Speaker 1:	00:01	Quality improvement in the time of COVID-19 is brought to you by the American Heart Association with support from Novartis Pharmaceuticals. As physicians, scientists, and researchers worldwide struggle to understand the COVID-19 pandemic, the American Heart Association has developed its COVID-19 CBD registry powered by Get With the Guidelines to activate data and aid research on the disease, treatment protocols, and risk factors tied to adverse cardiovascular outcomes. For more information, visit us at heart.org/COVIDregistry.
Sandeep Doss:	00:32	Hello and welcome to the American Heart Association podcast on quality improvement in the time of COVID-19. My name is Sandy Doss and I'm a cardiologist on faculty at the University of Texas Southwestern Medical Center in Dallas. In addition to my clinical work, I spend a lot of time thinking about systems approaches to improving quality of care. Today, we're going to talk about another aspect of quality improvement in the time of COVID-19. The American Heart Association has built its extensive portfolio of quality improvement programs on the premise that patient outcomes improve when medical professionals follow the most up to date evidence based treatment guidelines. One major challenge of the COVID era has been maintaining consistency and treating to our established standards of care in the context of the pandemic. At the same time, a second major challenge has been developing new standards for COVID specific care quickly and effectively. Together in this series, we're examining some of those challenges more closely and hearing from experts on how quality improvement programs are systematically adapting and responding to this crisis. Today I have the pleasure of hosting two of these experts, Captain Amy Parker Fiebelkorn and Dr. Eduardo Sanchez. Together, we'll talk about the challenges and opportunities related to the widespread deployment of the influenza vaccine in the time of COVID and we'll discuss some of the COVID-19 vaccines under development in clinical trials. But first, I'll let my guests tell you a little bit about themselves. Amy?
Amy Parker Fieb...:	02:00	Great. Thanks so much for this opportunity to be here today. I'm Amy Parker FiebelKorn and I'm the lead of the influenza response team and the vaccine task force at the Centers for Disease Control and Prevention.
Sandeep Doss:	02:15	Thanks and Eduardo, could you introduce yourself to our listeners?

Eduardo Sanchez:	02:18	Sure. Eduardo Sanchez. I serve as the chief medical officer for prevention at the American Heart Association and during this time of COVID because of my background as a public health physician, as a local health officer, and state health officer in Texas, I've been one of the leads at the American Heart Association around all things COVID-19.
Sandeep Doss:	02:41	Awesome. Well, glad to have both of you. So Amy let me start off by just asking you a big picture question. What's the difference between the layman's conception of having the flu versus influenza?
Amy Parker Fieb...:	02:56	Well influenza is actually a virus that circulates and it's seasonal. Typically our influenza season starts in October and it goes through March or later. We have a vaccine available to protect yourself against flu and flu related complications and there's also diagnostic testing for influenza. So sometimes if you are under the weather and you're not improving, we do recommend that individuals seek diagnostic testing and if they do have flu related symptoms, they can start on antiviral medications.
Sandeep Doss:	03:53	Okay. Thanks. So during the COVID pandemic, we hear a lot of people say COVID isn't just the flu and you need to take it seriously. Isn't influenza a very serious infection in its own right?
Amy Parker Fieb...:	04:03	It is. Influenza can cause hospitalizations. It has many complications each year. Influenza causes many tens of thousands of deaths and so flu is a virus that we should take seriously as we're all taking COVID seriously.
Sandeep Doss:	04:32	So Eduardo, what are your thoughts on sort of the major differences between COVID and the flu?
Eduardo Sanchez:	04:40	Well, let's start with similarities. Flu and coronavirus are both viruses. Primarily respiratory viruses. That's where there's some distinction as we are all hearing. There's a set of complications beyond just the respiratory system that seem to be associated with coronavirus much more than influenza. Another similarity is that if you have underlying medical conditions or are of a certain age or older, let's just use 65 or older and have underlying medical conditions that include cardiovascular disease, type 2 diabetes, history of cerebral vascular disease, or having had a stroke. In both instances, getting the particular infection, influenza on the one hand, coronavirus on the other hand can result in a much more severe case of either one and sometimes can be associated with death.

