elected officials being a key part of that, and how can we work together to improve these communities. I think that's a big part of what we're looking at. When we think about value based care. Today, we think about it more on the basis of how do we incentivize doctors and other providers, provide quality cost effective care, when really what we need to be thinking about is how can we take the 30 to $40,000 that we spend as a healthcare system on the baby who shows up in the emergency room for failure to thrive, and invest those dollars in such a way that they don't suffer from that condition. That they don't have hunger, they don't suffer from food insecurity. And that's truly a value based system. And that's what all of us are working toward. But we've got to have allies, we've got to have partners, and that especially includes our elected officials as we're working toward that new and improved system.

Nancy Chockley: 01:41:45 Great, thank you. That was terrific answers there. Here's another question from Modern Healthcare that they submitted online. What is the role of social workers in the healthcare systems as we try to address social determinants of health? Will we see increased reimbursement for their services, or what policy changes would help advance use of social workers?
Craig Samitt: 01:42:10 I'll go first. I mean, I think that if you look at practices that have very much focused on reinvention, care delivery redesign, you're beginning to see that medical officers aren't just physicians and advanced practitioners, they're pharmacists, they're social workers, they're behavioral health workers. We tend to clinicalize or medicalize everything including social related issues, and I think we need to liberalize what teamwork really looks like in care delivery. Some of the more progressive reinvented primary care models have care advocates or health advocates, not just clinicians. So, I think we just have to think differently, and I think reimbursement and employment will change to support a more team oriented model.

Curtis Barnett: 01:43:09 Yeah, I would agree with Craig on that. I think the reimbursement will be addressed as needed. But just as I mentioned during my comments, social workers are critical to our organization. They're embedded in the care management teams. They're doing a outstanding job with advocacy, with navigating the system in ways that are absolutely critical to get people to be able to take care of their own health. But also in the community, social workers are going to be a critical part of things going forward. When you look at the behavioral health needs that we have, the social determinant needs, we see that as being, I again, use the word partnership, but a critical partner going forward.

Grant Baldwin: 01:43:48 CDC is investing heavily. You saw one of the new strategies that we're investing in with overdose data to action is linkage to care. And obviously, social workers, and a larger swath of the healthcare infrastructure can serve as a safety net and a bridge to get people into definitive care, and make sure that there's fidelity to care and followup throughout. I think social workers can play a critical role in that.

Nancy Chockley: 01:44:11 Great. We are running short of time here. I'm going to ask one more question. We have all of these questions. So I'm going to ask the panelists if you could maybe stay, and for people who really have a burning question to individually come up and ask them, but for the last question, given social determinants of health are closely tied to socioeconomic factors, what should be the role of state Medicaid programs? And I'm thinking of in partnership here, I think, in extending care that addresses social determinants of health, what policy priorities would you recommend for state lawmakers that are reforming their programs? The question is, how can you part with Medicaid and pull them into helping combat these downstream problems by investing in social determinants of health.
Craig Samitt: 01:45:09 I mean, I think we're already beginning to see public private partnerships, and several of our peers, and several of our states, and we certainly have the interest in the same in Minnesota, are looking at demonstrations or waivers that allow greater degrees of freedom to include social determinants as part of managed Medicaid models. And even not just managed Medicaid, but recognizing that we can redeploy resources. I think we tend to think of business from a return on investment standpoint. But what if we think of it as return on health, and for our DHS, our argument is every time we spend a dollar in a social determinant of health, we are saving the state resources that would otherwise go to treat someone who gets sick.

Craig Samitt: 01:46:06 All we have to do is listen to those examples of the people who are going to emergency rooms, because they're hungry. And frankly, we also know that often when people go to an emergency room, they tend to get admitted as well or a certain percentage of them. What of those dollars were better spent by the state in much more upstream intervention. So I think we're going to see more of these types of partnerships.

Nancy Chockley: 01:46:28 Great.

Grant Baldwin: 01:46:29 Yeah, I think for me once the evidence continues to come in about the value of initiatives like the Martinsburg initiative is to have dollars available to support implementation of programs like that on a larger scale to break the cycle of addiction and to get very, very upstream. Having visited Martinsburg on a couple of occasions, the power of that initiative is really palpable, and the difference that it's making in those communities, and that community specifically. And the lives of the people that live there is really substantial. So, I'd like to get more upstream with Big P prevention work.

Curtis Barnett: 01:47:05 From our perspective, and well I don't have any specific, policy proposal today, I can tell you that we have had a history of working in partnership with Medicaid and in our state Department of Human Services. It is absolutely critical to have the impact that we need, whether it's on social determinants of health or on value based reimbursement, when we can partner together and then work with healthcare systems to drive change, it has a much bigger impact. And so, we need that type of relationship and that partnership going forward. We need to have open communication in a way to evaluate and design new programs. We invite that, and I think it is absolutely critical.
Great. Thank you. Thank you all for joining us today and staying all the way through the bitter end. I would like to thank Senator Ron Wyden for sponsoring our event today. I'd also like to let everybody know you can find copies of the speakers' slides and additional resources on NIHCM's website, nihcm.org today, and a recording of the event will be available next week. I'd also like to ask everyone to fill out the blue evaluation cards and leave them on the table.

I would like to conclude with a big thank you to my team Kathryn Santoro, Julie Schoenman. Kristen Wade over there, Kate Ellis, Harper back there, say hello, and Carolyn Myers over there, and Caitlin Smith. So, I have a great team and they worked so hard to put this on. I'd like to include them in our round of applause for our tremendous speakers.