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**39th Union World Conference on Lung Health
HIV Care and Treatment: Scale-Up Lessons for Health
Systems Strengthening
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DR. BADARASOM: Good morning, ladies and gentlemen, to this very early morning session but a very, very important session. My name, today I'm the chairperson for this session and my name is Dr. Badarasom and I'm the advisor to the assistant director for health system and service in WHO and I'm leading WHO activities on health systems and global health initiatives and interaction, which is very, very much relevant to this session that will be looking at the interaction, the synergies, possible synergies between health systems and global health initiative.

Everybody knows that there has been over the last month and years some debate on basically how mutually enforcing can be the global health initiative and health system and there is more and more evidence that global health initiatives such as the PEPFAR program, the global fund program, the Wood Mark Program. The Wood Mark Program can reinforce health system but also there's evidence that health systems in its classical way can be shaped in such a way that they can support global health initiatives so that they can achieve the primary goal, but also contribute to strengthening health system.

In this session today, we will be hearing several experts coming from different parts of the world but also with different background and different view showing that interaction that can exist between health system and global health initiative, so we have a session that is scheduled to

end at 10:15 so we have some time and we also have some time for the presentations to be made. Basically each presentation will be lasting 15 minutes and we have around six presentations. What I would, the way I would like to structure this session is that to allow each speaker to make his presentation or her presentation.

If there is a pressing question, we can take them, but I would allow more discussion at the end of all the sessions so that we can interact with each other. And I think it will be easier because we are not very many in this room, so I will not delay any further the core of this session, which is those very, very interesting presentation with very much original data.

And I will start by calling upon Caroline Ryan from PEPFAR to come and make the first presentation that is entitled PEPFAR Contribution to Health Systems Strengthening With the Context of the HIV Treatment. So, Caroline you have the floor.

CAROLINE RYAN: Thank you very much, Dr. Sam and thank you to the organizers for the opportunity to speak this morning. Alright, so why is TB HIV a health systems issue? Certainly there are many challenges in terms of what are the facilities available, the manpower available, laboratory monitoring and evaluation, communications and collaborations between national TB programs and national AIDS control programs, and that as always it's a question of resources so I'm going to speak on several of these issues.

So for those of you who are not aware of what PEPFAR is, let me just tell you that initially when it was announced by President Bush in the state of the union address in 2003, it was envisioned as a five year, \$15 billion comprehensive approach to fighting HIV and AIDS around the world and that was to be a partnership with international, national and local leaders worldwide and it was to be an integrated program of prevention, treatment, and care. By the end of 2008, we will have invested about \$18.8 billion so we did get appropriated more money than the original authorization.

Now, luckily for us, on July 30, 2008, President Bush did sign into a law the reauthorization of PEPFAR and it's a \$48 billion project but now to fight three diseases, \$39 billion for HIV which is for PEPFAR and the Global Fund, \$4 billion for bilateral programs to fight tuberculosis, and \$5 billion for the malaria initiative. I do want to point out something. This is an authorization. This is not an appropriation so it is not clear how much money in this economic environment will actually be appropriated.

Many people think of PEPFAR as a 15 focus countries but actually it's over 162 programs and you can see the focus countries in red but the entire programs including the bilateral which are in blue is on this worldwide map. Just give you a few results through March of 2008, there's been PMTCT programs for women during 12.7 million pregnancies, antiretroviral prophylaxis for women for more than a million

pregnancies, prevention of an estimated 194,000 infant infections and antiretroviral treatment for 1.64 million people and we anticipate that we will reach the two million target mark by the end of the program.

We only do our care reporting on an annual basis but as of September 30th there was care for about 6.6 million people including 2.7 orphans and 33 million counseling and testing sessions.

What have been the investments to date in TB? TB HIV is a priority program for PEPFAR and the support for these programs has increased almost 700-percent during the four years. There was \$18.8 million in 2005 and in 2008 the investments in specific TB HIV programs was \$169 million.

But, we do actually support TB HIV throughout all our other programs as well, not just TB HIV. We try to have it integrated across all the technical areas and as of September 2007 the numbers are being worked out with WHO as well but approximately 367 TB HIV coinfecting people were served in the 15 focus countries.

Now one of the keystones of PEPFAR has been building capacity, and especially local capacity, and it's estimated that the network development, human resources, and local organization capacity development training in 2007, there were about \$640 million allocated for those kinds of activities. That means that we partnered in 2008 with 2,217 local

organizations which was up from 2004 which means that 87-percent of our partners are actually local partners.

We have provided \$321 million to support treating activities and [inaudible] will be \$309, and a preliminary evaluation of the Rwandan Ministry of Health found that 40-percent of PEPFAR resources in country were devoted to general health systems.

We have also partnered with WHO and UNAIDS to develop and launch the first ever normative guidance for task shifting to assist countries to expand the work force and in April of 2008 the U.S. and the U.K. announced a partnership between PEPFAR and DFID and the Ministries of Health of Ethiopia, Kenya, Mozambique, and Zambia to increase the number of health care workers that provide essential services that include HIV AIDS and also interventions to reduce maternal mortality.

In 2008, PEPFAR supported 2.7 million training encounters and salaries for over 110,000 health care workers. In the 2009 COPS, country operational plans, there is now the opportunity to use \$6 million, a 3-percent of your total PEPFAR country budget to support long term pre-service training of new health professionals and it's worth noting that as one of the earmarks in the new legislation, PEPFAR is required to support the training of 140,000 new health care workers.

We are also working too on certain language into contracts and grant agreements with large international partners that requires them to turn over programs to local

partners that will further support indigenous capacity and now through what we are calling partnership compacts which will now be the main vehicle for support in the next phase of PEPFAR, we are working with host government, civil society and other international partners to strengthen both the systems capacity and implement policy changes such as task shifting that will help the health work force capacity.

Now what have been some of the impact outcomes of this kind of investment? We have noticed in the Secure the Future Program that the HIV mortality has been reduced from 25-percent to 13-percent and a reduction in hospital bed occupancy from 93-percent to 52-percent between 2004 and 2006. In Uganda, in a rural setting in Eastern Uganda, with ART and clean water being delivered by lay health care workers, there has been a 95-percent reduction in HIV AIDS mortality, an 81-percent in non-HIV infant mortality.

And a 93-percent reduction in orphanhood, and this is a busy slide but the take home message is that this is a study that Family Health International did at 30 primary health care centers in Rwanda and examined 22 non-health indicators, non-HIV health indicators, and what was the impact of the HIV program on these other indicators, and only one indicator declined while there was an improvement, a significant improvement in 15 of the other indicators, such as new family planning users, returning family planning users, and C-visits, and syphilis screening. Also, in the same sites they found

that those programs that had ART therapy for more than two months had an average decrease in new hospitalizations of about 21-percent.

In a study done by John Blanford and colleagues at CDC of 33 supported PEPFAR sites, they provide antiretroviral therapy, and I'll show you some more data on this, PEPFAR supported 92-percent of the system strengthening in the typical facility. This just gives you an idea of the type of renovations that occur at the primary health care level and also supporting new facilities.

So let me get back to John's study. This was a public health evaluation that looked at the estimates of cost for comprehensive HIV treatment. It was done by John Blanford from CDC in collaboration with Macro International and U.S.A.I.D. and they looked at a total of HIV treatment facilities across five countries, Nigeria, Uganda, Ethiopia, Botswana, and Viet Nam. And what they were trying to do is estimate the annual per person cost of providing comprehensive HIV treatment to adults and pediatric patients.

They also wanted to understand what are the factors that influence overall and component costs and how these factors vary across countries and facilities and also by program maturity. And what this shows you is that the medium percentage of HIV total cost supported by U.S. government, so within these facilities, overall 86-percent of overall costs for HIV treatment were funded through this program.

So, PEPFAR supported the major part of the investments, so what were those investments? They were laboratory and other equipment, facility renovations and new infrastructure, inservice training of health care. There also was these costs then were front loaded so they represented initially the largest share of a per patient cost in the early part of our program, but what you will see now is that the per patient costs rapidly declined as you have up front investments and also as you get economies of scale with patient volume.

So, in the green line are the pre-ART patients. And in the yellow line are the established ART patients. And the blue line are new ART patients, and what you can see over time is the decline per patient cost as the program matures. And as I said that's a function of the up front costs for training and equipment and also the economy scales as the programs mature.

Let me just show you where those costs are. So, you can see, it's a little bit hard to see but in the bottom part of the, in yellow you'll see something that says equipment and infrastructure 28-percent and training 5-percent so about a third of the costs in the first six months of the program was spent on infrastructure and training. That goes down to 9-percent as you have more mature programs and the bulk of the program costs now are drugs.