Diagnostic testing is available. Much more readily available for influenza, but we know that it is available for COVID-19 and I would say that where there are some differences not only in the course. We talked a little bit about that, but also in that we don't have what I would say a readily, generalizably, universally available treatment and as we will be talking about in a moment, vaccines are under development. Whereas we have vaccine available to protect us from influenza.

Sandeep Doss: 06:14 So great. So with the vaccines that are available for the flu, Amy who should get vaccinated?

Amy Parker Fieb...: 06:23 Right. So CDC recommends that everyone over the age of six months be vaccinated against flu. This fall and winter in the context of the COVID-19 pandemic, getting a flue vaccination is more important than ever. Although it's unclear what effects COVID-19 will have on the upcoming flu season, it is clear that a flu vaccine is the best way to protect yourself, your loved ones, and your community from flu. We also know that this year co-circulation is expected of SARS CoV-2 which is the virus that causes COVID-19 and influenza viruses. Data have shown that people with heart disease and those who have had a stroke are at higher risk for developing serious complications from flu.

Many of those with serious heart conditions are also at increased risk of severe illness with SARS CoV-2. So as Eduardo was saying, although there's not a licensed COVID-19 vaccine available, there is a licensed flu vaccine that is safe and effective and it's been available for over 50 years. So it has a known safety profile.

Sandeep Doss: 07:44 So Amy, what are the different types of flu vaccines out there and does the specific one you get matter?

Amy Parker Fieb...: 07:50 It can matter. So if you're over 65, it's recommended that you get a high dose flu vaccine. For the general population, you can get just a regular quadrivalent flu vaccine which protects you against four different strains. For persons aged two to 49, there's also a live attenuated influenza vaccine available and that vaccine you don't have to have a shot. It's given intranasally.

Sandeep Doss: 08:25 So one of the persistent I'm going to say myths without trying to insult anybody surrounding the flu vaccine is that getting the vaccine itself can give you the flu. Can you comment on whether in fact that is a myth and what the science says?

Amy Parker Fieb...:	08:43	Right, so that's absolutely a myth. There is no way that influenza vaccine can give you the actual flu. Sometimes what people experience after getting vaccinated are side effects from the vaccine, but that is different than actually the influenza virus.
Sandeep Doss:	09:09	Now overall, you mentioned side effects. Is the vaccine safe and how do we know that?
Amy Parker Fieb...:	09:14	Yeah, so as I mentioned before, the influenza vaccine has been around for more than 50 years. It has a very high safety profile and we always monitor the flu vaccine. Once it's administered, different clinical sites have a way to monitor the vaccine safety. So that is continuously being studied. Over the 50 year course that the vaccine has been available, it has shown to be a very safe vaccine.
Sandeep Doss:	10:02	Now are there any groups who shouldn't get it? I think another one of the sort of urban legends is that pregnant women shouldn't get it which I think is false. What about people who are immunocompromised or have other preexisting conditions?
Amy Parker Fieb...:	10:13	Right. So it's very important for pregnant women and people who have high risk conditions including cardiovascular conditions to be vaccinated against flu vaccine. In fact, with patients with heart disease, flu season can be a very dangerous time and individuals who already have a history of heart disease who become infected with flu, there is an increased risk for cardiovascular complications from influenza including myocardial infarction and stroke. Having the flu can also make heart failure, diabetes, asthma, or other preexisting conditions worse. So fortunately, getting a flu shot can reduce the risk of catching the flu or developing complications from the flu. There have been several observational in small randomized studies that have shown influenza vaccination may serve as a preventive measure against adverse cardiovascular outcomes. So if you have heart disease, research suggests that a flu shot might lower your risk of a heart attack or stroke or dying of a cardiovascular event. However, one thing I should add and this is important, is that despite the evidence showing that influenza vaccination has been associated with and 18% reduction in both all cause mortality and cardiovascular death, it's widely under utilized. In individuals with cardiovascular disease, only 37% of those aged 18 to 49 years and 55% of those aged 50 to 64 years received an influenza vaccination last flu season.

