The U.S. Strategy for Combating Malaria Around the World: Looking Forward
Kaiser Family Foundation
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JEN KATES: My name is Jen Kates and on behalf of the Kaiser Family Foundation I want to welcome you to this briefing this morning. The briefing is part of a series of discussions we've been convening on different important, timely and often complex issues facing the U.S. Government on global health. Today's briefing is focused just on that nexus, namely what should be the direction of the U.S. strategy for combating malaria over the next few years.

In a moment I'll provide some brief overview remarks about the context for considering the question now, but I first will introduce our panelists and give you a sense of the flow of the morning. First we're very pleased to have Rear Admiral Tim Ziemer, who's the U.S. Malaria Coordinator with us today and as the person who oversees the very programs we're discussing, we're very pleased that you could be with us and we look forward to hearing from you on an update of what

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is going on with the PMI, but also we hope the discussion will inform that process.

Next, we have Sir Richard Feachem, who is currently a Professor of Global Health at UCSF and UC Berkeley and the Director of the Global Health Group at UCSF, but most of us know him as the founding Executive Director of the Global Fund, and the Global Fund, by including malaria as one of its three target diseases elevated was probably one of the first things to elevate malaria in the global discussion and increase funding for malaria and really set a mark there. Indeed Dr. Feachem has a long history working on infectious diseases and on malaria specifically, doing pioneering work in bringing that field forward in its thinking and approaches.

We also have Mark Green, the Managing Director of the Malaria Policy Center and formerly the U.S. Ambassador to Tanzania where malaria was a key issue he worked on of course. Before that he served for four

terms in the House including as a member of the International Relations Committee.

Also is Natasha Bilimoria, the Executive Director of Friends of the Global Fight Against AIDS, Tuberculosis and Malaria where she has led that organization since 2005 and played a major role in raising awareness about the Global Fund in the U.S. and before that was with the Pediatric AIDS Foundation and also served several years at The White House and Treasury during the Clinton Administration.

And finally, joining us this morning is David Brandling-Bennett, the Deputy Director for Malaria at the Bill & Melinda Gates Foundation. As you can see, David is not here in person but we figure between the Gates Foundation and the Kaiser Foundation, we should be able to figure out how to do video conferencing. So it's working so far. David has had a long career in infectious disease control including at CDC, WHO, PAHO and now leads the Gates Foundation's malaria program.

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So, thanks to all of you for taking time to be with us today. I should point out, some of us were talking about this, that the three largest funders of malaria efforts in the world are here with us, the Global Fund, the U.S. government and the Gates Foundation. So, we'll have a lot to talk about.

After I provide some framing comments, we'll hear from Dr. Feachem, who will provide an overview of the approaches to combating malaria over time and bring us to the present. Then Admiral Ziemer will provide an update on the PMI and particularly we hope about what may be happening already in thinking about the strategy. Then we'll turn to the other panelists for brief responses, and then some moderated discussion, and then your questions.

So, why look at this question now in particular? First, we have a very changed global context for considering this. There have been several new, large global initiatives, new actors focused on

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combating malaria. You know many of them: UN Millennium Development Goals, including malaria, the Global Fund, the Gates Foundation taking on malaria, the PMI at Center of Malaria and more, many efforts and we actually have results to talk about.

A decade ago, we couldn't say that and so we actually have some real successes that we've seen, some advances in research and some changing approaches and strategies and dialog, namely the reintroduction of malaria eradication as a goal that some have put out there and an increasing focus on malaria elimination.

So at large, there's a very different context for considering the U.S. strategy today. Then, within the U.S. itself, since the PMI—-well the PMI launches in 2005, creates a new coordinating mechanism for the U.S. government's malaria efforts and increases funding significantly with PEPFAR reauthorization just last year, not only was significant increase authorized, at least, over a five-year period.

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But the legislation specifically calls for a strategy and President Obama's global health initiative mentions that, emphasizes integration and health system strengthening, increases the budget for malaria in the request and there's a lot of activity going on within which malaria efforts will be considered.

This just shows funding over time including the request, the most recent request. This raises several questions that we'll get at today. These are just some of them. One, how should malaria efforts be integrated with other global health priorities? Integration's a big focus of the Administration's approach. Should the U.S. focus on malaria remain primarily in Africa, increase the efforts where it is in Africa, expand to other parts of the world? There's no right answer here, these are tough questions.

How can the U.S. address the vulnerability of the PMI focus countries to bordering countries around it that also have malaria epidemics but are not the

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focus? What strategic adjustments may be needed to take on more directly the issue of a resistance?

We know that there's some research efforts that we're likely to see results from very soon. What difference will those make and how should they figure in to thinking about the strategy, and then, finally the funding question. Funding has increased but there's a lot of uncertainty surrounding funding, so it both underscores a need to do as much as can be done with what is already there and to plan for uncertainty in the future.

With that, I'm going to turn it over to Dr. Feachem and then we'll go to discussion.

SIR RICHARD FEACHEM: Well, thank you very much Jen and good morning ladies and gentlemen, great pleasure to be here. My role today is to briefly set the scene, make a few comments about malaria yesterday, today and tomorrow to provide a context for the other speakers to present in more detail the challenges that

we face today and opportunities and plans for the years ahead.

Let's just start by reminding ourselves that malaria is a very ancient disease. It's a disease caused by parasites of the genus Plasmodium and is transmitted by mosquitoes of the genus Anopheles. Most land vertebrates, including most reptiles, birds and mammals have their own forms of malaria. Different plasmodium species infect different host species. There are four major malaria forms in man, four major species of plasmodium that infect man and they have, or at least some of them have, infected man for tens of thousands of years. This is a very ancient disease of human beings.

The word, malaria, tells us that through history we have believed that malaria was associated with bad air and associated with low-lying and swampy places. But then along came this gentleman, Major Ronald Ross, Dr. Ronald Ross, Sir Ronald Ross, the

Indian Army Medical Service, who discovered in 1897 that malaria was in fact not caused by inhaling bad air in low and swampy places, but was in fact caused by the transmission of the parasite from one human to another by the Anopheles mosquito.

He won the second Nobel Prize for medicine for that discovery. Interestingly, there have been three other Nobel Prizes connected with malaria. One for the discovery of the parasite, Plasmodium, one for the discovery of DDT and the last one curiously for the discovery that you can treat certain forms of syphilis by deliberately infecting the patient with malaria, something that we no longer do, since the—[laughter] you'll be glad to hear—since the advent of antibiotics.

Now, the debate about malaria and the discourse about malaria around the world I think changed significantly on October the 17th, 2007 when, at a major malaria summit in Seattle hosted by the Bill & Melinda Gates Foundation, Bill and Melinda Gates made

powerful speeches in which they called for a long-term goal of eradication.

Since then, there's been much talk and much work on eradication and elimination, whereas in the previous 20 years or so, eradication and elimination had been off the agenda since the demise of the Global Malaria Eradication Program sometime in the 1960s. But the "E" words, eradication and elimination, were very much put back on the table by Bill and Melinda in October, 2007 and their speeches and their call to arms has changed the nature of the international discussion since that time in a very positive way.

It's helpful just to clarify what we mean by each of the two "E" words, elimination and eradication. Eradication means, in the case of malaria, these words are not used consistently across all infectious diseases, but in the case of malaria, eradication is now reserved to mean what we did for smallpox several decades ago, in other words, the ending of all

infection on the planet by that particular pathogen. So eradication means we finish the job in homosapiens worldwide, no more human malaria on the planet.

Elimination we use to mean a kind of local version of that, the cessation of transmission in a defined geography, typically a country. So what the United States did in 1952 and said we've eradicated malaria, would today be called elimination. Elimination is essentially national eradication, it's the end of endomicity, it's the end of transmission within a defined geography, typically a country.