So, during this period of time, the mean of 76-percent of all investments were for building infrastructure, equipment

and training at the site. This just gives you an idea of what percentage of the different activities were funded.

Now I am not going to say too much about SCMS or supply chain management because I believe we have another speaker and I've got another part of the health system strengthening has been the establishment of both logistics and procurement programs, which also have regional distribution centers and we will be hearing more about that.

Now what are some of the strategies to address the human resources for health shortages? One has been incentives to attract and train health care workers. That includes a variety of things such as in-service training, housing, development opportunities, subsidy fees for school, hardship pay, transportation, utilization of under employed and retired health care workers such as expanded hiring, contracting, inservice training, and then scaling up and adjusting the mix of pre-service training.

Let me just give you a few examples. In Kenya, we have been supporting the government's emergency hiring plan which trains employees, retired physicians, nurses, and other health care workers for the private sector and so far 830 were deployed in 2007.

In Zambia, there is a rural retention scheme that provides incentives such as hardship allowances, housing, transportation, educational stipends for children of physicians that serve in rural areas. In Mozambique through contracting

mechanisms, newly qualified health care workers are hired on a short time basis to allow the Ministry of Health until they can bring them into the public service.

And then in Tanzania there's a program called "Retired but not yet Tired" program which brings back retired health care workers to work in the health force. There's also building capacity through developing new cadres of health care workers.

In South Africa, there is now curriculum and training for new cadre of clinical officers. In Nigeria, they are looking to train nurses to provide ART and PMCT in the home. In Ethiopia, there's a very interesting program that supports 30,000 new community health care workers and 5,000 clinical officers and so far 18,000 of these community health care workers have been trained and deployed and in Viet Nam they are working to develop addiction specialists and case managers that will support medication assisted therapy for intravenous drug users.

One of the keys I think has been task shifting and looking at nurse based management for HIV care and ART. That is being shifting services from doctors to nurses and whole different categories of nurses, whether it's nurse clinicians, professional nurses, or nursing assistants. It means intensified theoretical and onsite training as well as now nurse oriented guides and tools.

This is a study that's done by Joyce Chung that looks at what before there was task shifting in Rwanda and after task

shifting in Rwanda. There are about 150 clinicians in Rwanda and what they found was that 77-percent of their time was on managing antiretroviral and other care for HIV positive patients. When they were able to do task shifting, it only took 17 full time physicians now to be able to supply the same type of care and that freed up physicians to do more of the speciality care and difficult cases.

What has been the outcome of nurses task shifting to ART there had been some concerns that maybe they would not perform as well but actually they are performing very well. In a study that was done by Shimbushio that looked to see how well the nurses did, 487 nurses, and what they found was that none of the patients started in ART were not eligible and only 4.2-percent who did not start were eligible so they should have had a control group of doctors but they might not have performed as well, but this is a very well performing group.

So, task shifting is part of the response to the crisis of the health care work force and it is part of a long term solution but it's a zero sum game so there's a cost to shifting responsibilities and providers to other providers and all of these health care workers are still overstretched.

Supervision and mentoring is essential, and there's a need for more pre-service training to find more health care workers but there is a caution here. Sometimes I think that we say task shifting the solution to all of our health care force programs and task shifting alone cannot solve all these

problems, it's going to be pre-service training and more resources.

There also is a need to make sure that we protect those health care workers that we have, so there is a need for improving infection control in high HIV TB settings and making sure that there's masks for all staff and state of the art ventilation in the facilities.

So what are the opportunities for HIV TB health system strengthening? First, establishment of an HR task force, embracing task shifting as a key national policy for nurses and lay counselors, developing retention schemes for all health staff including funding of lay counselors, considering accreditation for lay counselors, creating wellness centers for health workers, developing occupational safety plan to protect health care staff and other patients, leveraging health facilities and community workers to do both HIV and TB activities.

Right now we have community workers for TB and community workers for HIV. We should try to leverage and integrate these programs, leveraging lab facilities to improve TB and HIV diagnostics including the transportation of specimens and then there's a need to engage the community. There needs to be meaningful involvement of the affected communities at all levels including decision making levels. Thank you very much. [Applause]

DR. BADARASOM: Thank you very much, Caroline, for that very, very clear presentation and also we congratulate you and PEPFAR for the good data that you are now showing, very urgent data ensuring probably enlightening the debate about the possible positive impact of global health initiative on health systems.

Unless there is a very, very pressing question that one or two people would like to ask to Caroline, I would like then to move to the next presentation, so since I am not hearing, seeing any hand waving over there, I would like to introduce the next presentation.

In her presentation, Caroline mentioned the WHO and PEPFAR has launched new sets of policy guidelines that look at task shifting and I think people have been looking, she has been giving very good data about task shifting, how it has been effective in leveraging doctors to of course make, saving time of doctors to deal with other conditions and HIV.

In this room we have Wesler Lambert. Wesler Lambert is from Haiti and he has been very much involved in generating such evidence and he has real country experience on what task shifting is in Haiti so at this juncture, I will just give to him the floor to talk about task shifting in Haiti, so Wesler you have the floor. Can we have somebody to help? He is coming.

Wesler Lambert is working in the central plateau in Haiti with an organization called Partners in Health and

Partners in Health has been looking at community intervention, real fascinating intervention, and recently Partners in Health have benefited from grant from the Global Fund but also from grant, benefit grant, from PEPFAR, and today the work that they have been doing in Haiti is more and more courted as best practices on how a program that is designed to address TB, to address HIV, to address malaria can actually strengthen health system. I don't know what kind of data he will be presenting to us, but it's not yet already there, but Haiti is really being seen as a modern example.

Of course, when we talk about Haiti it doesn't mean that what's happening in Haiti can be just transposed, can be replicated as well so we'll have to look at your presentation, your data, in the context of your country, but there are certainly some aspects of the strategies that you have been implementing that can be adapted to other countries.

I think, today, as we are waiting for the technology to be fixed, we are now having more and more information on the real positive effect of global health initiatives such as PEPFAR on health system. And I think we have now compelling evidence, at least as far as PEPFAR is concerned, that there is positive impact of global health on health system.

I think now the question will be what are the system design, what are the health system designs that have been put in place to allow those positive synergies and that will certainly be the basis of any policy or technical guidance that

WHO or other international organizations may have to basically try to have a better and best use of those global health initiatives.

I was very, very much impressed by the 700-percent increase of scale-up of TB services within such a short period of time, very much also impressed by how task shifting has been able to use more efficiently the time of doctors.

MALE SPEAKER 1: [Inaudible] I'd like to ask Dr. Ryan a question. I thought the presentation was great so I wanted to know if [inaudible] programs that are relatively complex. How do we actually take something relatively [inaudible] the west and make it actually simple enough and standard enough so that small numbers of people [inaudible].

CAROLINE RYAN: Thanks for your question, Ruban. I think first of all the data that shows how effectively the nurses were able to determine eligibility for AR2 I found very helpful. And I really wish there was like a U.S. physician comparison because it may not be as good.

So I think we may overestimate the complexity of some of these things but I think the question really is how much can you ask one person to do, and in the context of task forcing do you over burden people? So, resources are also needed. It's not just a question of task shifting, it's additional health care workers as well.

DR. BADARASOM: Thank you, Caroline. Now, Wesler, you have the floor and we look forward to your country experience in Haiti in task shifting.

WESLER LAMBERT: Thank you, Mr. Chairman. Good morning everybody. It is my pleasure this morning to talk about the task shifting approach in PIH programs. In 2006, global WHO commission study on task shifting in several countries severely affected by the shortage of health care workers and the study was looking at the quite practice of task shifting in these countries but also looking at the outcomes of programs using task shifting and the position and attitudes of the staff and the patients, so partners in health which is a major NGO to initiate ART in world setting in Rwanda and Haiti was invited to participate.

Some facts about Partners in Health, Partners in Health is a non profit organization, working now in ten different countries in America, in the Caribbean, in Africa and Eastern Europe. Partners in Health Programs seek to deliver health care to the most in need and PIH, our Partners in Health, we see health care as a comprehensive issue that is closely associated with two socioeconomic conditions of patients and Partners for Health promote is community based programs within the context of primary health care and with collaboration with the Ministry of Health.