Sandeep Doss: 12:08 Yeah, that's a sobering group of statistics there. So Eduardo, let me ask you to put on your public health advocate hat for a minute here. So most people who get COVID recover on their own without specific interventions, especially those who are younger and who don't have risk factors like obesity, hypertension, diabetes. However, the people that do get sick as you mentioned can become critically ill and die. So how do you navigate that and encouraging people to go out and get vaccinated when a vaccine becomes available? Is it a matter of people's civic duty to go get vaccinated to protect others or how would you pose that to a listener?

Eduardo Sanchez: 12:52 That's a great question. I do think that what we want to do is figure out what messaging resonates. As Amy was saying, we've been doing flu vaccine for 50 years and only in some groups are we above 50% vaccination rate. I do think that a message around maximally protecting yourself, the people you love on the one hand and then civic responsibility on the other hand is an effective way to begin to get people to think about getting flu vaccine. Also think it's critically important to think about messenger. So there's some evidence that if your doctor is the person who's giving you a message to get a flu vaccine, that may nudge you past even your own concerns about your sense of flu vaccine negativity or vaccine hesitancy. I also think that just a recent poll that points out that while 48% of white persons say they plan to get vaccinated, only 22% of black persons plan to get vaccinated.

I'm a big believer that messengers matter and I think that if we started thinking about who are we putting on the TV screens, who is delivering the message, what are the messages that we are delivering, what are the word that we're using, what language are we using, we may be able to push those numbers up from where they might be otherwise. I so appreciate the public health perspective. I also think that it's critically important that we continue to have the conversation that says vaccine or not, masks are going to be our friends for a good while and so for me the public health message is if and when the vaccine is available, is deemed to be safe and effective, you have reached a comfort level, go get vaccinated, but still wear a mask.

Sandeep Doss: 15:11 Absolutely. So this is a really charged topic right now, but it seems like we're having a bit of a crisis of faith regarding our public health institutions. I think most people feel really comfortable with the quality of the science and the scientists, but I think a lot of people are worried that public health

messages are being co-opted for political reasons. What's the role of organizations like the American Heart Association in sort of being defenders of the public and helping them navigate these kinds of issues?

Eduardo Sanchez: 15:43 That is such a great question Sandeep. So I think the role of the American Heart Association and so many others that are outside of government are to stress the importance of following the science and as an organization that one, has always been about science and two, has a very high level of credibility and trustworthiness, we can be an organization that can sometimes deliver messages just like this podcast is doing in some regards. Also to say if you go to that website, the CDC website, the information on that website is state of the art, the latest, and the strongest science. Despite what folks might be saying and you're hearing, go there. What's there is transparently referenced, is very, very rigorously reviewed before it ends up on a website.

I will have to say though, that's been made a little tougher because there's been some back and forth about some issues. So I also think that as we credible organizations are seen as prevailers of trusted words, we want to be careful that we don't find ourselves caught up in that political back and forth and that will be a difficult and challenging thing to do, but I think we can do it and still be seen as credible sources of information and credible directors to what is good information.

Sandeep Doss: 17:39 Excellent answer, thank you very much. I'm fascinated by the ramp up of the public health infrastructure to try to deal with this. Can you tell us a little bit about some of those efforts that are under way like operation warp speed?

Eduardo Sanchez: 17:58 Oh absolutely. So I do think that operation warp speed is a very innovative approach to condensing the time, not condensing the efforts, condensing the time from discovery of what might be a candidate to be a vaccine to being able to distribute it as quickly as possible. So there are many pathways, but let's just talk about three.