Now just a quick reminder that the malaria parasite, the Plasmodium parasite, has a very complex life cycle which goes on both in the human and in the mosquito and what we do to fight it is very much dictated by the details of that life cycle. As I mentioned, all malaria is transmitted by mosquitoes of the genus Anopheles and by females of the species. Here is one of the ladies concerned. This particular

lady is Anopheles Freeborni which is not any old malaria vector, it's our very own local malaria vector in California, because West of the Rocky Mountains, Anopheles Freeborni is the major malaria vector.

The other connection is that the reason she's called Anopheles Freeborni is that she was discovered by Professor Freeborn who was the first Chancellor of the University of California at Davis. So, she really is for us in California, our very own local vector and she transmits malaria if there is any malaria to transmit, right up the Western Seaboard of the United States through Oregon, Washington and into Canada. But of course, there's no longer anything for her to transmit, but she's still there and she's still biting.

The work that's gone on since the October 17, 2007 statements by Bill and Melinda Gates about global strategy, is to get us from a malarias world to a world with no malaria, has really gelled down into a three-part macro-strategy. Part one, aggressive control of

malaria, in its heartland to achieve maximum impact on mobility and mortality in places where the malaria burden is highest.

Second, to continue the historical process of eliminating malaria from the endemic margins inwards, in other words, shrinking the malaria map, a process that's gone on since early in the last century. And thirdly, very importantly, research to bring forward new drugs, new diagnostics, new insecticides, a vaccine and then subsequent vaccines, a lot of research is needed to improve and modify the tools that we have to do the job.

The lion's share of the money is going into part one and part three of this strategy and that's as it should be. Some money is going into part two and that's also important. So let's quickly look at the historical journey. On this map, the red countries have endemic malaria transmission within their borders and the green countries don't. If we go back to a

point not so long ago, the end of the second World War, 1945, there were a very few green countries in the world, i.e., no endemic malaria transmission within their borders.

Essentially all other countries in the world, with the exception of Polynesia and Micronesia, all other countries in the world had endemic malaria, either widely distributed in their country or somewhere in their country and it went way North and it went way South, as you can see in the map.

If we jump forward to today, the world looks very different and in round figures, there are 200 countries in the world of which 100 no longer have malaria. Since 1945, round figures, 100 countries have eliminated. They may have called it eradication when they did it, like the United States in 1952 or Greece in 1970 or whichever example you want to take, we would call that elimination today. About 100 countries have eliminated and they're shown in green on this 2009 map.

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That leaves about 100 countries which still have malaria and they're shown in two colors on this map, the blue and the red. The red countries are the heartland, they are the higher transmission, higher burden countries, particularly the red countries in Africa. They are in the process of applying increasingly strenuous degrees of control. So they're focused on part one of the strategy, driving down transmission rates, driving down infection rates in order to greatly lower the burden of mortality, particularly in children and also morbidity.

That is the control leading to very high levels of control in the heartland and that is the focus in the red countries. There are 61 red countries. The remaining malarias countries, of which there are 39, are the blue countries and those are countries which either have announced malaria elimination goals and are proceeding to eliminate or are heading clearly in that direction.

Let me give you an example of a country that's heading clearly in that direction. That would be China. China has already eliminated malaria in hundreds of counties, greatly reduced the geographical extent of malaria in China and reduced its level of transmission in areas where it still exists. China has an elimination goal for some provinces, Hainan Province for example, has an elimination goal by 2015 and China is moving towards the declaration of a national goal for elimination, although it hasn't yet done so.

So these blue countries, most of them have already articulated national elimination goals and others are moving clearly in that direction and there are 39 of those elimination countries. We'll be talking more about this during the morning, but let's just say a quick word about what the tools are. Malaria control is a complex matter because we're fighting a complex enemy, both the parasite and the mosquito.

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Malaria control is elaborate, not simple, but some of the key weapons in the red countries, the countries that are going for sustained and high degrees of control to reduce transmissions to low levels, some of the major headings in terms of tools would be suppress the vector. Reduce transmission by reducing the frequency of biting with potentially infected female Anopheles mosquitoes of the species that is the vector in that particular geography.

The two main measures for that are indoor residual spraying with DDT or another insecticide and the use of insecticide treated bednets, the widespread distribution of bednets. Both measures that are very effective with a lot of data on how effective they are.

In some areas also, depending on the ecology and the vector species, larvae sighting is practiced or other measures to limit mosquito breeding, including drainage, the ceding of larvivorous fish in certain

water bodies and so forth, other measures in some ecologies to limit the breeding of the vector mosquito.

Second main heading is killing the parasite, and killing the parasite is really all about prompt diagnosis and treatment. The prompt diagnosis is increasingly done with the new rapid diagnostic tests which are scaling out very substantially in many, many countries, both high burden and low burden countries.

Of course when you have a positive diagnosis, treating that patient quickly and effectively and that treatment, that quick and effective treatment in most malarias countries, not yet in all, is done through Artemesinin combination therapy, the now widely used and most recommended first-line treatment for malaria both falciparum and vivax.

This is the adult formulation of one form of Artemesinin combination therapy, it's morning, evening, morning, evening, morning, evening, four pills, four pills taken over three days.

The infant version is here and there are various other versions taken in between, but in all cases, it's a morning, evening, morning, evening, morning, evening therapy over three days, Artemesinin combined with another drug, there are several choices there and there are several alternative products available and that number is increasing, but effective treatment following prompt diagnosis is the key.

Then lastly, as a major heading, presumptive treatment either of pregnant women or of young children or both. A subject which has received some controversy recently but is done in some countries where transmission remains high and where the chances that asymptomatic pregnant women and all young children will be parasitemic, will be infected, where those chances are very high.

As countries move towards elimination, they add additional tools. They don't stop doing the things I've just mentioned, except perhaps the presumptive

treatment, they probably do stop doing that because the rates of infection are so low that it would not be justified.

But other things are added and these include, this is not a comprehensive list, but these include active surveillance to actually track down residual cases; a much more geographically focused approach, focusing in on residual areas of transmission and infection; the control of reintroduction, really worrying about malaria coming in across the borders; and the use, in some settings, either of mass screening and treatment or mass drug administration.

There's much experience, particularly in Asian countries, countries of both of those approaches which we're trying to learn from. In both cases, both for sustained control and for elimination, the research agenda is substantial. There's a lot more we need to know and understand, but in the meantime, very good work and very good progress is being made.

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Just a couple of words about regional initiatives, which are very new among elimination countries, in this case. Admiral Ziemer and others will talk more about regional efforts among control countries. Firstly, under the leadership of the Australian Prime Minister, Kevin Rudd, there has now been created the Asia Pacific Malaria Elimination Network, APMEN.

Ten countries, from Bhutan in China in the Northwest to Vanuatu in the Southeast. The countries are listed on this slide. They are the nine eliminating countries in South Asia and East Asia, plus Indonesia included for reasons that I'd be happy to discuss.

The inaugural meeting has been held and the detail work on how these countries will work together to share experience and research findings and to work hand in hand in their common fight against vivax, because this is an area of the world where the fight

now is not entirely against vivax, but predominantly against vivax, about which we know less than falciparum, the other major form and the main form in Africa of malaria.

So an interesting multi-country initiative getting off the ground in East Asia. Meanwhile in Southern Africa, another grouping has formed, the E8, the Elimination Eight, which comprises the four front-line elimination countries in Southern Africa, the four countries that have already set, in fact two years ago, set an elimination goal of 2015 and they are Namibia, Botswana, Swaziland and South Africa.

Initially under the leadership of the African Union followed by decision making by SADC, the Southern African Development Community, those four countries have embarked formally as of a couple of years ago on a goal of eliminating malaria by 2015.

The E8 brings them together with their four neighbors to the North, Angola, Zambia, Zimbabwe and

Mozambique because of the importance of cross-border collaboration. The four eliminators cannot do the job unless they have excellent cross-border collaboration with their neighbors to the North and that's what the Elimination Eight is designed to strengthen and promote.

