Megan: Hello, everyone, and welcome to the Preconception Care Webinar. I'm Megan Hiltner and I'm the training co-lead with the Healthy Start EPIC Center. I'll be moderating today's webinar. We have approximately 60 minutes set aside for this webinar today. I wanted to let you all know that it is being recorded. And the recording, along with the transcripts and slides, will be posted to the EPIC Center's website following the webinar. I'm going to send you through the chat box that website right now. Before I introduce your great speaker for today, I wanted to let you know that we want your participation during this activity. So if at any point you have any questions or comments that you'd like to share at, please chat them in at the bottom left hand corner of your screen. We'll only be taking questions via chat after the presentation. And if we don't get to all of the questions by the end of the webinar, we will be including them in the Frequently Asked Questions document that we'll post to the website after the webinar.

So let me introduce your speaker for today. Dr. Brian Jack is a professor and chair for the Department of Family Medicine at Boston University School of Medicine and Boston Medical Center. Specific to this webinar topic, Dr. Jack has received the 2008 CDC Partner in Public Health Improvement Award for his work as a leader of CDC's select panel on the content of preconception care. He has completed work to design a preconception health information technology system - or Gabby - to assist in the provision of preconception care and is currently conducting a study on Gabby's impact.

With him also is Dr. Karla Damus. She is a nurse and a perinatal epidemiologist who is nationally recognized for her research and continuing education activities in perinatal health, especially in the prevention of pre-term birth. Her research interests also include pre and inter-conception risk assessment and health promotion, infant and perinatal mortality, promoting equity and eliminating disparities in health outcomes, and enhancing health care and outcomes through a life course perspective.

In 2014, she joined the research faculty in the Department of Family at Boston University and she's nationally recognized for her leadership and work in preconception care. Also on their research team is Megan Hempstead and she is the Gabby Preconception Team Research Coordinator. So without further ado, I'm going to turn it over to you, Dr. Jack, to take it away with the presentation.
Dr. Jack: Sure thing. Thank you very much. It's really a pleasure to be with everybody today. We're sitting here in my office at Boston Medical Center which is the former Boston City Hospital. And a lot of you may know that there was a lot of snow in Boston and also happy to hear that it's finally beginning to melt these last few days. But there was something like 9 feet of snow this year, so it's been a lot around here.

But we're really happy to talk about something that Karla and Megan and I have been interested in for a long time and that's preconception care. And we thought we'd spend about 20 or 30 minutes talking about an overview of preconception care and then there's plenty of time at the end for discussion and black and forth.

So we're going to talk about the rationale for preconception care, review some of the CDC work that really jumpstarted this area some years ago. I discussed some highlights of the content of preconception care and a little bit on Gabby at the end next.

So the good news in this slide is that the top line shows infant mortality, the middle line is neonatal mortality, the bottom is post-neonatal mortality from 1940 to 2005, and that we should be very proud that each of those maternal child help indices has improved dramatically over that time period. Next slide.

But there's still work to do, that when we compare ourselves in The United States to other countries of where are peer countries around the world, there's a lot of work to do and that we have to keep working on what we can do in The United States to improve our infant mortality rates. Next slide.

The other piece of bad news is that we need to continue to work on disparities in infant mortality. And this slide shows 2005 and 2010 by race at the bottom. And you can see the second from the right where the non-Hispanic black rates have improved from 13.6 to 11.4 but are dramatically higher than other groups, and that we simply need to do better in this area. Next slide, please.

So it raises the issue of what can we do? And one area that has been discussed a lot over the past few years is to think about identifying risk factors prior to pregnancy which if identified and intervened with can improve the impact on pregnancy. And it certainly is true that risk factors are common prior to pregnancy. And this slide
shows that at birth, you can see there, that the smoking and alcohol, medical conditions, etcetera, are very high, a lot higher than what many people think. And a lot of those women who are at risk of getting pregnant, you can see that cardiac disease, hypertension, asthma, etcetera, are also higher than they ought to be. So doesn't it simply make sense to identify these things before pregnancy and try to do what we can to improve those risks rather than waiting for women to become pregnant? Next slide.

It's especially important because there are some women who don't present prenatal care until after the critical periods of development and that we currently intervene too late.

Our screensaver was on, sorry. And you can see it from this slide the CNS, the heart, and all the other key systems are developed prior to 12 weeks gestational age and that many women don't enter prenatal care until after that period. So identifying risks before pregnancy or early in pregnancy makes a great deal of sense. Next slide.