One is going to be the science pathway. That's doing all of the clinical trial work around developing a vaccine. Another pathway is the regulatory pathway. That's the pathway that we think about FDA and the other regulatory agencies that could be involved that will at certain points either give a green light, a yellow light, or red light just to be really technical in my language. Then you've got a third pathway which is the

manufacturing pathway. In general, those happen in a serial way. So you go through the science stuff, you get to the regulatory stuff, and then you get to the manufacturing stuff and that takes years. What operation warp speed is attempting to do is to collapse some of those and have some of those pathways happening in parallel to the extent that they can up to and including producing vaccine that may not yet be approved for use, but when and if that approval happens, you've already got a warehouse of millions of doses that can be delivered.

Now that's taken a risk and a gamble from the perspective of producing something that may not be approved, but in this time of a pandemic, these are the kind of approaches that will get us to a place where we can more quickly protect the whole world from the calamity that could be if we don't find a way to accelerate the process.

Sandeep Doss: 20:22 So we have vaccines that are safe and effective for influenza, which is fantastic. So how do we assure ourselves of the vaccines that are under development for COVID are safe and effective?

Eduardo Sanchez: 20:35 Well, so first of all there are these regulatory processes in place. I have every confidence that the manufacturers who are well known to all of us also have their quality control processes in place. I have every confidence in both you, Amy and Sandeep know that the Data and Safety Monitoring Boards which for the public may not know, I would call them committees that are watching the studies and when and if something happens and you probably are aware that right now of the four vaccines that are in play in the United States, two are on pause. Pause meaning something happened and the DSMB, the Data and Safety Monitoring Board, will have a look at what happened and determine is this a serious enough thing that maybe we need to stop completely, cease operations, or what are the potentially mitigating situations and circumstances and, or how do we continue and make sure that we keep everybody as safe as possible?

Then lastly, there's the FDA approval process, but one of my favorite advisory committees out there is the ACIP, the Advisory Committee on Immunization Practices, which is the blessor if you will not of the FDA regulatory approval process, but really of the safety, efficacy, and clinical utilization of a vaccine. So all of those things combined are what really make it possible for us to take the medications we take every day and go to the pharmacy and buy things over the counter and not so much

over the counter and to have confidence that when we do get those vaccines at those recommended schedules, we are optimizing the immunologic effect at an individual level, but also at a population level. So all of those things combined are what give me confidence that when we're on the other side of that, we don't want to speed it up any faster than needs to be, but when we're on the other side of that, I will feel confident to go get a COVID-19 vaccine.

I got flu vaccinated two weeks ago and more importantly, to tell my mother-in-law because they're going to be in the front of the line before I am which is something we could talk about in a moment Sandeep. Who's going to get the vaccine and when? I would be confident if all those things were done and there's a fair amount of transparency about that and that's another thing that should give us some cause for comfort. This isn't being done behind walls and we don't know exactly what's going on.

Sandeep Doss: 23:36

Yeah I have to say that when I hear these trials being stopped temporarily for safety concerns, I actually find that enormously reassuring because that's kind of the way science is supposed to work. If they were not stopping, then that would make me more concerned that people were prioritizing speed over safety. So I'm glad to see that these companies that have a long track record of developing medications and vaccines are taking their good amount of diligence and care to develop COVID vaccines. So you mentioned the four vaccines that are in phase three trials right now. Can you comment a little on similarities or differences of any that are really pertinent or are they all kind of the same?

Eduardo Sanchez: 24:22

I think the most important difference is that one of the four is likely to be a single dose vaccine. That's huge. What Amy knows and what we know from the science is that every time you add another vaccine to a series, you have some attenuation in the degree to which people are vaccinated. Son single dose is advantageous over what are probably going to be two dose vaccines. I think really that is the most fundamental difference. They are different delivery mechanisms that get very much into the science that probably none of us really wanted to talk about. If you went to medical school, it'll cause post traumatic stress disorder and if you didn't, you're just not going to understand what we're talking about. They are novel delivery vaccines. They're not your typical polio vaccine as we know it from then. It's a high tech world. It's 2020. I think the most important thing is single dose versus two dose vaccines.

Sandeep Doss: 25:33 So you mentioned the logistic challenges with rolling out a vaccine at scale. Amy I wonder if you could comment from the influenza side as to how we do this, right? So they're preparing a new version of the vaccine every year. I just find that whole thing fascinating.