The border of malaria in Southern Africa today is shown roughly by that black line, 2008, and by 2015, they wish to be there, in other words, that's their goal, elimination by 2015, but only possible with very strenuous collaboration across those borders that you see and then by 2025, who knows, but maybe something like that.

So what kind of a world do we envisage in 2015, or let me jump further to 2025? Well, it will be quite possible to achieve this kind of world where the green countries have expanded very considerably. The green countries in this map, 2025 are now all malaria free under this future scenario, which a number of

people, and certainly including me, believe is achievable with the right efforts and the right multi-country, and cross-border collaborations.

That leaves the other countries shown sort of muddy brown in this slide and they of course are no longer shown bright red, because the control programs have continued very vigorously in those other countries. So the malarious countries that may be left in 2015, have much, much lower rates of malaria than they do today because of the successes of the control program and then gradually the process of squeezing continues.

There are two documents produced by the Malaria Elimination Group about this process of shrinking the malaria map and copies of both of them are available on the table outside for those of you interested more in that dimension.

I would end by saying that all three parts of the macro-strategy, which I showed earlier on in the

talk, aggressive control in the heartland to have the biggest, quickest win in terms of saving child life and reducing morbidity in the high burden countries, number one and where most of the efforts of the President's Malaria Initiative and Global Fund finance and other efforts are going, and quite rightly.

Second part of the strategy, continuing a historical process that is already well under way of eliminating from the endemic margins and shrinking the malaria map and giving the necessary degree of support for countries that have themselves set those targets.

Thirdly the research agenda, which the Bill & Melinda Gates Foundation have put such tremendous new vigor and resource into to bring us better tools, because as this work continues, we need better and better tools to help to both continue the job and eventually to finish the job. Thank you very much indeed. [Applause]

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REAR ADM. TIM ZIEMER: Good morning everybody. First of all, thanks to the Kaiser Family Foundation for putting this event on and Jen Kates for moderating and your preparation and planning, it's been excellent and it's really a pleasure to join the panelists, the distinguished panelists here and our panelists in Seattle.

I look over the audience and I see a lot of old friends, but I see a few new ones and I'm looking forward to getting to know the new friends also. I'm really grateful that we're continuing to feature malaria. It is a very important strategic component of the U.S. government's foreign assistance program.

In this world of many challenges and distractions, we're seeing a few bright spots coming to us from many global health programs, but specifically malaria. So today as we focus in on what Sir Richard has just so eloquently put together, it gives us a good

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basis to get through a few introductory comments and then into your questions and the panel interaction.

What you say by Richard's presentation is that we've gotten past slogans and rhetoric and in this world, it's easy to have a meeting, cheerlead and come out with a slogan and nothing happens. We're way past that. Why are we past that? Why are we moving?

I attribute it to the representatives or the people on this panel and who they represent today. My task is to do something in three to five minutes here and that is basically to give you a quick overview of the U.S. government's global health malaria initiative and answer the question, what next in PMI?

Three things, hopefully to set the stage for the questions and the interaction, number one, stick with what works. Pretty simple, maybe too simple. Number two, build on the foundation and the successes of what has gotten us to this point and then building on that last point, number three is how do we build but

then transition and achieve those overused words of how do we build capacity sustainment, health systems development.

First, stick with what works, the U.S. government's approach and focus with PMI and now moving into the second phase, is really addressing the first item on Sir Richard's slide on the E strategy. That is, reduce morbidity and mortality. Keep your eyes focused on some pretty clear and simple targets and goals. Reduce deaths in Africa by 50% by 2011.

Those are not the United States government goals, those are the MDG goals, the RBM goals, the Abuja targets and the countries that we're privileged to work with have embraced those goals. Number two, use proven, effective prevention and intervention tools. I remember when I was in the Navy, we had a lot of great ideas from a lot of smart people. They'd bring them down to the ship and just before we'd

deploy, of course the PO was this device, use this mechanism to help you do your mission.

If a 19 year old sailor couldn't understand the instruction manual, if we didn't have the training and if we didn't have the resources to keep that mechanism or system working, we left it on the pier and got underway. We don't need a lot of distractions right now in addressing phase one of the E strategy, strong leadership and commitment. I think what has changed over the last five years is not just verbal, token leadership commitment, but genuine leadership by this country and this Congress.

President Bush, now President Obama, and our Congress is clearly behind malaria as a global health intervention. We need to sustain that as well as continue to embrace our colleagues around the world. Commitment on collaboration, I think what we're seeing today is just punctuating that. We are collaborating.

We talk about partnership a lot. It's very difficult to do partnership and effective collaboration.

Effective country plans, we are engaging along with the Global Fund, MCC, with the bank, with supporting the National Malaria Control Plans, that's critical. Some plans are very sophisticated, some are very modest and we have to do some work along the way.

Cash, we have never seen the inject of cash in a program as quickly as we have seen in malaria since 2005. We're grateful for that. It's allowed us to actually not only build plans and do work, but start making a significant bit of progress on number one, on the elimination strategy.

I'm not going to talk about the PMI successes in the last two and a half years, go up our website, but there's some pretty exciting trends that are coming back. And they're not just U.S. government; we can't take credit for all of it.

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The Global Fund, the bank, the Bill and Melinda Gates Foundation, some of our bilateral partners are all coming together. But we're seeing figures like a 30-percent reduction in all cause mortality in Rwanda, Zambia, Senegal and Ghana. That's pretty good, and where we are specifically working some of these interventions, we're seeing prevalence drop between 50 and 70-percent in some of the districts.

Look at the data, it's on the first table and then you can ask questions about that as you deem necessary. Second point, building on the foundation and successes that are achieved to date, my team hear these words a lot. Look at the plan, stick to the plan, change the plan when necessary and, don't get insulted, go to as few meetings as you need to and only if you must and only to address the plan, understand the plan or improve the plan. Again, not our plan, but the collective plan that the country is putting out. Building on that is the basis of moving forward.

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Moving forward, we are building on great leadership and I'm really grateful that President Obama and Secretary Clinton have included not just malaria, but certainly malaria in their vision and view of global health as a foreign assistance strategy. The new Administration is at the forefront of addressing poverty alleviation and when we look at what health does as the underlying component of that, it is also about poverty alleviation and economic growth.

In May, President Obama announced the $63 billion global health initiative which includes HIV, malaria, TB, additional funding for maternal and child health, family planning, neglected tropical diseases and other initiatives. Building on that though is the strong bipartisan support coming out of Congress through Hyde-Lantos Bill and Jen alluded to that.

Malaria has been authorized $5 billion over the next five years. PMI has been codified as a— they've institutionalized how PMI is to be done. USAID

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is the lead agency and HHS and CDC is the supporting functional agency to do malaria assistance. The Hyde-Lantos Bill also requires and asks for a comprehensive five-year strategy.

Up to this date, we weren't sure what was going to happen to PMI ONE, but now that we have further funding, it's imperative that the plan, the strategy for, not only malaria, but HIV and PEPFAR and TB all come together to support the country's foreign assistance requirements. Thanks.

In this strategy that we're now developing, it's in draft and we have to bring it up and move it through the State Department then over to The White House and then we'll present it to Congress, basically it is defining our targets. We'll be looking at ways to collaborate across all sectors of health, look at ways that we can sustain the programs, review best practices and then look at integrating that across all

components of our government, at the interagency process.

The third point, transitioning from the plan, building on PMI ONE to the future, this is really moving, and forgive me for this crass way of putting it, from the commodity dump motal—of dumping a lot of money to do nets, spraying, ACTs, IPT programs, how do we move from that life-saving, almost a disaster response implementation program, into a sophisticated health development program?