It's also true that about half of all pregnancies are not planned and that 23% are missed times and 13.8% are unwanted. And for non-Hispanic blacks, those numbers are even greater. So for women who don't plan pregnancy, this means that we really need to identify risks for all women in reproductive years, trying to reduce those risks as much as possible. And preconception care is simply healthy women have healthy babies. And our goal is to have women be as healthy as possible. Next slide.

So summarizing those last two slides, why is preconception care important? It's important because poor pregnancy outcomes continue to be unacceptably high and the preconception care offers a way to improve pregnancy outcomes all experts agree on now. There are many risk factors for poor pregnancy outcome that can be identified prior to pregnancy and many risk factors that can be identified and something can be done about those risk factors in many, many cases.

We currently intervene too late after key systems are developed. And not all pregnancies are planned; therefore preconception care should be delivered to all women. That's for rational, since preconception care is simply common sense in a lot of ways. And there's now mounting evidence, growing evidence, that
intervening before pregnancy will improve outcomes. Healthy women have healthy babies. Next slide.

So one definition of preconception care from the CDC is the preconception health and health care focuses on taking steps now to protect the health of a baby in the future. However, preconception health is important for all women and men whether or not they plan to have a baby one day. Next slide.

So none of this is particularly a new concept. And just to make that point that Hani Atrash found the actual book. And that's William Potts Dewees in 1825 wrote in the first American textbook on pediatrics that the physical treatment of children should begin as far as may be practical with the earliest formation of the embryo and will therefore necessarily involve the context in or before her marriage as well as during her pregnancy.

We extend that now and we'll talk about this maybe a little bit later to men as well. We're working on systems to deliver preconception health care to men and women. The healthy men, healthy women, have healthy families and that makes healthy communities, and that's what we're trying to do. Next slide.

So just a little bit of history. Back in 1995, a lot of this starts with the blue book, which is on the left, which is the expert panel on the content of prenatal care. I was lucky enough to be part of the background paper on that. At that time there was just a single article in the literature written by Mary Kay Moose. Mary Kay deserves a tremendous amount of credit for really founding this whole area of research. And we wrote the background paper at that point and said, gee, there's just a lot of common sense things that can be identified prior to pregnancy and really apply the principles of primary prevention to obstetrics. It's not so different than in cardiology back in the 1960s, and the 1960s before the Framingham said that before we knew the smoking and cholesterol and hypertension and diabetes and all that were risk factors for heart disease, we're kind of in that phase now, determining what are the risk factors for poor obstetric outcome. Can we identify them early and address risk factors rather than waiting for women to have pre-term delivery or deliver a pre-term baby, second or tertiary prevention.
ACOG picked up in 2005 one of the tables from the original article and the components of preconception care were lifted there in 2005 and reaffirmed in 2012 as important contribution to maternal health. Next, please.

So [inaudible 00:10:58] article in 1990 in JAMA that said since all this makes a whole lot of sense, how come we're not doing it? And then the editors in their wisdom wrote back to us and said this makes a whole lot of sense, give us two pages on why people aren't doing that. So it's the same now as it was then that those most in need of services are those least likely to receive. And that's why I'm so happy today to be talking to people working in Healthy Start and why we're developing a Gabby system really to focus on women most in need. Provision of services back then and still is now often badly fragmented. They go to a weight loss clinic and a substance abuse clinic and nutrition. All these things are in all different places and we really need to pull them together in a place that serves women well.

There's often a lack of available treatment services, high risk behaviors, substance abuse, etcetera, and that's often still true. Reimbursement for primary prevention is inadequate compared to secondary and tertiary prevention. Health promotion messages are not affected, or must be received by a motivated couple so that the couple needs to be ready to hear it and ready to change the behaviors necessary. But there is mounting data but we still need to do more about showing the importance of identifying risks before pregnancy, especially relative to the package of preconception services. And at many clinical training programs it's still true in all the specialties, do not emphasize health assessment and health promotion skills as much as they ought to so that the clinicians are not really as prepared as they ought to be to deliver this kind of service. And I'll say that our clinical systems are not really designed to screen for and treat reproductive risks. Next.