So, I want to show you some recent data about Haiti, about the human resources in Haiti. Haiti has eight million

people for HIV prevalence of 2.9. The HIV prevalence went down from 6-percent to 2.9 during the last ten years. Recent assessment of the health care workers in Haiti found only 2,422 doctors and 3,000 nurses. There are only 251 pharmacies and 234 technologists, but within the country there is an unequal distribution of the personnel so in the central part, for example, for 650,000 people there's only 2-percent of all the staff. There's only 70 doctors, 120 nurses, about 2,500 community health workers.

If we look back to the past, in 1998 when Partners in Health start it's HIV program in the central region of Haiti, for half million people there was only 12 doctors, two pharmacies and 15 nurses. Just imagine how it will be to scale-up ART with so limited staff, so in 2008 PIH is following more than 3,500 people on the ART in Haiti in the central region and more than 14,000 HIV patients. Now we have as I pointed out before 2,500 community health workers.

I want to mention Rwanda, because the study involved Rwanda, as well. In 2005, Partners in Health start [inaudible] in Rwanda, in partnership with the Clinton Foundation and the government of Rwanda.

We found similar situations for the human resources for health in Rwanda, but now in [inaudible] follows more than 2,000 patients on ART. They have, actually, more than 800 villages as community health workers.

So let's talk about the mapping study in Haiti. The objective was to document the clinical practice of partners in health sites and it was part of a larger comprehensive mapping by WHO [Inaudible] Institute of [Inaudible] partners including Rwanda, Ethiopia, Malawi, and Uganda.

Question is using a mix of [inaudible] and DOTs methods were administered to the health workers and 135 tasks were identified in HIV care. So, this is the tradition of distribution of HIV [inaudible] clinical care task. It shows the burden of the tasks to the doctors and less to the nurses and this is what the study found in Haiti.

There was a clear shift of tasks from doctors and nurses and mostly to community health workers. In this study, nurses reported that more than 92-percent of all tasks, all 135 tasks and community health workers, nurses and doctors perform around 40-percent of all the tasks.

So, the company had to make the largest group of community health workers, the health care member of the health care facility and as I said before, they perform more than 40-percent of all these tasks. So, they represent what we call the cornerstone of our HIV program and they make the link between the communities and the clinics.

What do we consider as community health workers? These are large variety of local people formally and informally trained on specific, to perform specific tasks. They are health agents. People are used to health agents. They can be

counselors, lab technician, pharmacy technicians and social worker assistants, and data clerks.

So using task shifting as a major strategy to respond to the human resources required in Haiti, the programs have shown good results. In evaluation of the first global fund covered in Haiti, a fund that less than 1-percent of the total co-op switched to the second line of ART, 90-percent survival at 12 months of ART and [inaudible] was less than 5-percent at 24 months. And primary evaluation of [inaudible] program in 2006 showed there's 2-percent transmission with, of HIV from mother to children.

And in Haiti, despite significant political instability in 2004 and recent floodings in 2008, not a single patient meets the ART doses. So, as a complement to the study, we serve 200 HIV patients, asking them about their confidence in the quality of care they are receiving. So, 96-percent of them reported that they were very confident about the quality of care received and 96-percent of them even said they were satisfied or very satisfied with the communication they have with the nurses.

So question remains, is this program scalable and sustainable? People always ask such questions to colleagues and working at PIH, so PIH has been in Haiti for 20 years now. This started in 1987 and they're still there.

And after request from the Minister of Health, the program was scaled up from the central region to [inaudible].

The [inaudible] region makes twice the size of the population of the central plateau. It has one million people. And the program was scaled up also from Haiti to Rwanda and from a pilot project you wonder it's been made now as a national model and it was also scale-up to [inaudible] Malawi, and Boston.

So, that shift in two committee focus is just one of many strategic strategies to address the human resources crisis and it requires more significant financial effort and salaries for more staff.

Community health workers are the key elements of PIH [inaudible] and they are seen as former members of the health systems. People living with HIV AIDS are actively recruited and priority is given to this group every time they meet the requirements to this specific position and it's very important to mention that using such approach, PIH has real local capacity and create new jobs.

So, our experience led us to consider several key issues when it comes to task shifting and to care, in general. Safety and quality of care, they should be of far more importance. Supervision, training, motivations should be seen as essential [inaudible] and they help also ensure the quality and safety.

If you are really serious about [inaudible] the health system, the Minister of Health should be at the central, should play an essential role, a key role. PIH intervention or implemented in close collaboration with the Minister of Health

in any country where we work and family care should be free and encouraged to be the entry point for further care.

Task shifting cannot be successful without the function of [inaudible] system and free care should be part of the strategies if we really want to serve the poorest.

As we push for more use of this task shifting as a means to respond to the human resources crisis in many countries affected by the health care work force shortage, we need to anticipate increase in the service use. Task shifting should not be seen as a cost cutting strategy as the total numbers of health care workers will increase and I think that was the objective of this initiative.

Task shifting exists as a successful model for scale-up of HIV in Haiti and Rwanda without consent low rates of [inaudible] where human resources for health are limited, task shifting from doctors to nurses and community health workers may be undertaken as a strategy for rationally distributing human resources.

Shifting tasks to community health workers provides additive benefits, providing essential services, such frequent [inaudible] and psychosocial support. Thank you very much.
[Applause]

DR. BADARASOM: Thank you very much, Wesler, for this very, very good presentation, of course the experience of Haiti, which I personally had the opportunity to visit and very, very interesting. I'm sure that everybody has noticed

one of the sentences that Wesler said that the experience of Haiti has been basically replicated to a few numbers of cities or countries including Boston and that was very interesting as a remark and it's not very usual that way, so it was very interesting to hear that.

I'm sure many people have questions for you, Wesler, but since we are in the task shifting and the next presentation will be also on task shifting, I would just want to delay any questions to Wesler to at least the following presentation.

Talking about task shifting, the talk about touching the scope of practice of different practitioners, looking at the scope of practice of doctors, looking at the scope of practice of nurses, and trying to see how some tasks of doctors can be shifted to nurses or some tasks of nurses can be shifted to community health care workers.

But when we touch scope of practice, we are touching something that is very, very much related at country level. At country level, a nurse has some function, doctors have some function, and here we see that in Haiti some function that are basically the task of doctors have been shifted so that needs some regulation at country level because if there is something that an organization does not want to do is to transform some practitioners into outlaws so that is the issue that will be addressed in the next presentation by Elizabeth Madraa who will look at the Uganda example and other examples and look at that regulatory framework that should accompany task shifting.

Elizabeth is certainly one of the oldest and the more experienced program managers, HIV program managers, and she comes also from a country which is Uganda which is known as a very, very successful country when it comes to disease control and more especially HIV control so it's my pleasure to introduce my very good friend, Elizabeth, to make the next presentation. Elizabeth, the floor is for you.

ELIZABETH MADRAA: Thank you, Sam, for that introduction. I would like also to project my voice. I seem to be catching a cold. I'll begin my presentation by showing this book here. I should have scanned and made it clearer, but I got it a little bit late when the presentation was already made.

This is the global outside recommendation guidelines, which was developed with support from PEPFAR and WHO for guiding countries on task shifting and it was launched this year in [inaudible]. And this was attended by very many key people including government representatives, who were represented particularly by their health ministers.

Because this is a sector which is very key in oversight when it comes to country level how these guidelines and recommendations are supposed to be used. Also, partners who at the country level are often forgotten by their very key, like the paramedicals, professional associations, the institutions of higher learning, the private sector, the civil society organizations especially people living with HIV and AIDS, all

these people were invited at this meeting and this meeting took place just about two or three months before the bigger meeting which took place in Uganda on, I think it was the health, human resource for health which took place in Uganda, and it was also well attended and that's where I think the synergy which Dr. Sabadero is really talking about.

I've been asked to talk about the regulatory framework and the regulatory framework in the countries definitely vary and that's why this was recommended, developed and it used all the rules we required for developing guidelines in WHO. I have been part of development of this guideline. I've never seen such a strict regulation in developing process.

It was even subjected to peer review to critics before finally we made it available for recommendation. Even at the recommendation level, when we met in [inaudible] there was quite a lot of argument among the African ministers, should we take this or should we not? What about the green card? What about the blue card?

Everybody wanted to talk about the shifting of human resource from countries to Europe, even within countries from government to NGO and all that but then of course we say there has to be a start. The fact is that we have the program, a gap in the human resource, so what I looked at was what is needed in terms of regulatory framework to adopt these guidelines and recommendations? It need not involve extensive changes in policy and legislation. The process may vary from country to

country because each country has its own but then there is a lot of similarities which can still be used.

Some countries may already have sufficient scope to implement task shifting within their existing proclamations or their rules, their regulations and they understand the guidelines. The degree of regulation required will vary, depending on the types of task shifting.