This then moves us into the second bullet on Sir Richard's slide of malaria elimination. It's how do we start reducing, shrinking the map and move towards that 2025 target? Specific areas that we'll target in the strategy will address improving pharmaceutical management. That means forecasting, procurement, building QA systems, making sure that logistics are in place from delivery to the health huts in the different countries, strengthening surveillance

in reporting M and E, integrating the programs with the other health sector partners, maternal and child health, integrating it with all the antenatal clinics with our PEPFAR partners, NTD initiatives, and moving and looking at every opportunity to engage at the country level, and bring the malaria funding to start complementing diagnosis, case management, community health workers so that we can start building the capacity and then sustainment of the program in the country.

That's called health systems strengthening. So if you look at the plan, Sir Richard talked about the future. If you look at what RBM has put out with Gates funding, the Global Malaria Action Plan and then you look at the U.S. government strategy through our five-year strategy and the current PMI strategy, it all links nicely. That's our plan and we're sticking to it for now and we'll change it as necessary.

In closing, in closing, we can celebrate the successes, there have been many, but there are an awful lot of fault lines out there, a lot of opportunities, challenges to get distracted. There are no easy answers and for many of the practitioners that are in the field, we're just going to have to keep our sleeves rolled up and on a day-to-day basis, work with our partners, with our host governments, work with science, the interventions and move forward day by day.

I'm very grateful to be part of the U.S. government's program. I don't have the credentials that most of you do have, so I'm grateful to be running with you and working towards malaria elimination in the PMI and other countries. Sir Richard mentioned one thing about the regional programs. If you looked at that 2025 map, there are three belts, Asia, South America and then, primarily, Africa.

We have two regional programs. If you're interested, we can talk about that in the Q&A session.

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But the U.S. government is invested in all three of those programs. Thanks. [Applause]

JEN KATES: Thanks to both of you for setting us up and we're going to continue. Mark, I think you were going to speak from here.

MARK GREEN: Thank you, Jen. First let me say I'm honored to be with such a distinguished panel of experts and leaders, but as Jen was saying and describing in my background, I'm a recovering ambassador, a recovering politician, a recovering volunteer in Africa.

First off, that means there's hope for recovery for all of you, but secondly, hopefully it means I can offer at least some loose observations based upon some of the things that I've seen in each of those realms. Let me say that it strikes me first and foremost that this is very much malaria's moment as we take a look at public policy and global health policy, it's malaria's time.

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I think there is a recognition in the fields of science and medicine and in politics in diplomacy that this is the moment that all of us must seize if we're going to realize those goals and objectives that Sir Richard and Tim have just laid out. What I'm excited about is what I have seen in the early days of the new Administration, because I think under the last Administration, in the final years, we saw a tremendous ramping up of resources and some remarkable gains in so many ways. What I've seen from the Obama Administration in its early months, is really taking that progress and that ramping up of resources and building on it.

There has been a maturing of our approach on malaria, recognizing where we've come from and also recognizing where it is that we need to go and I think you see that reflected in several ways in these early months. First, when you take a look at President Obama's budget, and in particular the budget message,

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it's very clear that this Administration is emphasizing what works and that's a theme that you see over and over again.

Putting our resources with what is measurable, what is attainable, where we can actually, to use an overused verbiage, get the biggest bang for the buck. That's a constant theme and of course, malaria does very much provide that because we have proven technologies and proven plans, so I think that's something that you see very strongly in the Administration.

Secondly, and you've already references to it, as part of this maturing of our approach to tackling malaria is a growing emphasis on an integrated approach in the field and that is in part because of malaria success and the measurability of the progress that we're making, but you're hearing more and more discussion of how malaria needs to be an integral part of our approach to maternal health, for example.

So this emphasis on integration and recognizing what our approaches to malaria are achieving and what they are building that may be applicable in other realms, I think is an interesting development and quite an encouraging development for all of us who are involved in global health.

Thirdly, I have been struck by the recognition in this Administration of the growing value of medical diplomacy or health diplomacy. That term is used in a lot of different ways. Soft power, smart power, but it really gets at some of the same values.

If you go back to Secretary Clinton's Confirmation Hearings and the statement that she made and how she responded to questions, she actually singled out malaria and singled out malaria in East Africa as a way of making inroads and building stronger ties to parts of the world and to cultures where we have had challenges, diplomatically and politically, over the years.

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I think it comes through even more strongly when you take a look at President Obama's Cairo speech. In the Cairo speech, we're hearing more and more from the Administration that they view as a foundation speech of their view of the world and quite frankly, I think that those of us who are observers of it are just beginning to appreciate how much it does capture, I think, their approach to diplomacy in the world. If you take a look at that, you will see once again, malaria is singled out and there's a reference our partnerships with the Arab world in tackling problems like malaria in Africa.

Again, I think there's a recognition of the diplomatic value of the approach that we're taking. I certainly, as Ambassador to Tanzania, saw all of that. One of the things that we were proudest of, if you take a look at the Pew Global Attitude Survey, 2007, 2008, attitudes towards Americans improved more in Tanzania than any country in the world. Quite frankly, a lot of

it was because of our global health approach and our medical diplomacy and malaria is at the heart of that.

Then finally, there's one other piece that I would add to the words of my predecessors up here on the panel and perhaps an additional element that we need to focus on as we take a look at those maps and the tools going forward. I think sometimes in the West we are guilty of assumptions, of assuming things in Africa that may not hold true in every place.

It is extraordinarily important that we get out, as Tim has referred to, the commodity. When we're without the commodities, say what you will, we don't get there, we can't get there. But we also have to do, I believe, a better job in our messaging, in our education. If you don't get out, particularly to the far reaches of many of these countries, countries like Tanzania, with a clear message that can pierce through assumptions and a fatalism that has built up over centuries, you won't be successful.

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For too long in too many places in Africa, malaria was a given. You simply had many children knowing that a third, a half were going to die and very likely would be from malaria. So when people, particularly Westerners, outsiders talked to you about taking on malaria, you sort of said, well you know, it is what it is. Part of, of course, what we have to do is say, no, no, malaria is preventable, malaria is treatable. We can do this. We can actually conquer malaria deaths.

When I taught school in Kenya, in Western Kenya in that little village, my students were absolutely convinced you got malaria from rain. You can understand. We thought it came from bad air, so who are we. But unless you can pierce through and have clear messaging about the steps that any family can take and local medical leaders can take, we won't get there.

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So that is something that I know our organization, Malaria No More, is very much on our minds what we're trying to work on, but that educational effort I think must be a key part of what we do going forward. Again, just quickly in conclusion, I think we're at an amazingly exciting time, a time of optimism in the battle against malaria.

We have come an extraordinary way. We have a long way to go. We cannot lose our focus and we certainly can't let up. If we do, we will regret it. But I think we're very much in place, thanks to the previous Administrations, as well as the approach we have seen outlined from this Administration. The tools are there and there's no doubt in my mind that we can get to those maps that you've seen from Sir Richard. Thank you. [Applause]

NATASHA BILIMORIA: Thanks. Thanks, Mark. Let me also add my voice to the thank yous, to Jen and

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the Kaiser Family Foundation and all of you for being here.

I will try not to repeat what the speakers before me have said, but what I'd like to do is just spend a few minutes talking about one of the, again another piece of the U.S. strategy to fight malaria which is the Global Fund to fight AIDS, TB and malaria. Currently, the Global Fund, and I think Jen or Richard may have said that really the Global Fund was sort of one of the first tools we had in this sort of movement toward malaria elimination and eradication and it is now the largest funder of malaria programs around the world.

It actually provides 60-percent of all malaria funding. It has committed $6.5 billion since its inception in 2002 to 83 countries around the world. As Jen mentioned and as other speakers have mentioned, we've seen—malaria is really a bright spot in a lot of the work that we've done and just to give a few quick

notes of those successes, we've—the Global Fund has distributed 70 million bednets around the world.

We've seen some really amazing impact stories in parts of Southern Africa, the Lubombo region for example, was one of the earlier grants of the Global Fund and we've seen malaria incidents reduced by 90-percent in those areas, which was part of a multi-country financing effort.