Michael Lu promoted the life course perspective over the past five or ten years. And I like the slide in the sense that on the bottom is African-American women, the top is white women, reproductive potential on the left and the life course along the bottom, and that the arrows on the bottom are those protective favors and those on the top of the lines are risk factors. And you can see for African-American women there are risk factors that greatly outnumber the protective factors. And I think society will tell us that this is probably true. But most importantly to the left
of the vertical line in the reproductive potential, that is the preconception period, that that's the same situation, the protective factors are outnumbered quite a bit by the risk factors and that we need to move to the left on the graph in terms of identifying risks and addressing them aggressively. Next.

So why have we not made as much progress? So we didn't do very much for a period of ten years or so until Hani Atrash really organized at the CDC level the select panel on preconception health and health care and the first group meeting was in 2005. Next, please.

Sorry, back one, back. Thank you. So that group published a lot of those findings from the three national preconception senates. And in 2006 the CDC select panel put forth four goals, ten recommendations, and 50 action steps in this edition of MMWR. The CDC select panel on preconception care also formed the clinical work group, public health work group, consumer work group, policy and finance, and research and surveillance. And since that time there has been a great deal of activity around the country and preconception care, especially in public health and public health departments around the country. We have a lot of time today, but we did a survey for the websites at public health departments and many, many of them are doing some really terrific things in preconception care. I would say, too, that the clinical activity has not kept pace with the public health activity in terms of how to deliver preconception care in the clinical environment. Next slide, please.

So I was lucky enough to be the coach here of the CDC clinical work group that did work from 2005 and is still meeting now although I'm not the coach here anymore. But back in 2005 there were about 20 or 30 people who were part of the clinical work group and we prioritized the work that needed to be done in preconception care and we said first what clinical conditions should be addressed? Because at that point there was a lot of unclarity around what is the package of services that ought to be part of preconception care. What is the evidence for each of those individual items? How can the conditions be best identified and what interventions are available for those things in order to determine what is the package of services and preconception care. And then finally, number five, what we've moved onto in recent years is how can we deliver this material in clinical practice? How can we make it easier for those people in clinical practice to be able to deliver on this amount of material? Next one.
So we worked from 2005 to 2008 with the 30 members of the expert panel on the content of preconception care and another 30 or 40 content experts around the country on producing this special supplement to the American Journal of Obstetrics and Gynecology that was published in 2008. And then Hani Atrash and I were the guest editors. So in this book, there's a chapter on each of the domains that are listed on the right side of the slide. So health promotion, that is what do women need who are otherwise healthy? What should every woman get? And then preconception risks in the areas of immunization, infectious disease, medical conditions, etcetera. And next slide.

And in that supplement, where we listed in each of the domains on the left, you can see here some of the potential components of preconception care, how that was studied and that are described in great detail in that supplement by domain. Next, please.

So in the supplement, what the committee described, was the burden of suffering, that is how common is it and how important is it in terms of impacting a population? Is it possible to identify this risk in standard medical practice? Is there an effective treatment that could actually impact it prior to pregnancy? And is impacting and treating in the preconception period superior to impacting and treating in the prenatal period? Is it going to be done just as well during the prenatal period, then we did not include it in the package of preconception services. And there are several examples like that like asymptomatic bacteria, group B step, other things that can be screen for pre-conceptionally but you have to do it again in the prenatal period, so therefore those are not part of the package of preconception services. Then we gave a recommendation, and then we gave recommendations by other groups, and then the strength of the recommendation and rated the quality of the evidence. Next, please.

So the American Journal of OB-GYN supplement on preconception care can be found at this website, which is organized at The University of North Carolina by the group there. And it's called Before and Beyond. So you can either write it down now or get the slides later. Or if you just Google "Beforeandbeyond", one word, you'll go right to it. And you can see in the middle of the slide or so it says key articles and guidance. And you can click on that and some of the really key articles in preconception care are listed there, including the special supplement which can
be downloaded as a full text free download if you choose to do that. But also some of the other special supplements that the spec panel had put together in public health and financing and other areas are all found there.

There's also a lot of work that's been done by Mary Kay and her group around curriculum and that on this website you can find really terrible curriculum materials for training, Healthy Start workers or physicians, nurse practitioners, PA, whoever it is that's interested in preconception care. And I highly recommend you getting to know this site because a lot of key information is there. Next slide, please.

So talking about what are the risks that can be identified in clinical practice, seven years ago, 1995, we studied women who came to our practice back in the days when they needed to come to the office to get a pregnancy test. We couldn't do the study now. But if the pregnancy test was positive, they'd of course be referred to prenatal care. But if it was negative, we would do maybe some of the family planning but basically who cool, call us when [SP], see you later. But what we did for those women is we did a prenatal intake basically in the days of expanded and comprehensive renal care when we were thinking about all that and identified all the risks that would be present if the woman had been pregnant that we wish that didn't have. Clearly make the point that there's an enormous number of things that can be identified before pregnancy. And doesn't it simply make sense to identify it before pregnancy rather than waiting for them to be pregnant? Because in the study they could have just as easily have been pregnant and in all these areas there are a significant number of risk factors.