Amy Parker Fieb...: 25:54 Yeah. It is. The implementation challenges of these large scale vaccination campaigns are incredible and for local and state public health departments and immunization providers, they've been working through a lot of these challenges with our routine vaccination program and this year a lot of the vaccination delivery has been modified. At CDC, we've developed guidance for safely delivering vaccinations in the context of a pandemic so that when these vaccination clinics are set up, COVID safety precautions are taken into consideration as well as we've emphasized the importance this year of doing drive through and curbside vaccination clinics. Many people are switching over to telehealth visits instead of going in to see their providers and so opportunities that used to be available to vaccinate on routine visits are no longer there if the patient is now being seen in telehealth.

I did want to mention it's important even among specialty providers, among the cardiology care team that even during telehealth visits that vaccination should be assessed. That the standards for adult immunization practice can be incorporated into the standard of care. Vaccination can be assessed at each visit, recommendations can be given if vaccinations are missing. Then the provider can either offer vaccination or refer the patient elsewhere to the nearest pharmacy if they don't stock vaccines in their practice and then make sure that any vaccines given are documented in that immunization information system. Sometimes for some patients an encounter with their cardiologist might be their only encounter with a healthcare professional that year. Even for patients that see routinely their primary care provider, that visit might occur not in flu season. So just making sure that the specialty providers and care teams are incorporating vaccinations into the visit is an easy way to make sure that these prevention measures are being assessed and incorporated into patient's care.

Sandeep Doss: 28:54 Yeah, putting my clinician hat on for a second, we definitely give the flu shot in our clinic, our cardiology clinic and it's for exactly that reason because you have point of contact with patients that's going to be that exact time window where you want to vaccinate them and then maybe seeing their primary care provider six months later, but that doesn't help anyone. So what

is the appropriate window? You said October to March I believe. Is it dangerous to get it too early? Do you not get lasting protection or is it?

Amy Parker Fieb...: 29:22 So it's not dangerous to give it too early, but the recommendation is to give the flu vaccination by the end of October simply because you want to time it correctly. It takes about two weeks for your body to build up the antibodies after receiving the vaccine. So you want to make sure that you're vaccinated early enough that when the virus is circulating in your community that you're protected, but you don't want it too early. You don't want to administer it in July or August because there is some weaning of immunity that does occur throughout the flu season. I did want to mention that even though we recommend getting the flu vaccine by the end of October, it's never too late. So if a patient comes in and it's December or it's March and they haven't been vaccinated against flu, they can still be offered flu vaccine. This year manufacturers of US licensed flu vaccines are planning a record high amount of vaccine.

There's going to be between 194 to 198 million influenza vaccine doses available. It's more than we've ever had in any prior influenza season. It's actually about a 12% increase from last year. The reason is because we don't want these twin-demic, SARS CoV-2 and flu vaccine circulating at the same time. We want to ease the burden on our healthcare systems for people. Let's use the prevention measures we have which is a flu vaccine and make sure that we're preserving the resources for patients who are infected with SARS CoV-2.

Sandeep Doss: 31:30 So Amy, are there any plausible interactions that you're concerned about either with the SARS CoV vaccine under development or with the COVID disease itself? Are there any potential interactions that give you pause and concern?

Amy Parker Fieb...: 31:49 No, I mean so with the updated guidance that's coming out, we are saying that if someone is positive with COVID-19 and they have SARS CoV-2 and they're symptomatic, we are saying that clinicians can wait to vaccinate and that's because we just don't have data at this point. So it's better to wait until the isolation period ends and if a patient is still sick until they're no longer moderately or severely ill, because sometimes moderate or severe illness outlasts the 10 day isolation window for COVID-19. So we do recommend that clinicians can consider delaying influenza vaccination for our symptomatic COVID patients. With the updated guidance that is coming out for healthcare and

congregate settings, we address different situations for asymptomatic patients who've been exposed to the virus and just other patients who might just be quarantining an whether or not they should get flu vaccination.