Someone else mentioned Rwanda, 66-percent reduction in child mortality because of the malaria programs. Zanzibar, 52-percent reduction, so we are really seeing not only the commodities going out but we are starting to see the kinds of impacts that we want to see on these larger development outcomes that we are looking for.

What is the Global Fund's malaria strategy? Well, I think it is important to particularly say that one of the founding principles of the Global Fund is a country-led approach. So, what it is doing is

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countries really come to the Global Fund to say this is what we want to do on our malaria elimination strategy or prevention strategy or treatment strategy, and the Global Fund works to fund those.

And, so while that is absolutely a fundamental principle, the Global Fund has done some things in the recent past to really move toward these goals that we have been talking about, the 2010 universal bed net coverage goal as well as the 2015 elimination goal.

And two points I would like to make about that. Last year, in their April board meeting, the board strongly urged countries to really apply for robust funding for malaria control programs and really in their round eight and round nine proposals, and what we saw in round eight was just a huge response on the part of countries.

I mean the increase in size and numbers of malaria proposals were dramatic and there were 95 proposals that were approved and that was actually 51-

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percent of the overall numbers that were approved for round eight. It was the largest malaria round ever and to point to what the Admiral said, this was really a significant partnership effort by everybody involved.

I mean, the fund was providing the funding but the countries working with partners on the ground, the U.S. government was involved, RBM was involved, and this was really, I think, an amazing showing of what can be done with the right kind of collaboration.

And a great example of this, of one of the round eight grants, was Nigeria. And while that grant is close to being signed, Nigeria actually carries about 25-percent of the burden of malaria on the African sub-continent. The Global Fund approved a very ambitious grant by the country and it is likely going to be worth hundreds of millions of dollars to control malaria and over the lifetime of the grant, which would be five years, they are estimating that they will cut malaria mortality in half. So, really country by

country, and this is just one example, but country by country the Global Fund as well as its partners together are really working hard to reduce the burden of malaria.

The second area that the Global Fund has focused on most recently is something called the affordable medicines facility. I don't want to get into a lot of details around this, but it is basically a pilot project currently that will allow for the most effective drug, ACTs, to be purchased at a reduced price. The idea here is ACTs are the most effective tool that we have to treat the disease and we need to push out things like monotherapies and counterfeit drugs and this is a way to hopefully be able to do that.

The program is in its pilot phase right now in 11 countries and the Global Fund, as well as the partners, are working together to make sure that it is working properly. It is a very new program, and of

course it is not without its challenges, but I think as everyone had said that this is really malaria's time and we need to make sure that we are doing everything we can to make sure that the tools we have are getting out there. I think this is one way of moving forward.

The last thing to just quickly talk about is how the Global Fund is working on health systems. I think everybody on this panel has talked about how malaria is actually these vertical programs that we are working on are actually going to support broader health systems and I think malaria is a perfect example of this.

When I talked about the reductions in child mortality, what we are seeing in some of these countries are because we have been able to fight malaria and kids are actually not spending time in hospitals, the systems are being strengthened so that they can be used for other purposes.

Global Fund financing, actually 35-percent of Global Fund financing, goes to health system strengthening which includes human resource training, infrastructure development and the like. And so I really think that what we have seen in the past in this development of these programs, we are starting to see movement into strengthening larger health programs in the country and therefore creating sustainable mechanisms.

And so finally, I think that as a U.S. piece of the strategy, I think the Global Fund has been incredibly complementary to the bilateral programs that the U.S. has put forth and really is the multilateral arm of the U.S. approach for malaria. While I think we have seen a huge amount of success, as everyone has said, there is a lot more to do and I think as the U.S. really works on this next phase of its strategy, we hope that the Global Fund will not only be part of its efforts to reduce malaria, but also its efforts to

increase and dramatically expand good global health.

[Applause]

JEN KATES: Thanks. And last but not least, we have David, who has sat patiently since probably 6:00 a.m. his time.

DAVID BRANDLING-BENNETT: Well, thank you very much Jen and let me thank you for inviting me to participate in such a distinguished panel. I hope everyone can hear me. And also, to thank you for allowing me to participate by video. We have pretty heavy travel responsibilities and this saves one trip for me, so I do appreciate that very much.

First of all, very briefly let me outline for you where the Gates Foundation is working in malaria and we have five initiatives in our strategy. One is on vaccines, and while we have supported an array of vaccine development, we are very pleased now to be working with the malaria vaccine initiative, which is partnering with GSK to do Phase III, large Phase III

trials of the RTSS vaccine in Africa and we are anticipating that vaccine will indeed be licensed in a few years, so in this case I think within five years is a very reasonable time. And of course, we will be looking at supporting continued work for other vaccines as well.

Another area of work for the foundation is in drugs. One of our earlier grantees is the Medicines for Malaria Venture. They are supporting development of second generation Artemisinin-based combination treatments and then eventually other drugs that will replace the Artemisinins, anticipating that it is likely that resistance will occur, indeed we know that there is some indication of resistance currently on the Thai-Cambodian border.

We are trying to contain and hopefully eliminate that resistance. This has been an area where resistance to antimalarials has happened several times in the past and if we are successful, that will

preserve the drugs we are currently using but we need to anticipate that resistance will appear and spread, so we need to invest in new drugs to replace those and indeed in drugs that will attack the malaria parasite at different stages in the life cycle that Sir Richard showed you.

A relatively new area of investment for us is in vector control. This is fundamental to malaria control and will be to elimination and eradication. We are doing two things to our innovative extra control consortium. One is to develop replacements for the insecticides that are used on nets and for indoor residual spraying that are beginning to fail because of resistance.

This is a problem, resistance by the malaria vector, the Anopheles mosquito, to insecticides goes back to the former eradication era when in a number of countries DDT failed to work because of resistance. We are expecting, in fact we know that is happening and we

will need to replace those pesticides. In addition, we would like to develop new pesticides and new tools that would have new modes of action and work better against the vectors.

An important area of work for us has been strengthening control against malaria. We initiated a grant in 2004 through PATH, a large NGO based in Seattle to undertake malaria, to strengthen malaria control efforts in Zambia. We have expanded that, working now with Ethiopia, Tanzania and other countries in East and Southern Africa.

The idea of this program is to work hand in hand with the national malaria control programs to strengthen their capacity to execute the resources that they receive from the Global Fund, PMI, the World Bank, and other sources.

Our fifth area of work is advocacy. The foundation has placed a great deal of effort and considerable resources into both bringing more

attention to malaria or what we hope is bringing more attention to malaria as well as bringing more resources, and hopefully we have contributed to what I think is a much wider awareness and a much stronger commitment to malaria that we are seeing globally these days.

The next point I would like to make is to compliment the President's Malaria Initiative, especially Admiral Ziemer, for what they have done for malaria. I think this has been a tremendous development, not just in terms of the financial resources that have been provided in the commodities but actually the leadership of PMI and Admiral Ziemer himself, and that has been particularly manifesting what he said in terms of partnership, in terms of strengthening the national malaria control programs and building on their plans. In fact, helping them to develop strong plans and then working with those plans.

And so PMI has not been what is typical of many bilateral activities a project apart or one of many projects in a country, but it has really been a true partner of national malaria control programs and I think this has been very effective and I think has been a new modality, a new approach, which we need to emulate in many other areas. So, the fact that this effort will continue, not just with more resources but with the same approach, I think is invaluable.

Finally, I would like to make a couple of comments about the area of health system strengthening. This is of course receiving as you've heard from several of the panelists more and more attention and while I think it can be positive, it could be potentially damaging or even destructive if we don't approach health system strengthening in the correct way.