The other point to slide is it really is a comprehensive approach to health and that if you simply define preconception care as, for example, a genetics’ clinic, then you're just getting one piece of the pie. For comprehensive preconception care, you really need to provide comprehensive services in all those areas. Next slide, please.

So we're going to talk about some highlight if we can sit here for the next few minutes to really make the point that there are some areas where there's level A evidence number one and, number two, makes enormous amount of difference in where we can actually prevent low birth rate, prevent pre-term delivery, prevent anomalies through primary prevention. Next slide, please.
So this slide, in the middle, it shows low birth rate. This is the effect of maternal cigarette smoking and pregnancy complications. You go to the far right, the next to last column; it says percent of all cases of low birth rate attributable to maternal smoking. So it's really a no brainer, low hanging fruit. The maternal stuff is the most important factor. If a woman smokes in the pre-conception period, we are doing them an enormously good service by working with them to have them stop smoking before pregnancy. And it just simply makes sense to do that before pregnancy rather than waiting until 12 weeks when they would normally present. Next slide, please.

This is the kind of cartoon slide that is from our negative pregnancy test. And it makes the point that moving from the right side of 136 patients who had a negative pregnancy test that certain number stopped, some drank, 40 drank yearly, some drank monthly, some drank weekly. I don't know exactly what that means, but two of them drank every day. And I know what that means. And the fetal alcohol syndrome is the largest cause of fetal anomalies in otherwise term babies that's presentable, exactly. So 2 out of 136 is now nothing. And it would be an enormous opportunity to identify this woman and work with them. And even if only 1 out of 10 is successful that's preventing a fetal anomaly to primary prevention. And I think we can do better than 1 out of 10. Next slide, please.

The area of diabetes is also really critical. And there's a lot of people who still don't know about these data. The total number of major and minor anomalies is listed on the left - that's just a little bit lower than what the total percent of major and minor anomalies together is. And on the right side is those women with post-conception control of type 1 diabetes. The anomaly rate is almost 11%. And with preconception control it's less than 2%. This has been shown over and over and over again. This is one of the original studies to showing how important this is.

So women who have out of control diabetes are at great risk of fetal anomalies, a lot more than what people think. And as I talk to residents and teaching hospitals and things, they just don't know this. And if women are older as they are pregnant and those current diseases are happening in a younger age group, the diabetes is in reproductive age women a lot more than it used to be. And this is really, really important. You see women all the time the type II diabetes is out of control. Even adolescents now the type II diabetes is out of control. And it really does need to be
controlled. We can prevent anomalies through good care in the preconception period. Next slide, please.

And then to make the point, too, that medications and teratogens are really critical. And some of these things like Accutane, like ace inhibitors, which every diabetic is on an ace inhibitor, but antibiotics are very, very commonly used, anticoagulants are very, very commonly used. And valproic acid and other seizure medicines are used very, very commonly and that a good medication reconciliation, identification in medicines in women prior to pregnancy makes a great deal of sense. And, again, anomalies can be prevented by doing the work that we need to do day in and day out. Next slide. So one of the domains is nutrition. You can see some of the key areas that are reviewed in the supplement that we talked about. We could talk about any of these things. I just want to highlight the last one which is neural tube defects. Next slide.

So back in the 1990s, the US Public Health Service put out this recommendation which says all women of child bearing age in the US who are capable of becoming pregnant should consume 0.4 milligrams of folic acid per day for the purpose of reducing the risk of having a pregnancy affected with spina bifida or other neural tube defects. And this is still the recommendation. But yet less than 50% of women across the country who are capable of being pregnant are taking folic acid each day. And the folic acid can prevent, primarily prevent, spina bifida and the neural tube defects. Next slide.

And that's what this looks like. So this is a spinal tube defect and that's preventable through preconception, not prenatal but preconception folic acid consumption. Next slide, please.

And this is anencephaly. It's also omphalocele which is maybe not related, but the anencephaly part is certainly related and it's preventable. And the two thirds of the spina bifida and anencephaly can be prevented by preconception folic acid use, but yet less than half the women are actually taking folic acid at the moment. Next, please.