Already mentioned earlier here in the presentation by Lambert, the task shifting later you see in my presentation, they vary, they degree vary, some people may want to go with the first two, others may want to go with everything, depending on the situation they have in their country.

The regulatory approaches may range also from the level, it could be within government, also non-governmental, organizational within the professional association, because there are quite a number of people rendering health services and this is just because of the HIV AIDS burden that we see the increase in the human resource gap.

And, indeed, the drive to increase human resource gap now might just apply to other diseases like TB, malaria, and you could see how this is really very important in terms of strengthening also the systems we are talking about.

So who are the responsible people we look at? Those who are responsible could be the controlling scope of practice. We have a cadre who are looking at that, this plenary action who provides that and all that, determining standards of good

practice, we looked here at the issue of safety and quality and then monitoring the context of the service providers.

Many people complain at times the health workers are rude. That's why people don't go to the hospital and also some accusations which are happening and then we also look today, provide guidance also legislators and administrators, how this really should do, indeed happen.

The degree of regulation required may depend on the types of the task shifting, is our mission ready? In a number of high income countries, there are already examples of nurses who have extended to include their prescription as a routine medication. That has happened in some countries.

And then, of course, people living with HIV and AIDS have also shown in a country like mine, Uganda, they can be empowered, those to manage their own conditions, to support others. We have a lot of communities at home, which is happening. We have also people who are being given their medication ART at home, the home based management of the ART and this is being done by the sick people themselves and there are those who monitor their own friends for adherence.

This is already happening. They are managing themselves. And of course in some resource constrained countries, people living with HIV and AIDS, they've been trained to deliver services originally designed to be delivered by doctors or specialist nurses. They also often are supported by the community health workers.

There are many examples which were done actually before this guideline was developed. A lot of studies were done in these countries, Uganda, Malawi, Ethiopia, Haiti was one of them, and then later others which is really to find what basically is happening in the countries themselves?

These are the different types of task shifting, because before a regulatory framework has to be studied at the country level, you need to know what are those responsibilities being shifted? Are they the easy ones? Are they the difficult ones? And then what the nurses can do and then what the doctors can do or the clinical officers, so the extension of scope of the parties to nine physicians and the clinician will be done in the task issue one, some of you already know this. This is just a recap.

And then the task shifting two which basically looks at extension of scope of work of nurses, midwives, from the medical doctors or to the non-physician clinicians. This can also change. Others call them medical assistants, others clinical officers, it really varies from country to country and then of course task shifting number three, extending scope of work to community health workers, people living with HIV and AIDS and then also tasks previously performed by nurses, midwives and non-physicians. And the task shifting number four, people living with HIV and AIDS who have been trained in self management, they assume tasks related to their own care, previously undertaken by health workers.

Regulatory framework can also address all these, depending on the country specific situation. Others can say no, we don't want this one, to leave it to number two. The implementation of the recommendation and guidelines on the task shifting now didn't depend on the current shortage of human resources. We said there has to be a plan, a human resource strategy plan. The countries would know what is the cap, where are the gaps, which facilities need to be staffed more?

Now we are all talking of PHC, primary health care level will be at the lower facility level and that's where you need more of the human resource and then the need for scale-up health services including HIV services. We are talking of HIV area because of the demand but now that can't be separated from the other health services delivery, caring for TB, caring for malaria, this can all be done at an integrated.

So, the implementation of the recommendations, there are five key areas that require country specific adaptation of the greater framework to support successful national and implementation of the task shifting, these are involvement of the stakeholders. Now we are at the country level and it is the countries which are going to adopt these guidelines and recommendations for implementation.

If it fails at the country level and that's why at the country level we need to work with the stakeholders and basically the counselors, the regulatory framework at the councils, the national councils.

The Ministries of Public Service, this is the MOPS, finance, we are talking of finance because when we do task shifting it does not mean there won't be money, resources, attached to it. The people who are taking over are likely to have responsibilities more than what they did earlier maybe and in that case they will need maybe increase of salaries from what they earn previously and then those who we're training more to come in may also require that.

That's why this Ministry of Finance, Ministry of Public Service, because many countries deal with government and public service is recruiting body, and then associations, the CBOs, that is the community based organization, NGO education institution.

The case stakeholders will determine the roles of the new cadre. The new cadre are those we are training, giving new responsibilities to take over tasks they have not performed before but they can do it through training. And this created all specifically trained cadres in relation to the existing providers.

And then certification of providers is regulated by the medical and the nurses' council. You train somebody who is to take over these responsibilities, you need now to have a regulatory framework by the council, the nurses' council, the midwife council, they can reject. And that's why we look and many of these councils had policies, regulatory framework, some 10-20 years back, which have never been reviewed.

We are now talking of task shifting. They need to go back and look at the regulatory frameworks. They use also certification of practice requirements and negotiating between the Ministry of Health, ministry of education, professional association and regulatory councils, and this can apply to any of the task shifting, either one or two as I've already indicated earlier.

Training curriculum is the responsibility of minister of education and national council of higher education. How are they going to look at this? How do we adopt this with the training? Because we are shifting tasks but we need also to train more who are coming in. We need to go to pre-service training. We need to go for inservice training. So those curriculum need to be subsidized and this group will be very important.

Resource availability with a need funds for this, Ministry of Finance, the Parliament, and the donors should contribute to resources to accommodate the new task shifting patterns and members. Provision of appropriate technical assistance is crucial and this is what we have put as a recommendation, to countries of WHO, to donors agencies, PEPFAR is talking of task shifting, World Bank, my project, if it is, then let us put money into that, the process of adapting this with great [inaudible].

Some task shifting is already happening. It is not new, but then we need funds to be put into it to see it rolled

through. So, labor issues which is relevant to task shifting, too, need to be factored, giving the training and the scope of work which are limited the same nursing practice.

In Malawi, when the nurses, by Parliament Act, were allowed to prescribe and all that. Their responsibilities increased and I'm told that they formed a union and that union means that looking at the labor laws and all that what will affect their functionality as taking up new tasks, integration with the other basic health service cadres.

Such as, pharmacies, pharmacy technician, technologies could all be included in a task shifting approach. When we did this, the pharmacies were already not on board and through the peer review we got criticism on inclusion of the pharmacies and fortunately towards the end that was also done.

Training of health workers to improve quality of service, organizing health service delivery to include changes of practice and creation of new health. Cadres of health workers, which may not be consistent with existing national regulation, that pertained to the previous health workers and those [inaudible] and that is usually what happens.

When we visit our regulatory framework we see, with the changes, we are making is consistent with that. We need to go ahead with that or should we revisit all that again? The [inaudible], ministers can read the declaration. I only repeat number 10. There were about 12 of them, which sends

[inaudible] countries to adapt and to implement the WHO program recommendations and guidelines where appropriate.

According to the specific circumstances of individual countries and the developed national action plans. This was very key, the national action plan needs to look at the human resource gap and the staffing norms.

For the implementation of task shifting with national human resource policies, strategies, and budgets, that can ensure quality and effectiveness of essential health service contributing to the strengthening of health systems. This came from the health ministers themselves.

So, what will be the way forward for regulatory framework adaptation to support the task shifting? National governments and partners should start the implementation of the recommendation and guide them to task shifting. Ministries of Health should be used existing in legal authority to initiate the interpretation of laws, policies affecting the health sector, and this is done to accommodate the task shifting guidelines recommendation. The constitution may vary, of course, from country to country.

There are three main branches of the national government who are key in the adaptation of the regulatory framework and I think this applies to all countries, the legislature which is the Parliament, the executive, that is the president, the cabinet and the ministers, and then the

judiciary, and of course the approaches can be shorter. It can be very immediate.

It can take even longer but here we are dealing with an emergency. We may go for the first immediate one and then later on realize this into the system which can then be used for a long time.

Somebody was asking us, this guideline, for how long are we going to implement it? Is it a two years, is it a three years? I think that within the country if we are going to do the regulatory framework and see how we are going to accept this, the shorter immediate could look at the medical and dental practitioners, the statutes which we all have, align health professionals, nurses and midwives and the national pharmaceutical act.

What does it say, what can change to make this immediate so that the new cadre we are bringing in training with the task shifting various level I've already mentioned, we see how we could accommodate this.

Once we review these, the ministers of health can take it to cabinet, cabinet takes it to Parliament, and can be approved, then these steps may vary again and we can use this immediately and people will start doing it, but task shifting is happening, not formally. Here we are doing it because we want to protect the service provider when to also protect the recipient, that is there.