Sandeep Doss: 33:23 Thanks. So desperately looking for something optimistic here. Do you think that the precautions that we're using for COVID like masks, hand washing, social distancing, you think those may decrease the impact of the flu this year?

Amy Parker Fieb...: 33:39 So that is a great point of optimism. So if we look at data from the southern hemisphere, the southern hemisphere had markedly reduced flu virus circulation during their flu season. Now it's not always a perfect predictor of what our flu season will look like. We have opened up our economy and our schools and people have varying compliance with mask wearing, so we can't necessarily assume that what we saw in the southern hemisphere will translate to what we see here, but I think there's certainly going to be some reduced impact of circulating influenza viruses because of physical distancing measures that are in place and the fact that people are taking more COVID safety precautions this year.

Sandeep Doss: 34:49 Great. Yeah, please don't take that away from me. It's one of the few rays of light that I'm still desperately clinging to. Eduardo, so there's a real catch 22 here in that if we get better at the public health interventions preventing spread of COVID, sorry coronavirus, will make powering the trials harder. So how do we navigate that kind of problem?

Eduardo Sanchez: 35:10 Well that's a good problem to have I would say. As you probably know, a lot of these phase three trials are taking place not only in the United States, but in multiple other countries. So I think we can take advantage of that if that's the right terminology. I do think that's a valid observation. Seeing what I'm seeing, I'm not too worried that we're in the near future, certainly in the time frame of some of these phase three trials that we're going to really clamp down. I would like to think though Sandeep on the positive side is that we have learned that we can attenuate the spread of COVID-19 and I think that I worry that the conversation that's being had about an accelerated herd immunity is what I would like to call just plain herd insanity. That's just kind of crazy talk. The crazy talk about that is that as you will recall you are in the Dallas area. Just a few months ago, we were worried that we were going to run out of the ability to take care of people in intensive care units. That's happening all around the country.

So I think we've got to figure out how we titrate appropriately the means by which we keep spread down so that we can have hospitals that can take care of everything that hospitals need to be able to take care of. Myocardial infarctions, exacerbations of heart failure, stroke. I think sometimes in this discussion that's being had, we are forgetting that the rate limiting challenge is hospital systems that become overwhelmed and then our ability to provide what might be life saving or severity reducing therapies becomes limited because you just run out of space and you run out of ability to have that kind of discretion to figure out what to do. The vaccine is going to help with that and it will help us temper that I think. One question you haven't asked me Sandeep is, how are we going to distribute the vaccine when it becomes available?

Sandeep Doss: 37:54 It's on my list.

Eduardo Sanchez: 37:55 Oh, well there you go. So I'll just go-

Sandeep Doss: 37:57 No, I'm kidding. You can answer it now.

Eduardo Sanchez: 37:59 So the National Academies of Science, Engineering, and Medicine were asked to create a framework for equitable allocation of COVID-19 vaccine. I am somebody who was commissioner of health. I ran the state's health department when we had a vaccine shortage in the '04, '05 time frame and we had to think about these things. Okay, if there's a shortage, who's in line first? So with a very thoughtful approach that had a set of ethical principles, maximum benefit, equal concern that is every life is equal and mitigation of health inequities, in other words trying to address the disproportionality that we've seen in terms of lethality, mortality associated with COVID-19 and also some procedural principles of fairness, transparency, and evidence based. There's a four phase approach until we have a vaccine that's just universally available. You wouldn't be surprised that in phase one, high risk health workers, I'd say pretty much everyone who's working in a hospital setting, but also folks that are in primary care and others. First responders are on that list. Then the second phase of one, are people with underlying conditions that significantly increase the risk of severe COVID-19.