So the infectious disease domain also has a long list of things that we could talk about, but I'm going to talk about just a few. Next slide, please.
So one example of preconception care is rubella. And this slide goes from 1966 through 1984. And the MMR vaccine was introduced in about 1968. And the top line you can see the dramatic decrease in rubella between 1968 and 1982 and 1984. The next line below is rubella in greater than 15 year olds, men and women. You can see how it also has decreased dramatically. The bottom line is congenital rubella syndrome, which again, is decreased dramatically, almost to 0, but now recently, we've showed slides earlier that something like 17% of women are not immune to rubella and need to be revaccinated. So even though this is a dramatically successful story really showing the importance of preconception care, we still need to do better, even in rubella and can prevent congenital rubella syndrome, and since I have presented enormous number of congenital rubella cases which is a devastating problem. Next slide, please.

And then to make the point about HIV, again, this is one of the early; the first slides, showing the vertical transmission of HIV can be prevented with AVT. The vertical transmission rates in women who are untreated with HIV is 25% and AVT decreased it to 8.3. Now, with triple therapy, it's almost 0 in women who present pre-conceptually, get treated, and have their viral loads non-detectable prior to pregnancy. But in order to do that, we need to talk about HIV, we need to screen for HIV, and those that are positive need to get them into treatment before pregnancy. Next slide, please. And then this is one of those vexing problems. This is about patients not using birth control and not ready for pregnancy with a negative pregnancy test. So those patients not using birth control, yet not desiring pregnancy, not emotionally ready, not financially ready, but yet sexually active and not using birth control. And we see women young and old like this all the time. And that family planning is a very important piece of preconception care and that one of the alternatives in preconception care is making the decision to not have a child through birth control. And that's an important part of preconception care as well. Next slide, please.

So this is the dilemma that Megan put together. And as you can see, you can see why clinical environments are not really well prepared to deal with all these different kinds of things. There really is comprehensive medical care, there's no comprehensive primary care, and that in the 15-minute visit in our clinics we're not designed to screen for and address all these various things in otherwise healthy women. So how can we possibly do all these things? Next slide, please.
So one issue is how can we begin to do it. The other issue is that we're going to be pushed to do it more and more I think. But in Oregon, the state of Oregon has really begun the one key question campaign. And now in Massachusetts, the Boston Public Health Commission has picked up the one key question campaign. And the one key question is "Would you like to become pregnant in the next year?" If the answer is yes, then they will be in the future referred for preconception care. If the answer is no, then maybe not, although maybe they ought to get it, too, but certainly those who want to be pregnant in the next year.

So I give a presentation at the Boston Obstetrics Society a couple of weeks ago and they were exceptionally interested in this because they know that in all the community health centers and in all the practices and all around and in all the family planning clinics women are going to be asked this question now. And if the answer is yes, then somebody needs to talk to them about preconception care so they were really attentive to the lecture about preconception care, really interested in how can we really begin to do this? Sincerely interested in how can we really begin to do these activities, which traditionally, many practices, and it's good data to show, are not done. Next slide, please.

So we believe, for those two reasons, that it's hard to do in practice and that we're going to be pushed by one key question I think more and more to deliver these sort of services in clinical care. There's a need for an efficient way, we believe, to assess a woman's preconception risks, to do the risk assessment, and then we need to prioritize the valuable appointment time with the provider. And we need to support the women in taking actions to minimize her risks. Next slide, please.

So over the past few years, we've done the fifth thing on the agenda that I told you about a long time ago which was back in 2005 which is first we need to define what the risks are, and then we need to develop systems so that we can assist busy clinicians in actually delivering this care. So we've done a lot of our groups here, done a lot of thinking about what can we do to help clinicians to actually deliver this care that makes it possible for them to do that? So for four or five years now, we've been working on a system called the Gabby System that we can talk to you quite a lot about. In fact, we are going to talk to you about it in another webinar on March 31st at 3 p.m. eastern. So today's pretty much an advertisement for the
Gabby webinar. But we're going to show you a little bit about what Gabby does and how it works. So I'm just going to show you this video.

Okay, so that's Gabby. And we will talk a lot more about Gabby at the next webinar, but you can see that Gabby responds back and forth by touching the buttons on the side. And Gabby is about 600 or 800 different pages. The script is really an enormous script at what Gabby can do to help with the risk assessment and then to identify and to begin to treat some of the risk factors. So the Gabby System looks like this. Can you click? Does it go to the next slide? Can we go back, please? I'm sorry. So this slide shows you.