As a long term this is what we are going to accept if it is accepted throughout, the countries may be required to review all developing and strategic plan based on their current needs. They can review the different, actual accommodate the new cadre, employment degrees, public service, act salaries, allowances, all these are going to come in.

As we are saying this is not the solution, the task shifting is not a solution. The biggest thing here is how do we maintain and retain even those that we are training, those we are bringing in as new cadre and then also satisfy their being where we are posting them.

We could task shift but if there is no retention scheme there is no motivation. They will still leave, so we want to show them the problem at all. Worker's Compensation Act, all these need to be reviewed now and the labor union act, as I told you in Malawi, nurses' form the union so what is going to happen? We need to look at all this regulatory framework as a long term.

And then, of course, who are the responsible sectors? Ministries of Health, Finance, Gender Label and Social Development, local government because there are districts employing public service and the minister of justice again. Again here, the ministers are the responsible people and the task shifting which goes again, everything has to be debated at the cabinet level, then it goes to Parliament, finally it is approved.

I'm talking basically within the so constrained countries where we have a lot of those similarities in terms of adapting our regulatory framework.

So in conclusion what I will say is international development partners, WHO, UNAIDS, DFiD, other donors, PEPFAR, Global Fund, need to support countries to facilitate the process of the adaptation of regulatory framework to support task shifting.

We are talking of human resource and we have not found the money to retain our strained skilled manpower. Countries definitely are losing quite a number out and then also within the countries and unless we give files to support this document, we don't want them to remain on our shelves. And then also countries had been asked to go back with the support from the WHO country offices and other partners within the countries to start looking at this and we implement the task shifting process, also done through the provision of appropriate technical assistants which will be needed and where the countries need technical assistance I think this should really be given.

Finally, I thank you very much for listening.

[Applause]

DR. BADARASOM: Thank you, Elizabeth, for this well sought and passionate debate. I would like you, Elizabeth, to stay here and I also ask Caroline and Wesler to join me on this table and at this stage I would like to open the first round of

discussion of this presentation. Caroline, can you come here please?

Wesler over there, and I put myself in between two ladies, so I would like, before we go to the other set of three presentations to open the floor for 7-10 minutes discussion so the floor now is up to you. If you have any question for which you would like to have answers, if you have some clarification that you would like to have from the presentations that have been made so far, the floor is for you. Any point of clarification? Yes?

FEMALE SPEAKER 1: [Inaudible].

DR. BADARASOM: Okay, so we take one question so maybe we can ask Elizabeth to kick off with an answer to that.

ELIZABETH MADRAA: Actually, that is a very good question. Initiating task shifting, when administered, is it Ministry of Health or let me give the background of the task shifting, with the demand currently for care for HIV and AIDS patients and other emerging illnesses, the task shifting has already been happening in countries.

Even within government facilities you see quite a number of people performing these possibilities, which are not their own. And we've had non-governmental organizations who were already supplementing government effort who have tried because they are much faster because within the government system you could see the process we need to go through the

regulatory framework and here people are dying. The demands were there.

We have seen partner organizations who are already supporting our efforts, trained cadre to support work force within the [inaudible] delivery facilities and these were already happening and it was being accommodated. The only thing we saw which was not easily done was the registration of these trained cadre, like either medical practitioner or the nurse practitioner. So from that level at several meetings our health ministers have complained of gaps in the human resource.

At WHO World Health Assembly, at the WHO, the Health Minister's meeting in [inaudible]. And all these at every forum so they were looking at ways of how can they be base supported to address this issue of human resource gap and you can't stop people from moving. People are all the time moving for their right. I think it is from that, that WHO took it as a mandate of the responsibilities to support countries but they did not detect that go and do this.

We are already doing it at the country level, but we said, let us work out a recommendation and a regulatory framework, which is going to help in ensuring that these services which have been provided is of quality. And then in the process of the development of the guideline is when we are streamlining but at the country level it was informally already happening.

What we wanted now is security of the care provider and then the security also of the patient. So one way or the other it is I think country level initiative and they cry at the country level which now prompt something to be done but not a prescription, a guideline now countries need to take it up whether they like it or they don't like it, that's why the regulatory framework has to be followed.

DR. BADARASOM: Thank you very much for this clarification. If Wesler or Caroline want to add on before we go to the next question? That's fine so next question and please introduce yourself.

RUBEN GRANNICH: Ruben Grannich with the HIV Dept. of WHO, my question is actually about simplification. When I hear about tasks shifting I know, I have traveled around many countries, that people are very over burdened in their day to day work lives. I've seen some places where they have very simple standardized programs. I've seen places where it's very complicated so I was really wondering whether, even if you task shift, have any of the panel thought about ways to make things simplified and moving towards, for example, the WHO patient monitoring tool and moving away from very complicated monitoring and evaluation systems? For example, and going toward simplification as part of I guess task minimization, not in the negative sense, so that's really my question.

DR. BADARASOM: I think I will probably give the floor to Wesler and Caroline to reply to that but before I think

there is another question that this lady wanted to ask. Can you please introduce yourself, as well?

FEMALE SPEAKER 2: [Inaudible] and my question is on task shifting, particularly [inaudible] where we shift tasks from the health workers [inaudible]. I have this problem is gender, it is not only for TB and HIV so we can place other programs to, my problem is what are we going to mention that when we shift gears, we not only shift HIV and TB but and also shift [inaudible] so that then we become more [inaudible]. That is one.

Secondly, I'm concerned that actually as we shift, in task shifting number three, type three, than it explains to you, the venture as Wesler said, because we have to motivate these community health workers and testing their motivation. One thing I have noticed is that after our programs end, because they come with a little bit of motivation then the government is unable to afford it, later [inaudible]. Then I also worried about what Margaret said.

She said, for example, if we task shift some duties from nurses and to other countries and the nurses take on more responsibilities [inaudible]. If we do this then I don't see what we are going to save because what I'm thinking was that we are saying what are these tests that a nurse can do and what are those other tests that someone else could actually do so in short that one remains the same, so I don't expect [inaudible].

DR. BADARASOM: Thank you. I'll take another question.

FEMALE SPEAKER 3: Hi, my name is Marianne from CDC in Mozambique, and I was previously in Malawi. Both of these countries are [inaudible] human resources and have been working to do task shifting. My question is actually a kind of follow-on to Ruban's, in terms of, in addition, to just what's happening in terms of simplifying care, what kinds of systems are being built for supervision of quality assurance when task shifting is happening?

I think we see that often people go through an initial training, go out to the field, and then when you go out and visit them, they are still struggling a little bit. So when countries are doing task shifting, how is capacity being built, who is responsible for making sure that the quality of services is not compromised as services are being delivered by lower cadres of staff?

DR. BADARASOM: Very, very good sets of questions and I will now at this point hand over first to Wesler and second to Caroline, and of course to Elizabeth.

WESLER LAMBERT: I will start by answering the question of Dr. Oray about the shifting of other tasks, not only HIV related. In our experience, it's not as I said in my presentation, it's not only about HIV, it's about any kind of task. We have shift tasks from one cadre to another one, but we shift every kind of task. For example, maternal health we shift tasks for midwives to community health workers and then to country level of attendance. Also, which is a cadre that we

have not talked about because it's so controversial but also you mentioned, task shifting is expensive.

Yes it's expensive, as we increase the total number of personnel but also it's expensive in a way that all you need to motivate these cadres, it costs. And you talk also about in the program, our experience is we always say that, we never say that it's, our program will last like six years.

We say it's a long term commitment and I think that it should be programs or NGOs should revise their policy and their, because when you start a program, you know, when you have been with the program for two years, what will happen after? But if you work closely with the Minister of Health, the Minister of Health can take on these programs.

And there was a question also about salary increase for nurses, yes, nurses with stability will increase, yes, but remember that some of nurses tasks will be shifted, too, to community workers or to nurse auxiliaries. But in all the categories we will have their responsibility increased somewhat.

And the issue of supervision and quality of care, we are in Haiti now in partners in this program, not only in Haiti but those in other PIH programs in other countries, we built a system for supervision from doctors to community health workers. Even within the network of community health workers they have different kind of supervisors to ensure that we don't leave the right path of quality.

Quality of care because people are concerned about substandard of care when it comes to community health workers but if you have a very good system, I believe that it will work. In our experience, it worked in our experience. I hope that will be the same for other programs, thank you.

DR. BADARASOM: Thank you Wesler. Caroline?

CAROLINE RYAN: I'll briefly make a few points. First of all I think we fully recognize the importance of standardized algorithms or criteria for implementing some of the task force activities and we look to WHO for putting those forth and adaptation at the country level.