I should emphasize that malaria is no longer the type of vertical separate program that it was

during the eradication era. When you go to districts and communities, you don't find malariologists. You don't find that there are people who are doing exclusively malaria. Malaria services, whether they are treatment or prevention, are all delivered by the health facilities personnel in health posts and health centers. They are delivered by community health workers in communities who have other responsibilities. It is only at the central level that you will find people who are dedicating their time to malaria and of course that is necessary.

It is necessary to have a strong national central malaria program to provide support to the provinces, regions, and the districts and in all African countries and in many other parts of the world there is the equivalent of the district health management teams, and activities are actually planned and executed by people at the district level who have

multiple responsibilities and are not just doing malaria.

And I think it is important to understand that because many people who talk about health system strengthening actually think that can be done or should be done without an emphasis on specific programs whether those are malaria, expanded program on immunization or TB.

In fact I would relate to you an experience quite extraordinary for me that I had talking with a high level individual from a bilateral agency in an African country who told me when we approached him about our idea of helping to strengthen national malaria control programs that no, you could not do that, that by having goals specific for malaria, that would detract from trying to address the issue of health systems weakness and inadequate resources.

And frankly I was stunned because health personnel don't work in a vacuum. They have to work

with specific programs, whatever those are, and the idea that you can somehow do things without having specific tasks, without having the tools by which you are going to actually improve people's lives is just unrealistic. So I hope that the returning emphasis on health system strengthening will recognize that this is really an effort which requires integration and not the isolation of health systems.

So, again, I appreciate being able to participate in this panel and look forward to hearing from the audience. [Applause]

JEN KATES: Thanks very much. I'm very glad the technology worked. Keep up the reputations. Before we get to your questions, we are going to have a little discussion here and I am going to ask the first question and open it up to folks. I really wanted to pick up on David's last point about the concept of health systems because something that Admiral Ziemer

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said in the beginning about we are beyond slogans and words that don't really mean anything in malaria.

I also would share that concern about health systems as being right now a term that is used and not clearly defined and with the increased emphasis on health systems that rightly should be there, I think malaria from what we have heard from everybody, serves as a really concrete example of the, there is no fast dichotomy here between health systems and malaria are vertical and horizontal.

So I wonder if anyone wants to comment more on that and particularly as the U.S. develops the strategy how can that better be communicated to policy makers, particularly on the hill, that are including language around health systems in legislation.

REAR ADM. TIM ZIEMER: Let me just make a comment then I will defer to the public health experts perhaps. But I just want to punctuate what David just said. The goal is not to design a perfect system

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because we will get it wrong. Okay? And the goal here is not an erector set on how we are going to get things done in Africa or Asia or South America, but it is how do we in fact achieve our goal? Now that is a no-brainer. We all know that.

My concern as we have these very important and necessary discussions and workshops on how to do health systems strengthening, it is all about capacity and sustainment and I would suggest that while we are doing that, and we must, and Natasha mentioned it is a clear deliverable of the Global Fund, we at the same time need to stay in the trenches and work on integration, leveraging, improved partnerships and then work to complement the work done in the field and then as we work there and benefit each other laterally, then we can migrate up.

If we are not careful, we are going to spend a lot of money and time in designing this system that isn't going to work and it will let us off the hook for

saving lives and improving health where it is needed the most.

SIR RICHARD FEACHEM: Well, just to reinforce what is being said, I completely agree with David's comment and with Tim's comment that it is not a choice between malaria or some other focus program and health systems. We need the focus programs but we also need health system capacity to be strengthened.

I think the way to look at it is we are strengthening health systems capacity in order to do specific things. We are not strengthening it as a goal in itself. We are strengthening it to deliver particular outcomes and I think if we can stay true to that message it will put us down the right road.

In doing so, individual countries, not us in Washington, have to develop a vision for what kind of health system it is that they are strengthening towards and that is a missing piece in many countries. Many of you will have seen the report of the task force on

innovative financing for health systems, the task force shared by Gordon Brown and Robert Zoellick, which was released last week and comes to the G8 in July.

And, interestingly in the report of that task force, the point is made that countries need to think through what kind of a health system it is they are building towards. Those are individual decisions for them to make but within that is the whole question of the role of what that report calls NSAs. NSAs are non-state actors.

That is northern European code for the private sector. NSAs, non-state actors, those who are not government. They can be faith based. They can be NGO. They can be truly private sector and it is an important discussion getting underway now in some developing countries and needing to get underway in all countries of what is the pluralism within the system that we are trying to strengthen? But always tying it back to the purpose of the system is to deliver specific outcomes

against specific challenges and malaria is one important one within that mix.

NATASHA BILIMORIA: And I would really echo what Richard said, I think that this issue of what we have seen, we have had vertical programs for the last six and seven years and we have seen a dramatic expansion of these health systems and I think unfortunately there has been sort of an argument about is one taking away from the other? And I think what we are seeing is exactly right.

We had to build the systems in order to get the outcomes that we needed on those diseases and I think when you talk about how do we explain that to those in congress and others that are making decisions, I think the proof is in the results that we are seeing, and so what we need to do is continue doing what we are doing, building on the successes while at the same time, we have also learned a lot as we have done this.

And so, it is building on the disease programs but also looking at what are the needs of the broader systems and also being able to fund and support those as well, so I don't think it is an either/or and I think that is what everybody is saying. It is really and now we have the opportunity to really integrate all this. I think what the Obama Administration is looking to do in global health initiative is do exactly that, is looking at our successes and then how do we bring up all the other things that we need to do to that point.

MARK GREEN: And to also put an exclamation point on an additional finer point, two aspects to it, I think that building on what Tim Ziemer said about keeping our eye on the ball, that is extraordinarily important in the African context because as these programs continue to grow and to develop. We are asking things of our African partners and they are making commitments and they are making changes and reforms and doing things and if there is ever the sense

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that we are losing our focus or our commitment or our resolve, it will be a terrible development in a lot of ways and I think it would be a significant problem.

The other part, and we actually had a brief discussion just outside before we came on, talking about people having an appreciation back here about how the landscape has changed as a result of PMI, and the Global Fund, and PEPFAR and the reauthorization.

Not so long ago, I was in a panel discussion about someone who had just visited the country I served in Tanzania and was talking about some of the disparity in funding and pointing out that we were spending currently a rather modest sum on education programs but we were spending all of this money on, particularly on HIV, and what I reminded them of is those numbers were accurate that they were citing but without context.

If you go back just four years, what the commitments that have been made through this administration and the previous administration through

PEPFAR, through PMI, through the Global Fund, has exponentially increased our involvement, and our assistance, and our partnership in Africa so we don't have everything right.

I mean, clearly programs need to constantly evolve and fine tune them and build on them and make them more flexible and do what we can, but the landscape has changed so much as a result of these programs, it is something that we should be very proud of and seek to build on them and again the buzzword being integration, absolutely, but we can't ignore how far we have come. It really is a remarkable thing.

JEN KATES: I have a few more questions but I think we will go to your questions and I can throw mine in if they don't come up, so there are mics. We will take three questions and then turn it around to the panelists.

JILL GAY: Hi, Jill Gay [, consultant, Open Society Institute, and my question is there are over a

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million women living with HIV annually who get malaria, has there been progress on this topic? We know that there have been issues in terms of interactions between antiretroviral drugs, in terms of intermittent prevention presumptive treatment, what progress has been made?

BOB ROEHR: Bob Roehr [, BMJ. In North America, malaria was essentially eradicated because of, primarily because of two factors, one the climate where there was a hard frost which helps kill mosquitoes and the other was very, very widespread use of DDT. What is going to be required in the heartland of this epidemic, in tropical areas, to hope to be able to eradicate the disease and not simply contain it or control it?

JEAN DUFF: Thanks to an excellent panel. Jean Duff, Center for Interfaith Action and Global Poverty. In view of the unprecedented scale-up of the faith community as a non-state actor in these national

campaigns, I would like to put to the panel the question of their thoughts on the optimization of the capacity of the faith community as a key player and as an alternative delivery system, especially in view of the fact that 40-percent or so of care is delivered in many sub-Saharan African countries by the faith community. Thank you.