I don't have a pointer, I'm sorry, but number one is that Gabby takes the risk assessment based on the risks that we talked about. And then the woman meets Gabby, Gabby reviews what we call the survey results which is the results of the risk assessment, and then the woman chooses which risk to learn about with the Gabby System. And then the woman listens to information about those risks which is what is this thing, why is it important to me, why is it important to my reproductive future. That answers questions about stage of change and about are they contemplated or pre-contemplated. In other words, how motivated are they to do something about those risks?

It's what we call pre-contemplative of what we call a motivational interview to try to get them to want to do something about that risk. If they're contemplating, meaning I do want to do something about it, I just don't know what, then we give them other scripts called shared decision making helping them to make decisions about what to do. And if they're contemplative or in the other phases, then we give them homework and other things like that that will help them to alleviate those risks. In many cases, it's go to the doctor for your HPV shots or your chlamydia tests, etcetera, etcetera. Then those risks are added to the My Health To Do List which used to be the My Reproductive Life Plan but we've gotten away from that. Our focus groups have really told us that My Health To Do List works well. And then Gabby works with them on longitudinal behavior change of scripts to achieve their goal. Next slide, please.

So we are enrolling 530 participants in a national Institute on Minority Health Disparities program that we are now enrolling many patients from Healthy Start
sites. So on March 31st, we will talk to you more about enrolling patients. And then we were very grateful to the Kellogg Foundation for funding to what we're calling getting Gabby ready for shrink wrapping - that means ready to be used in the real world at Healthy Start sites. We really see this system working in two ways. One is that Gabby can be used at home by the participant, by the woman herself, to go through her various risks. And then at some point she can print out the risks and go to the clinician.

Or it can be in conjunction with Healthy Start workers or with clinicians so that a Healthy Start worker could meet the woman, do your usual intake, and if you think she's appropriate say "Here's the website or log on to use the Gabby system. Go use Gabby to talk about these risks. Come back and see me in two weeks and we'll talk about what success you've had, what problems you've had and that sort of thing." And the Gabby documents all the work that's been done and people can check off and cross off the various risks as they are addressed. And you can help facilitate them in the navigator role to get to the clinical offices to do the things we've done in offices. But really, frankly, that's not the biggest part of it. The biggest part of it is longitudinal behavior change, folic acid, etcetera, etcetera.

It's also very activating of the participant. The women get very active. My Health To Do List is very powerful for them in many cases. It's also very activating I think for Healthy Start workers. If the woman comes to you and says "Here's my list - I need to work with you on these things." I think you would probably like that. And if you go to the doctor or nurse practitioner, etcetera, they would activate the clinician as well. And I would love it if they scanned me. And rather than having to go through a risk assessment, there's 120 things on it and then talk about each one of those things, come in and just say here's the list. Let's talk about these things. It's a way to get this work done.

And then also we're working now on preconception care for men in that we have some funding to do that. And just yesterday in JAMA we published an opinion piece about some of our thinking about what it is that is important for men's health, African-American men's health specifically because of the huge disparities is what we're focusing on. And we take it very seriously. The risks for men are really very different than the risks for women and we really want to think through how to address those risks in our online system like this. Next slide, please.
So on March 31st, we'll tell you more about how you can help us recruit for the study. And then once that study's done and once the Kellogg work is done, within a year or two, then our goal is to use the Gabby System at Healthy Start sites. And we have told National Healthy Start that and others that we would make this system available to Healthy Start sites and so we look forward to that.

But we also feel very strongly that we want the data to show that this new system is actually working, that the last thing that any of us need is a new technology that is introduced before to show it to be effective. And our preliminary data shows that about 25% of the risks compared to sending a letter to the patients saying bring this to your doctor, 25% of the risks are reduced by the Gabby system. So we're very encouraged by that. And that article is coming out very soon as well. Next slide, please. So this is a picture of a baby, actually, an ultrasound. And this is to make the point about what the babies of the future will look like who are the preconception care baby of the future. So we're going to give you an idea of what that looks like.

So finally, as a society, we need to improve reproductive outcomes. That preconception care offers an opportunity to impact these outcomes, that delivering preconception care in clinical settings is difficult and health information technology may offer a way to do that. But even without health information technology, we need to figure out how to do it. And the Gabby has been shown to engage women to reduce their risks. And the next webinar will talk specifically about Gabby and show you more of that. Next slide, please.