The second is that in terms of support supervision and ongoing support supervision in a program, I think that's where the importance of indicators are very important so that we are monitoring programs as we are doing the task shifting to make sure that we are looking, there are still the same number of people who are adherent to both antiretrovirals, TB, and the other things, so the interim indicators I think are very important.

And then lastly, just to point out again the need for thinking outside of just task shifting but thinking about the development of new cadres of health care workers like was done in Kenya where they redefined the type of clinical officer and then the need to invest in pre-service, not just inservice training and that is one of the reasons why this year we have really tried to put into the country operational plans the

opportunities for \$6 million or 3-percent of your total budget on pre-service training so people are to have the opportunity to sort of rethink what are the health care needs.

DR. BADARASOM: Thank you so much. Elizabeth?

ELIZABETH MADRAA: There were questions, I think two came from, two were basically concern in the simplification of tools and then the making, also assuring quality, I think if we didn't simplify the management of AIDS care, I don't think it would have reached in the number so far we have who are on antiretroviral treatment. In an ideal world you first have to do the stages, you have to do the CD4, you have to do the viral load, and all this of course is not a simple one day thing and in that case you have so many who need the care and treatment and the majority of where expert, diagnostic facilities are based at the regional referral, provincial, or the government hospitals.

Now if you think you should go lower to the primary health care level at the health facilities, you will not have that so indeed simplification of tools was the first thing as we decided to go to universal access, scaling up care and treatment, and now there are guidelines which are really being standardized.

Now when you were doing training, you need to know your cadre, whom are you training to perform what roles? And that is where you need really to simplify your training manuals, your guidelines, but not to ignore the quality of care we

expect really to be provided and in most cases most of our clinical guidelines and all that which has been revised is standardized.

And also the training, depending on the various cadres you're training is also simplified to be able to be followed up and of course the strict supervision, this provision mechanism is like mentoring. You just don't go to check with if this is correct or wrong, the mentoring kind of provision where you look at the quality, you can even come at a place where you think services are not being well provided for two to three days, do it together, you see that it's being done.

We have quite a number of people monitoring for adherence, like people living with HIV and AIDS are being all along in our training. We even label them expert clients because they themselves are on treatment. They know so much that sometimes during the training when we give the doctors to do practical kind of thing we give one of these person, the patient on treatment, and then they take what the doctors mention, just to see whether the doctor is on the track.

Sometimes they will challenge and say you left out whether I'm on family plan and you're not asking me this, you've left out this and that, through the medication I think they become expert themselves. They are good in, for instance, adherence monitoring, they are good in treatment education, treatment literacy. You see the value where each group really come in and then we've got training nurses who do clinical

staging and they are able to do it because where you find a doctor only initiate on the treatment. That means the thousands of patients who are coming, even there's no doctor, then they will never be initiated on ART.

But you have the clinical officer and medical assistant who can train to do that.

This is the kind of thing we looked at in a way whereby simplification of training, yes, supervision for quality, yes, that is indeed happening and then of course ensuring the quality of patients is being done. HIV AIDS was an entry point because of the demand of care. It doesn't mean that limits it. You're quite right. This is now applied to all, the kind of money issues, of service delivery, malaria, tuberculosis, and all that. The HIV was just an entry point so it's not going to be the limited there. I think that's -

DR. BADARASOM: Okay, good, so thank you very much. I think what the different panelists have been saying about task shifting, either. There are three pillars that need to be considered when you want to implement successfully task shifting and one is, of course, the standardization and simplification of the practice to an initial training and sway the supervision. I think that's very, very important and I know that the TB community is certainly among the most experienced professional when it comes to task shifting.

Now, we have been very focusing the initial part of this discussion on human resources for health, but when we talk

about health systems, which is basically the title of this presentation, we talk about human resources for health for sure, but it's also about infrastructure. It's about health systems financing, it's about information systems, it's about delivery mechanism and management and leadership and we talk about management and leadership, of course, the word has changed, leadership and management talk very much about public private partnerships. So the next, second part of this presentation will be looking at other elements that constitute health systems in a country.

We will be addressing infrastructure including lab techniques, but also we will be addressing how to manage this public and private partnership at country level. At this juncture I would like to have my panelists to stay with me please and ask Linda Pearson from South Africa to talk about public private partnerships for integrated laboratory services strengthening. Okay, if you want to see the presentation and you want to go by the floor, you are welcome.

LINDA PEARSON: Thank you, Dr. Sam. I'm actually from the Centers for Disease Control. [Laughs]

DR. BADARASOM: I'm sorry.

LINDA PEARSON: In Atlanta from the international laboratory branch but I actually travel to South Africa quite often, so [laughs], I would like to change the focus a little bit, as Dr. Sam alluded to, by talking to you about two important initiatives for strengthening lab services. One is

the development of national strategic plans in the countries and the next is public private partnerships and the value that they bring to strengthening lab services.

So, we have heard today about the countries that received direct support from the PEPFAR initiative and I just want to point out that about half of the world's estimated 33 million HIV positive people reside within these countries and about 90-percent of the world's TB patients who are coinfecting with HIV are also from these countries.

And, focusing on Africa, Africa has about 79-percent of the global TB cases arising in people with HIV. And the spread is shown in this WHO figure, and TB is responsible for the majority of deaths of patients coinfecting with HIV in this part of the world and we have been hearing about the activists at the recent HIV conference in Mexico who were, their slogan was "Living with HIV but Dying of TB."

And, it's really preaching to the crowd, or to the choir here in talking about the association of TB and HIV. Where the HIV epidemic has led to the huge increases of the incidence of TB. The treatment is complicated by the negative interactions of the drugs and TB is more difficult from a laboratory standpoint to diagnose in HIV coinfecting because most patients are smear negative, often with reduced pulmonary cavity formation and unfortunately a very high mortality rate.

And as far as PEPFAR's goal and laboratory systems, it's important to increase the capacity of the labs by building

sustainable integrated and integrated is a very important word here, laboratory capacity to provide quality diagnostic tests for effective implementation of the programs across diseases, HIV, TB, opportunistic infections.

So what are the challenges that are faced in strengthening national lab services? There are many. Laboratory Infrastructure, for one, the facilities are often have not been well maintained. Human resources, training of course, and quality management, and supply chain management.

So, some of the effective approaches for building lab capacity is to work in country where the government ministries and also with the national and international public and private partners to establish and implement national strategic plans for the laboratories.

And, of course, to use an integrated disease wide approach, not just focusing on HIV or TB, and to of course standardize lab systems through certification and accreditation and finally, establishing public private partnerships that can bring many benefits.

So to this end, WHO, AFRO, and several other partners with the strong support from PEPFAR organized a conference in Maputo recently in January and the declaration from that meeting required that national government should support lab systems as a priority through implementation of a national strategic plan, and to develop those national strategic plans for integrated lab support for the major diseases.

So what are the essential components of a national lab strategic plan? To establish minimum standards for lab testing, develop strategies for work force development and retention, to link the tiered integrated lab services. Many of these services have been parallel or silo systems but to link them. Ensure continuous supply of lab commodities, establish programs for facility and equipment maintenance and provide safe work environments, and establish, importantly to establish roles, responsibilities, and accountability for these activities.

Steps in the development and implementation of a national lab strategic plan, so the goal is to establish national quality assured networks of a tiered laboratory services and in order to do that, it's important to engage the country and the partners in the discussions, the formed coordinating and technical committees, develop the plan, implement the plan, and then review and evaluate the progress.

So ongoing work in several of the countries has moved through the development of the plans so as you go from left to right you see at the top the countries engaged in discussion, then the committees are formed. The plan is developed. The plan is implemented, and then the plan is reviewed and evaluated or the progress is reviewed and evaluated. So, many of the countries that have been, that are branch and others have been working in have moved forward quite well with this development of the plan.

For instance, in Kenya, a national laboratory policy has been developed, policy guidelines, followed up by how to implement those guidelines with their national strategic plan, and Kenya's strategy towards the integration of the lab services, they have established a laboratory interagency coordinating committee with membership from the different partners and local government organizations.

They developed and implemented an integrated lab policy and strategic plan as I showed you and they established a central data unit with linkages to the different laboratories, and then they launched an integrated lab curriculum for inservice training for their laboratory staffs.

Also in Ethiopia, they have moved forward with developing their national lab strategic plan. They have reviewed it and this has also served as a model for strengthening the tiered laboratory system within the country by integrating the various TB, malaria, and HIV, and of course it's been, multiple partners have been involved in this.