JEN KATES: Okay thanks, three good questions. Who wants to?

SIR RICHARD FEACHEM: Well, three very good questions. I would like to just comment briefly on the second one and the third one. Our colleague from the BMJ talking about how does this get done. You made the reference to eradication, which we would now call elimination in the United States in 1952 and of course the end game was the 13 states in the lower Mississippi valley.

And it was primarily not a question of winter temperatures, it was primarily a question of DDT,

improvement of living standards, screening of verandas, treatment of infected people, a variety of things in which DDT played a major role undoubtedly.

We need to recall that some of the countries that have finished the job, that have eliminated are truly tropical countries. I can think of Singapore and Taiwan and Brunei and Mauritius, a number of other countries that have eliminated and truly tropical, humid tropical conditions.

If we look at that map that I showed you of the 39 elimination countries and the 61 control countries, for the 39 elimination countries who have set for themselves elimination goals, I think for most of them elimination is possible with today's tools. The right application of the technologies that we have today can finish the job in those 39 elimination countries. There may be a few exceptions to that but for most of them it is doable.

For the real heartland countries, the high transmission, very efficient vector countries in the humid tropics, mainly in Africa, most people believe, and I would join this consensus, that new tools are needed. That as we move forward we can reduce malaria to low levels with today's tools, but finishing the job tomorrow will require tomorrow's tools.

And that will be improvements probably across the board, improvements in drugs, improvements in insecticides, improvements in methods of surveillance and diagnosis, perhaps some breakthroughs on the vector control front, and not only the first vaccine but the second vaccine, and the third vaccine, and the fourth vaccine, generations of vaccines with different modes of action and improved efficacies.

So I think if we look at a world in 2060 which is malaria free, I won't see that world but some people in this room may do, it will be, if that is where we are in 2060, malaria free world, it will be because new

tools and technologies are brought to the task through the research that is ongoing.

Very quickly on the question about the faith community, my view and my experience in a number of countries around the world is that the faith community can, should, and is beginning to play a really central role in malaria work in communities.

There are countries that I am familiar with where the capacity of the faith community at the village level, at the community level, is much stronger than anyone else's, the ability to talk in a trusted way with every family, with every woman in every family, to be embedded in the community to have access and to have trust.

This is something faith communities typically have and governments often have much less of and I think faith communities mobilize as they increasingly are to for instance not just deliver nets but ensure their proper use in every family and their replacement

when they need to be replaced, to educate about identifying fevers and seeking the right diagnosis and treatment, to work with the community on acceptance of indoor residual spraying, which sometimes is unfavorably regarded by the community and other measures.

I think faith based communities can play a very large role and we are beginning to see that. We have some good examples and I am sure you have more than I am aware of, of where that is beginning to happen.

JEN KATES: One thing, David, raise your hand if you want to jump in. Tim is going to go first.

REAR ADM. TIM ZIEMER: Let me just make a comment on all three. First on the IRS as an effective intervention tool, it is. It is one of the tools and we have seen it scaled up very effectively and aggressively in Africa since PMI has introduced it or

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reintroduced it or affirmed it in the 15 countries. DDT is one of 12 approved insecticides by WHO.

DDT is currently being used in four countries. It is a choice by the country on whether or not they use it. But, most of the countries are using a non-DDT insecticide. I think as we look at that, there are three points that we have got to consider. Number one, let's preserve the use of insecticides which includes DDT for live saving intervention.

Number two, let's watch the resistance component so that this effective tool will be effective, and three let's continue to look for alternatives and address the environmental stewardship challenge that we have got a balance.

So, we are very pleased that WHO has come out and clearly reaffirmed the use of DDT as an effective insecticide. They are different, more stringent environmental compliance requirements there. In our PMI program, we are starting from scratch in many

countries where we are developing the environmental plans, we are ordering it, we are storing it, we are training the folks, we are cleaning up and then the retrograde of the satchels of all the insecticide satchels are burned or disposed of properly so that whole regimen, the use of IRS is really enhancing the malaria control programs.

Quickly on Jean's comment on the integration of faith-based networks, we are totally committed to that because we look at the faith-based organizations and networks as a key component of community engagement but one of the points that I want to make is let's not mistake the fact that a faith based network or an organization is just that. It is not a network, folks.

It is a community. It is a community of people who live there and they are going to be there long after we come and go. And so when we address the opportunity to move stuff but more importantly to change the behavior of people in the community, we must

engage the networks that exist and as we know many of those are faith-based networks, not only in Africa but around the world, so we are totally committed to moving forward and making progress then.

In terms of where the intersection is on maternal health, and HIV and AIDS, and malaria, I would say this again has been elevated by the Obama Administration. You look at the global health initiative. Maternal health is now becoming a key underlying principle by which PEPFAR, TB, malaria, neglected tropical diseases, will all come and integrating our programs and our funding to support in a proper way at the country level is a target.

Mark Dybul and I wrote up an agreement that in every program planned in all the countries, PEPFAR and PMI would look at integration points. We didn't do that just with PEPFAR. We also did it with the Peace Corp and a lot of our private business partners and so

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I would say that your point is on the table and we are addressing it at many different levels.

DAVID BRANDLING-BENNETT: Just very quickly, and Jill Gay's question about HIV and malaria in pregnant women, of course the most important thing is to reduce malaria to the greatest extent possible and that reduces the risk for all HIV positive people.

We have a grant to, what is called the Malaria in Pregnancy Consortium and that is a specific issue they are looking at is the risk of malaria during HIV and how that can be maximally reduced in HIV positive women and what replacement drugs we can use with failure of sulfadoxine-pyrimethamine, which is currently the drug used for intermittent preventive treatment in pregnancy and they are beginning to look specifically at HIV positive women with those studies.

In terms of Jean's question about faith-based communities, I would point out that in a number of countries in Eastern and Southern African there is

actually a well established relationship between national programs and faith based communities with formal organizations such as the Churches Health Association of Zambia and the Churches Health Association of Malawi, which actually, as you indicated, provide about 30-percent of health services.

And they are active members of the in country partnership that is addressing malaria so this is certainly something that is active. I think in some cases it can be emulated. We need to reach out to other faith-based communities including the Muslim communities to see if we can engage them much more.

MARK GREEN: To build on that comment, I think it is important when we talk about partnering with the faith-based community, it obviously is not monolithic. It is not a one size fits all model. It is instead, as we have been talking about, going country by country and seeing what works, seeing what is there in the landscape.

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There are certainly parts of this world, parts where I have lived where the concept of faith-based versus non-faith-based or secular organizations makes no sense to them because the faith based community is the community and the distinction of church and state we may talk about here is a meaningless distinction in certain parts of the world.

So if you are going to be effective in the field, you have to work with those effective faith organizations, but also, as Richard said, and one of the points that I was trying to make about this idea of piercing through the fatalism that has been there for a long time.

One of the best possible ways to do it is to work with the faith community because the faith community, leaders from the faith community, are welcome in homes and they are a trusted source of information. And so getting this idea out there that you don't have to live with malaria, that you can take

these simple steps, that these tools are available to you, oftentimes the faith community will be the lynchpin of those kinds of awareness and messaging efforts.

NATASHA BILIMORIA: Just to echo that point, I think in the same way that we have all talked about how now is the time for malaria, I think now is also the time for faith-based organizations in this role and I think Jean herself is working on a very unique and innovative program in Nigeria that is working with Christian and Moslem leaders to actually do more on malaria control in Africa and I think that we have amazing examples and I think that there is more and more opportunity to be doing more as we move forward.

JEN KATES: I think we have time for one more round and we will try to get to all of them but I see people are needing to get on.