I'd just like to thank all the people who have been involved and we're very grateful to all the funders who have helped us in preconception care but also specifically in systems to help actually deliver it. Final slide, please.

So this gives you an opportunity. So I'd just like to thank you all for attending today and your attention. I know it's hard over the phone to know how attentive you've been. But I assume you are. And it's been a real pleasure to talk to you, so Karla and Megan and I and Clevanne [SP] here also. So if there are specific questions, we'd be really happy to answer them and have discussions with you.

Megan: Thank you so much, Dr. Jack for that presentation. We have about 15 more minutes, folks, for questions. So please chat them into the chat box in the lower left
hand corner of your screen. And I do have the first question here for you all, Dr. Jack and team. Where can I get more resources and materials and evidence based tools regarding preconception care?

Karla: Hi, it's Karla. And thank you all for listening and we really appreciate this opportunity. I've done a lot of work in the community, particularly in the Bronx and nationally and it's so important to have this partnership with your clinical sites and I think on both ends we have to get to know one another much better, because as Dr. Jack said, so much of the leadership on preconception health promotion is coming from the public health departments and models and wonderful programs like Healthy Start. So I think Dr. Jack really identifies the most helpful resource being that BeforeandBeyond.org website. If you go there and spend time and explore, you'll find all kinds of things that you can download, share, and there are different types of instruments there that you can use. There's a whole toolkit that was just recently revived and relaunched again this past year in 2014. So if you had to go to one place, that's definitely a place to go.

There's also on the CDC website an entire section there on preconception health. And we are going to be adding more and more things to our Gabby website that we'll be talking about next week, I mean at the end of the month, to provide at the next webinar links to many of these things as well. And, again, your health departments are often very rich in having links to a lot of different resources for allowing you to have those tools that you need to really do this kind of work.

And as you saw, many of the risks are not just clinical by any stretch. They really focus, as the life course prospective model showed on our social determinants of health, and you out there listening are the experts in educating clinicians on how best to do this, and yet I think we're doing a little bit better because we've learned so much from all of you on how to integrate it into the care. So I think this is really going towards a wonderful relationship and that, to me, would be the place to really start. Megan: Thanks, Karla. Another question just came in. Do I understand Gabby is only for African-American women?

Dr. Jack: The answer is, as a research tool, Gabby was designed for African-American women for two reasons, one is that we feel very strongly that the disparity in maternal child health outcomes is vexing and despicable and we need
to do something about it. Secondly, from a research perspective, so far in our studies we have shown that Gabby can reduce the number of risks and that the next step is to show that Gabby can improve important clinical outcomes like pre-term delivery low birth rate. And if the outcome in African-American women is really twice or used to be three times, and still in many places, then it's, from a research perspective, easier to show a reduction when the rates are higher. And so for both reasons - one is it's the most important disparity in my view, and secondly it's something that we hope to be able to demonstrate that the Gabby system can actually impact important outcomes. Karla: And the important thing, knowing that, is that a lot of qualitative work was done with ethnographers and anthropologists and psychologists and others, behavioral specialists, with the community women and doing a focus group to determine what it was that they really felt would be important in creating such a system. So a lot of years of development went in there. So we have this question often, like we certainly realize that there are many, many diverse groups in every community that you want to make available. And this will happen. And just for the present time we're focusing on the African-American black women for which the system was specifically designed and we wouldn't need to just do a translation into Spanish or Chinese or anything.

We would again invest all of the time necessary working with focus groups, with people like you. We worked with the Boston Public Health commission here that has the Boston Healthy Start to make this system responsible and engaging to the targeted community. So for right now and for recruitment into the study, yes, that is the group we are focusing on.

Megan: And so a follow-up question to that from that same participant, would there ever be a study for Native-American women?

Dr. Jack: I think it'd be very important to do that. And I think that we could certainly build upon the research that we've done. The site that we're enrolling for now is powered to show more important outcomes. If we showed that, if we have data to show that this system has important impacts on women and families and communities, then we feel much more comfortable disseminating it. There's been a lot of people for some time now who say can we just get it out there as much as we can? And we really have been resisting that because we really do want to show in some sort of a controlled environment that the system works. If it works, as I feel
very confident at this point that it does, but it's still to be shown that an important clinical outcome can be impacted, but I feel very confident that the Gabby system can reduce risks and can improve health. I really do think that's true.