Focusing on the integrated approach, a new reference laboratory has been built in Adas and activities within this laboratory will be for HIV, TB, malaria, and AV influenza. Also, in Zaria in Nigeria, the national TB and leprosy training center which has been established for several years is now used for training not just for TB and leprosy but also for HIV and also for malaria.

There has been an African center for integrated lab training that has been established in Johannesburg and this center is providing one to three weeks standardized trainings in hands on lab techniques. This is available for all of the countries in Africa. It's located on the campus of NICD in Johannesburg and the courses that are being developed and presented have been based on country needs assessment starting out with TB culture and drug susceptibility testing, DNA PCR for early infant diagnosis of HIV, lab management, commodities management, and a very important biosafety and lab infrastructure.

And the power of partnerships, focusing on public private partnerships, an important component of these partnerships are to ensure sustainability of programs by enhancing capacities of local organizations and increasing access to competencies of the private sector. They facilitate interventions through private sector networks and excess target populations through work place programs and of course an important aspect is their sharing of program costs.

PEPFAR has initiated a PPP with Beckton Dickinson and this was announced last year in 2007. This is specific for strengthening laboratory programs and working in countries, sharing their strengths, experience, methodologies, and resources, and collaboration with other implementing partners. They have established fellowship programs for their BD staff to

work with ministries of health in the countries, other PEPFAR agencies, and national reference labs.

They provide short term technical assistance for lab training and providing a framework for other levels of service and there's been a commitment to deploy approximately 25 to 50 BD staff per year and initially they have targeted Uganda, Ethiopia, Botswana, and Kenya.

Specifically what they have done so far in Uganda this year, they have worked to establish a training program on CD4 count quality management. They have worked on training programs also for TB smear microscopy and come up with methodologies procedures for TB specimen management and referral, and also established partnership with several in country partners who are already working there.

Likewise, the Abbott Fund has established a PPP in Tanzania and building Tanzania's lab capacity through a PPP with several partners involved in this in addition to the Abbott Fund. The partners have collaborated to modernize several laboratories within Tanzania.

There have been responsibilities for the different partners, the Ministry of Health and social welfare and CDC have been responsible for coordination of partners and for laboratory expertise and the Abbott Fund in Tanzania has been responsible for the renovation project management and the funding for the modernization of 23 labs. APHL or the association of public health labs has provided technical

assistance in design and planning and then a non profit initiative of an engineering firm from the U.S., D40 has provided lab design, planning, and implementation.

So far, the Mount Meru Hospital has been modernized and this modernized lab has, this has increased the capacity of this lab to 150 patients per day and a provision of a much wider variety of tests, array of tests, and this new technical capacity has allowed the lab to safely manage some more highly infectious agents and they provided more automated assays which have improved accuracy and decreased the turn around time. So ongoing Abbott Fund activities, they are working now to modernize more labs within the country, regional labs, provide training for the staff in testing and care, and also providing a large number of HIV rapid tests.

So, in conclusion, some of the cornerstones for strengthening lab capacity, some that I've focused on today are to develop sustainable lab systems using lab strategic planning within the country, promote the integration of infectious disease laboratories, so that you don't have separate laboratories for each disease, encourage public private partnerships and important to coordinate partner efforts and build synergies among them. Thank you for your attention.

[Applause]

DR. BADARASOM: Thank you very much, Linda, for this excellent presentation. I think this is certainly the type of

best practices that people would like to see, basically using some PEPFAR programs to one, push for integration.

Integration is key. Two, push for public private partnerships, I think that is definitely the type of best practice that we would like to see replicated all over the world so I will not open the floor for discussion and what I will do is just will proceed with two other presentations that I will ask the presenters to come here and then answer to the questions from the floor.

So without any delay I will then call upon Margot from South Africa to come and talk about the "THAT'S IT" integrated TB HIV care program, basically looking at bridging programs and strengthening health systems. So, the floor is yours.

MARGOT UYS: Thank you. Thank you ladies and gentlemen for this opportunity to discuss with you some of our experiences in "THAT'S IT" integrated TB HIV key program. Just as a starting point, let's just look at some of the relevant TB statistics in South Africa. These are averages, not the latest statistics unfortunately, but we don't believe that it will change a lot, maybe just the number of MDR TB cases that are reported.

So the important thing is to remember that South Africa is a high TB burden country. TB incidence ranges from 500 to 1,500 in some districts per 100,000 population, reported cases in the range of 350,000 per year, with a treatment success rate of about low 50s, 54-percent plus and completion rate of high

60s. The important thing here also to remember that HIV coinfection rate in TB patients is high.

It ranges from 30 to about 75-percent with the average of 55-percent and as you can see, we've got a reported last in 2006, 6,000 MDR TB cases, but there is reason to believe that this number has increased dramatically over the last year.

Now, how does it look for TB and HIV services in South Africa? TB is the most common cause of HIV related morbidity and mortality. And, unfortunately, is characterized by federal services and funding at facility care level and service care delivery, not so much at the policy making level.

There's a high TB HIV coinfection rate and unfortunately the dual epidemic aggravate the stigmas associated with the diseases. So the burden of HIV prevention falls largely on the TB program and the lack of integrated services forms a barrier to care for coinfecting patients.

So what is THAT'S IT? First of all, it's an acronym for TB, HIV, AIDS, treatment, support, and integrated therapy. It's a best practice approach and it aims to access integrated TB HIV care for patients that is easy, efficient, appropriate, and cost effective.

It was a model based approach that was developed in [inaudible] in a TB hospital two years ago and basically it's a public private merger or partnership with implementation by the South African Medical Research Council. The Department of Health in the various provinces and private partners like

[inaudible], the Foundation for Professional Development, or World Vision. It's PEPFAR funded through the Centers for Disease Control and Prevention.

So what is our operational framework? First of all, it is a one stop service for TB and HIV positive patients. That is our objective. So, what does it do? It provides HIV counseling and testing, that is preferably provider initiated with TB as the entry point to services. As HIV is entry point of service, we provide regular TB screening for HIV positive patients. There's a very strong clinical care component including prophylaxis, referrals, nutrition, treatment of opportunistic infections and antiretroviral treatment when indicated, with a strong H.R. focus.

Obviously we have to give our attention to infection control practices, and providing and including infrastructure where necessary, with a very strong community outreach component to address not only the dual stigma but also to educate patients, health care workers, and the community at large, and this forges the linkages and makes sure that the follow-up of our patients is effective.

In terms of health systems, we look at patient management systems, trying to identify the bottlenecks and ironing out, look at all we're capturing and recording and reporting and overall to improve patient flow systems and overall infection control and patient care delivery.

This is just a picture of our model site that was initiated in 2005 in a TB Hospital in [inaudible]. I think the important thing here to look at is that our positive findings that we are busy writing up at the moment is that there was a decrease in patient mortality, dramatic decrease from about 35-percent in the general TB patients in the hospital to less than 10-percent and there was a very low incidence of drug side effects after the early introduction of antiretrovirals to TB patients on TB medication.

The expansion site started in about the last quarter of 2006 and as you can see, we are in the periphery at the deep rural resource limited areas of South Africa near the Botswana border there in the Northwest province, [inaudible] district near the Mozambique border and Kumazee and Mpumalanga, near the [inaudible] border in [inaudible]. In eight TB hospitals throughout the Eastern Cape and at the Eastern Cape, Western Cape border in the Eden District down here at the bottom of the Eastern Cape.

Now people often ask me what does an integrated clinic look like, and we put a lot of thought about it and thought is the process what we go through if we go to a clinic and do a needs assessment and we've come up with the following ten sessions of TB HIV integrated care. Our first session is the session where the patient, the TB patient, is provided with counseling and testing and linked to that, there's the station

of the TB screening to the patient that already knows their HIV status.

Then, in the middle here we've got our central station of clinical care where wellness, prevention, and TB treatment is given, but the strong focus on infection control as well as recording and reporting and very important here the integration of files because we believe if the files are integrated then also the care is integrated.

On the top right there and the bottom left here we've got our community linkages and our training, that is providers of programs that have to reach out to each other so we do TB training not only for our health care workers but also into the community through our community outreach programs and then link up with our nutritional gardens that are either linked up to clinics or to the communities.

Obviously, because we treat patients we have to look at the pharmacy component and how and when antiretrovirals are given. We try and decant the antiretrovirals to the peripheral clinics, even if we need to introduce more of our clinics, and then through our TB crisis link it back to our clinical care component which obviously happens at the periphery in TB care.

So just summing it up in another way, what does it provides? It provides human resources, infrastructure when necessary, equipment either medical or office equipment, we have a strong community outreach component, introducing mobile clinics where necessary, with the infection control focus, we

look at systems trying to improve patient flow system, decrease patient waiting times and clinical care. We have [inaudible] captioning and I.T. component, training including nutrition gardens, and then our technical support is TB as well as laboratory.