That's going to be people with underlying cardiovascular disease, type 2 diabetes. Turns out people with obesity are in that category, as well as older adults in congregate, overcrowded settings. Then phase two moves to teachers and school staff, childcare workers, critical workers in high risk

settings, persons with the underlying conditions that moderately increase risk, people in prisons, jails, and their staff, then all older persons not covered in phase one. Then it goes to phase three and phase four. So I raise that because even as we talk about vaccine, the conversations that clinicians will have with their patients are going to be influenced, informed by this prioritized staging strategy that isn't going to be able to put people in the front of the line and we will all need to understand who's eligible to get a vaccine in this phased approach so that we can inform our patients appropriately and again, during that time masks will be our best friend.

Sandeep Doss: 40:49 You had alluded earlier to one of the major issues which was the hesitancy to participate in vaccine operations or trials among communities of color. Black Americans, Hispanic Americans, and Native Americans. Especially combined with the disproportionate impact of the COVID pandemic in those communities, it think it's going to be a real significant public health challenge figuring out how to get people to be comfortable taking a vaccine when one becomes available.

Eduardo Sanchez: 41:23 Yeah, it's interesting that this issue has come up in Dallas where I live. The local health department recently ran out of flu vaccine and while the dots don't necessarily connect, the fact that flu vaccine ran out that was available publicly says to me there is demand for vaccine and it may very well be that what we are hearing people say won't exactly be matched by what they end up doing and I still believe as I said earlier, messenger and messages matter and if we are smart about the messages and smart about the messengers, I think we can take what is some hesitancy to even think about to a place where actually more people will line up in the right places under the right circumstances to get vaccinated. So I'm pretty hopeful.

Amy Parker Fieb...: 42:20 I think that's such a great point. We have had these issues of racial and ethnic disparities in adult vaccination coverage and flu vaccination coverage for decades. We're finally realizing the importance of working with community based organizations and people in these organizations who are trusted messengers in order to make sure that the vaccine messages that get out into these communities is from a trusted source and if we can overcome some of these barriers with flu vaccination this season for instance, that might help lay the groundwork once a COVID-19 vaccine becomes available.

Sandeep Doss: 43:14 Well awesome. This has been a really interesting discussion. I appreciate your participation. I'm going to give both of you the

		opportunity for some parting thoughts and maybe a couple of things take home points that people can glean from this. Amy did you have any thoughts on take home points for the audience about the influenza program?
Amy Parker Fieb...:	43:33	Yes. Just make sure that you're asking your patients their vaccination status and if they haven't been vaccinated, to please offer the vaccine or refer to them to somewhere that does stock the vaccine. Influenza vaccination does not require a behavior change or a daily intervention, yet it prevents all cause mortality and cardiovascular disease mortality in persons with cardiovascular disease, with comparable effectiveness. There's other evidence based approaches that require daily interventions. So it has a comparable effectiveness as found in therapy and a hypertensive medications and smoking cessation. So you can accomplish what those do with a flu vaccine which is just once a year. So it's a really important intervention and this year with SARS CoV-2 circulating, it's our responsibility to help flatten the curve of respiratory illnesses this fall and winter and we need everyone to do their part and getting your flu vaccine is one way to do that. Thanks.
Sandeep Doss:	44:53	Thanks and Eduardo, did you have any key take homes that you wanted to leave with the audience?
Eduardo Sanchez:	44:59	I'm going to leave you with an equation. Three W's, plus two V's equals a longer healthier life. The three W's are wash your hands, watch your distance, wear a mask. The two V's are V1, flu vaccine V2, COVID vaccine when it becomes available. That is the key for us to get on the other side of this pandemic.
Sandeep Doss:	45:30	Awesome. Well I learned a lot today. So again, I really appreciate your time and thanks again to both of you for a great discussion.
Amy Parker Fieb...:	45:36	Thank you for this opportunity. It's been a pleasure.
Eduardo Sanchez:	45:37	Thank you Sandeep. Amy, thank you again for all you do at CDC and all your colleagues.
Speaker 1:	45:46	Quality improvement in the time of COVID-19 is brought to you by the American Heart Association with support from Novartis Pharmaceuticals. The views expressed in this podcast do not necessarily reflect the official policy or position of the American Heart Association. For transcripts of this podcast and more information on the Association's COVID-19 CBD registry

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