And then when that's done then we can do the work necessary. Then it just becomes very mechanical to do the work necessary to have systems like this be available for a variety of different kinds of ethnic and racial groups. Like Karla says, we really would need to tailor it to specific groups rather than just be a one size fits all. Because we do believe it's based on a lot of health behavior theory. And the health behavior change happens through really connecting with women and we'll talk more next time about how Gabby can be empathic and can connect and can remember things that happened in the past and those sorts of things which can be more motivating for women to do the hard work of behavior change. So it's based a lot on theory of interpersonal relationships, etcetera. But the answer is, yes, there's no question it can be done. And I think also that systems like this . . . and people say, oh, what if people don't have computers?

Well, in the age groups that we're talking about I think that now, but certainly in the very short future, women and men are going to be asking us for systems like this. I think we're behind actually in developing these sorts of systems, and that you can't go on the bus or the subway without everybody looking at their cell phones and yelling how to do these things. I think that that is really just not going to be the case in the future that people aren't going to have access to these sorts of things and will be asking for them a lot. And in my mind, there's no question that this sort of technology, and this is unique technology, that in the future there'll be just more and more things like this that help with health education across the board in terms of shared decision making around colonoscopy and mammograms and pap smears and statins and everything else, because we simply don't do a very good job of any of those things. And why not use information technology where it's good at and better than what we are because once it's programmed it does it the right way every single time and that we simply don't do it. Karla: Okay. And I think whoever put in those wonderful questions; we're going to need your help. One of the reasons we do not have a large native nation population here in the Boston area. So working collaboratively with colleagues across The United States, particularly in the southwest, Oklahoma, wherever you are, that'll be so key. And the Gabby system may not even have that name that was picked by the women. And it may
look very different in different cultures. So we feel strongly that that kind of work needs to be done. But we want to get this one first. Thank you for the question.

Megan: A different question, this is regarding the one key question information you shared earlier. So for the African-American population, should the one key question be asked earlier than age 18?

Karla: Absolutely it could, but for this particular initiative in Boston, for a lot of issues around consent and other concerns that that had to be the cutoff, in Boston it's 18 to 50. Now, in Oregon, they too have limited the system to people 18 and older. So clearly we know this question needs to be asked for much younger populations.

Dr. Jack: Of all race, too.

Karla: Yeah. It's just that right now, again, even though it's been happening for three years in Oregon and the people have developed it in Oregon and they just happen to be here in Boston this past week and are doing training with our Healthy Start sites here, they don't have a lot of data yet. So they're keeping it to that age limit just so that they can evaluate things and move forward with information that would be useful to all of you.

Dr. Jack: Yeah. So I think it's a way to identify the population that is most in need of preconception care. If they answer, yes, I'm planning within a year, then certainly that or the preconception care. But I think the limitation of one key question is that if they say no a lot of those women are going to become pregnant in the next year, too. So we can't just limit it to some groups. All women, every age range, ought to get these services, because these are just good health care for women.

Karla: Right, and we still know that half of all pregnancies are surprises. So even if someone says no, they may end up being pregnant next week. And their options for the response to that are yes, no, unsure, or either way fine with me. Because we know some people look at conception as being something that they feel when it's going to happen it's going to happen. So we have to be respectful of everyone's cultural beliefs and people feel very strongly around issues of reproductive health.
Megan: Well, on that note, thank you so much Dr. Karla Damus and Dr. Brian Jack, and Megan Hempstead for your presentation on this webinar. I do want to remind everyone that the follow-up webinar on this topic where there will be an overview of the Gabby system is scheduled for March 31st from 3 to 4 p.m. And in addition to that webinar, I want to note three other upcoming webinars that if you are not able to attend, please just plan to share this information if possible with others on your team. On March 12, that's this Thursday, there's going to be a Hear From Your Peer webinar on client recruitment. That's from 3 to 4:30 eastern time. And then on March 19th from 3 to 4 p.m. there will be another Ask the Expert Webinar on the happiest baby with presenter Dr. Harvey Karp. Then on March 24th there will be a webinar on Learn the Signs, Act Early. And that presentation will be delivered by Camille Smith from the CDC.

Thanks again, everyone, for your participation. We just chatted out the web link where you can go to get more information on those webinars as well as register. And you can also get presentation materials, the information transcript, live presentations, from all of the webinars that have taken place. You're going to be given a link for a survey to give us your feedback on this webinar, so please complete that evaluation. We really do appreciate your feedback. So that concludes our webinar for today. Thanks again for your participation and listening and have a great day.