MARY CARNELL: Thank you and thank you all. I am Mary Carnell from JSI and representing USAIDS MCHIP

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program, the Maternal & Child Health Integrated Program, and I would like to thank you all for and certainly to the Kaiser Foundation for bringing together this kind of panel that spans science and diplomacy and action and research and new diagnostics. I think it is an incredible opportunity for all of us. I think it is a time for all of us, the Obama Administration, it is a time for all of us to be Americans.

I would like to ask a question that is rooted in, this is a malaria audience, but I am also a child health specialist, and I am seeing malaria improving, control of malaria, recent RCT, the Boston University was doing in Zambia, is showing new evidence that about 50-percent with the new diagnostics, the rapid diagnostic test, 50-percent of the community malaria is now negative, the fevers are negative, so they are coming up not having malaria, dilemma now at the community level, what do we do?

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I would like to address the low hanging fruit of pneumonia. It seems that we are bringing down, we are spending about .50 cents for the RDT. We are spending another $2 or so, $2.50, for the Coartem. I am coming from working a long time in Ethiopia. We have the health extension worker there who only has Paracetamol and Coartem in her basket.

She doesn't have any pneumonia treatment and that is because of government policy. We know it is about .08 cents if you use Cotrimoxazole, .15 cents if you use Amoxicillin. I would like to know if there is any way – I would also like to first salute the PMI. I know Admiral Ziemer that you have embraced community case management recently for PMI to support getting out there and doing both and also doing diarrhea so the three biggest killers of children under five are being addressed.

JEN KATES: Just so we can get to other questions –

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MARY CARNELL: Is the Gates Foundation, is the Global Fund willing or able to use the clout of malaria, the malaria funds that you have that pneumonia lacks to go in and simultaneously address both and not start a community program for malaria that doesn't have a pneumonia component and take this moral dilemma off the health worker.

JEN KATES: Thanks and please keep them short just because we have not a lot of time left. We are out of time.

SAMBI TWELI: Sambi Tweli [sp?], Tulane University, actually my question almost related to what the previous one was saying but more on the lab, should we use the malaria program fund to just focus on by RDT or do you focus on strengthening the laboratory element of the health system so that you can identify what is causing fever in the children?

JEN KATES: Last question.

CAROL HOOKS: Hi, I am Carol Hooks from the World Bank, my question is about the U.S. role in advocacy, we have a big funding gap for malaria even though we are making progress and I am wondering what our role is in the U.S. in getting other countries and other organizations to also step up?

REAR ADM. TIM ZIEMER: Let me just jump on this, first of all Mary we are totally behind what you just said in PMI and one of the deliverables of the way PMI is organized in USAID is all of my PMI experts are also working with the other health initiatives so we are cross sectional, looking at diarrhea and looking at case management and then how we can leverage each other.

So, it is a natural and I actually see that now we are at a position with the funding and the improvement, some of the trends coming in, we are able to drive this whole question about how do we do more effective case management diagnosis so we treat

something when it is not malaria? We are committed to that.

Getting back to your question, I think we are there. We are now improving and becoming more sophisticated in our exchanges across the health sectors and then on the advocacy piece, I would point to Malaria No More and Friends of the Global Fund for being, and the Gates Foundation, for being really the significant advocates in where we were and where we are and where we must go.

It is has really been the private sector and the other organizations that have really I think pulled us off top dead center and they have allowed us to take credit for a lot of what you have heard today, but without what we are seeing from Malaria No More, the UN Foundation, Friends from the Global Fight, we wouldn't have an advocacy program, so I just want to acknowledge them and then continue to applaud them and look at ways at how we can support each other moving forward.

Advocacy is huge. It is part of how do we keep leadership engaged. If we lose the commitment of leadership at the national and international level, then we are going to see the traction start waning and I put advocacy right up there as one of the most significant short-term and long-term goals to keep this movement moving.

JEN KATES: I saw David's hand go up so please, quick.

DAVID BRANDLING-BENNETT: Yes, just very briefly, we have strategic program teams and pneumonia and diarrheal teams work closely with the malaria team. We actually are trying to develop a diagnostic that could be used in the field point of care to actually distinguish malaria and pneumonia, identify children who are malaria negative but pneumonia positive, who would then obviously we would want to treat them with antibiotics.

The use of antibiotics by community personnel has been a bit of a controversial issue but certainly there is plenty of evidence that providing adequate antibiotics promptly that children who have pneumonia if you can make that diagnosis reliably is highly effective and saves a lot of lives.

NATASHA BILIMORIA: And just to build on what Tim just mentioned about U.S. advocacy, I think the U.S. has actually been the global leader on global health and I think that has really brought the rest of the world forward and I think in the little microcosm that is the Global Fund that is sort of the epitome of it.

The way resource mobilization works in the Global Fund is for every $1 the U.S. puts in, the rest of the world puts in $2 and I think that leadership within the Global Fund has really led to the growth that we have seen in Global Fund funding and so Tim I appreciate your compliment on us and the world of our

fellow advocates but I think our job now is to really ensure that continued leadership happens at the Global Fund for bilateral programs so that we can continue motivating and pushing the rest of the world to do more as well.

JEN KATES: We will let Richard and Mark say maybe one other thing and I think some of us will be able to stay up for a little while.

SIR RICHARD FEACHEM: Well, just one additional point, agreeing with what is being said very much, we have spoken about governments and their role, we have spoken about faith-based, we have spoken about NGOs, we haven't actually mentioned this morning the corporate sector and I just want to say a word about that and I am noticing Dr. Steven Phillips of EXXON Mobil in the audience and I just want to make a very quick comment about the role of major corporations.

Major corporations and I think EXXON Mobile is an outstanding example of this and there are others,

have and I think increasingly can play an advocacy role, both in countries like the United States in terms of what we all should be doing to support these goals, but also very much in the malaria endemic countries as well where major corporations have access to government at the senior level and can put forward priorities and needs and can advocate in some cases very effectively. Major corporations can also and are doing, again EXXON Mobile and others as major examples, put significant cash behind the efforts.

Thirdly, in an increasing number of places, corporations are actually becoming malaria controlled and elimination agents around their centers of operation in various countries. I think it was Natasha earlier referred to the Lubombo Spatial Development Initiative, the Swaziland, Mozambique, South African highly successful malaria control program, the origins of that were Mozal, the aluminum company in Southern Mozambique, is how all that got started.

And we now have examples of oil companies, other major companies, Anglo Gold in Ghana for example, who are doing very good work in not only protecting their work force and the families of their work force, but also creating expanding concentric circles of malaria freedom around their sites of operation, bringing value to those communities, but also demonstrating powerfully what can be done and showing the power of well managed action against malaria.

So I think let's keep the major corporations very much in the family as they are and be conscious of the contribution that they can make as well.

MARK GREEN: In the advocacy community, organizations like Malaria No More and Friends work very closely together. We are talking almost every day because we recognize that we can't get to where we want to be unless the Global Fund succeeds. I mean, it's a very close relationship.

Secondly, let's remember what advocacy is and I think sometimes people don't get involved in advocacy because they think there is some special methodology. It's telling stories. It is simply learning more about the successes that we are seeing from our friends at PMI, what they have seen in the field, and telling that story back home.

The American people in particular are extraordinarily generous. They don't want to see their money going to ineffective programs or going in pockets as long as they know that the money is being well spent and that there are gains to be shown for what they are investing, they are there. It is quite a remarkable thing.

So I think it is incumbent as I look at the audience here, there are so many experts. It is incumbent on all of us, every single person in this audience, to become an advocate, to tell the story about what you have seen, what you have learned, what

you have read, what you have heard, and get that story out there. If you do that, that enables us to help build on this and again we will get to where we talked about early on.

JEN KATES: I think that is a great word to end, or tone to end on and judging from the amount of people that stayed, I really think we should give a big round to our panelists because this is a great discussion and thanks David for hanging in there. This discussion will be webcast. It will be on our website for those of you who want to see it again or share it with colleagues; thanks to all of you for coming.

[END RECORDING]

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