So, just some of the challenges and successes in our program, this is one of the big challenges in our program. In the northwest, very often patients have to travel 200+ kilometers to the nearest antiretroviral site and our TB clinics, anything from 50 to 100 kilometers, with very little traffic except maybe this or even this and if you're lucky this is the only public transport there is available.

Another big challenge is the communication. The telecommunication has very poor connectivity. Internet access is very unstable, so that's a real challenge to overcome. And this all leads to overcrowding of waiting rooms and waiting times. This is one of the really important aspects that we had to give attention to.

So what did we provide infrastructure? We tried to ensure that there's infrastructure to provide the services and to provide integrated care, and also provide the H.R. link to that. As you can see here in this area, we provided outside waiting areas so to reduce the over crowding in the waiting rooms and then we introduced a simple numbering system for patients so that we can reduce the number of patients in waiting rooms.

This is one of the other things that we provide, the ultraviolet lights for the infection control but I must stress that this is not the only component in terms of infection control that we give attention to. We have policies and procedures in place, open window policies, simple things like that, and also extraction fans to ensure that the ventilation is in place.

Now, if we go back to our routine stations, this is our first and second station, our VCT and screening. You can see on the left is our very enthusiastic HIV counselor. She has designed a [inaudible] of condoms and this is one of the ways how she gives education, but if that is not possible we go out in to the communities, the picture on the right there, where we actually give the counseling and testing in the community itself.

This is the team in [Inaudible] Hospital in the far Northwest. On the right there's the medical manager from the [Inaudible] Hospital, from the department with the middle person is our pharmacist, and left is our medical officer. But integrated care, if we talk integrated care we also have to talk of integrated teams.

This is very important to ensure that quality care is given and that patients can access all treatment at the same place. And this is obviously to ensure that there is patient satisfaction and happiness in quality of care.

One of our aspects that we concentrate on as I mentioned before is the integrated filing system, ensuring that there is one file per patient and to also ensure that there is systematic form spaced approach to see the patients. This is just an example of the forms that we have introduced to ensure that patient care is given in a standardized way.

This is the gardener in the middle of the Kalahari Desert up there in [Inaudible] at the Botswana border. He has started at the garden there and I can promise you if it works there it can work anywhere in the world. And this is another example of our nutrition gardens, this time in [Inaudible] at her home stead at home.

You can see there is no water, no running water available. They have to fetch the water either from the dam down there and there is a communal tap but also quite awhile away, but this, what the picture here shows the TB tracer there on the right, and then the patient there on the left.

These is our peripheral clinics that are serviced by mobiles to bring the antiretrovirals to the patient and this is the team that is associated with it on the right, the TB tracers as we call them in the Eden District in the western cape. They go out physically on foot to visit their patients. They can do it there in that district because it's not so far, the distances are not so far. Obviously in the northwest that is not possible and we use a different model there.

This is another picture of the Eden District and the community outreach HIV counseling and testing TB screening that is done in the community itself. Training, we put a lot of emphasis on training and capacity building. On the left, on the top, the managers in that program, on the bottom the counselors and community members and then on the right there is also some technical training staff.

In terms of laboratory support, basically we support logistics, courier services, but in the [Inaudible] laboratory we have also provided some equipment to ensure that these are microscopy service available in a very busy outlying clinic.

This is how we address stigma, trying to do it by positive branding and by community outreach programs like this World TB Day in 2007. This is World TB Day in 2008 at [Inaudible], also in the deep northwest province, and you can see the whole community is involved with this. This was one of the communities where we found that we had a high rate of MDR TB patients and we wanted to educate the community. We also had a fund walk for children and it was very well attended.

This is another community outreach, this time in the astern cape, and this time in Peta in the Western Cape. We've again involved the children in a fund walk and trying to educate children about TB and HIV and in this way also them getting through to the parents.

This is the calendar that we produced in the previous year and I can just show you that this is our 2009 calendar and

children took part in an art competition, the whole [inaudible] was involved with that. It happened in all three languages, the competition, and they all got prizes for that, and then the result is the calendar that we distribute to communities and hospitals when necessary.

To some of the project statistics, this is just to show how many patients benefitted from this project but I'd rather like to go to some of the [inaudible] statistics. I just have to point out that in Boparema there are about 24 clinics. We have been allocated five clinics that were active in the ones with the worst TB outcomes so this is just look and see what, has the program had any impact on the TB indicators?

Now, we started in the latter quarter of 2006 and we can see here the TB treatment outcome was about 34-percent in 2006 and it has risen now at end of 2006, 2007, to just over 50-percent and this trend, hopefully, will continue but it's still early days.

If we look at case finding, which is a quicker indicator. We can see, sort of, the same trend. [Inaudible] we only started this year so there is not much difference yet but in Boparema we started in 2007 really being very active and we can see how the TB case finding is increased there as well as in [Inaudible] and as well as in [Inaudible], it increased there dramatically.

This is just to look at the percentage of TB and HIV in our patients so this is the actual numbers. These are the

percentages, 2007 Bueta in the Western Cape, Boparema is in the northwest province, and this you can see there's 26-percent of all our patients, TB patients who are HIV positive in Bueta, 65-percent in Boparema and this matches more or less the antenatal statistics that are available for these provinces.

The same applies in 2008, 25-percent there in Bueta, 45-percent in Boparema. Now, if you look at TB screening because this is one of the aspects of our program that we try to emphasize and focus on, in Bray this is at the Botswana border, a very small little town, not many patients there but we see in 2006, 43 patients were HIV tested, 39 were screened, of which TB, 14 were identified with TB. 2007, when the project started being actively, we tested 150 patients, 143 were screened for TB.

This is using a specific TB screening tool, five questions, a history of TB, night sweats, fever, loss of weight, coughing, that sort of thing. And we identified 51 patients positive TB, so that's roughly a third of the patients that we tested for HIV and the same pattern applies, also 51 patients up to September 2008 which we tested and screened 141 patients.

My last slide here, in Moses Katana, this is the district near Sun City, again when we started the 51 clinics involved in this district, we are only involved in 14, the ones with the worst TB outcomes, and we can see in 2006 here of the three, almost 4,000 patients, HIV tested, 136 were screened for

TB, of which 56 were confirmed to have TB and when we started getting involved there, the number of patients that were screened for TB rose to about 2,000 and 355 were then identified TB, and the same pattern sort of applied in the first nine months of 2008.

So, what has THAT'S IT got to day? I think we have learned that this is one patient with maybe two diseases, it might be more, it might be diabetes associated with it, other STI's, but we should provide one solution and one location and the only way to do that is to have one health care worker and one file and I would like to thank our collaborators, especially the CDC and PEPFAR funds and the medical research council and ladies and gentlemen thank you, that's it.

[Applause]

DR. BADARASOM: Thank you, Margot, for that very good presentation and while listening to you I was tempted really to challenge you, that's just fantastic what you have been really presenting is very, very exciting so definitely have a challenge, your challenge is that if you want to allow discussion after this presentation, it's up to you.

Stephanie will be talking about commodities and we have been talking about public private partnership, we have been talking about human resources for health, health systems fund and things, but the supply chain is a key element of health systems and Stephanie will show us how a targeted supply chain

management that is designed for HIV can help implication on the broader health system so Stephanie, it's up to you.

STEPHANIE XUEREF: Thank you, Badara. Good morning everyone and thank you very much for giving me this opportunity to share with you some of SCMS' experience in strengthening health system while working and improving the supply chain for HIV and its commodities.

I would like to briefly start by giving you some background on what SCMS does. First of all, SCMS stands for supply chain management system. It is a project which was created in 2005 under PEPFAR and as you can see on this slide, our mission is to strengthen or eventually establish secure, reliable, cost effective and sustainable supply chains to meet the care and treatment needs of people living with or affected by HIV and AIDS, and to achieve that mission we both procure and deliver HIV AIDS medicines and supplies at the best value possible, so that means we need to reach balance between prices and quality and we also provide technical assistance to transform supply chain performance.

SCMS is primarily dedicated to serve PEPFAR programs but we are also working with non-PEPFAR recipients such as the Global Fund principle recipients and governments. Now SCMS is quite a big team. We have more than 350 dedicated staff around the world. It's a consortium of 16 organizations. I am not going to list all of them but I am sure you know many of them, such as GSI, MSH, IDS Solutions, Chronagents, and we have our

program management office in the U.S. but we have also in country presence and offices in the 15 PEPFAR focus countries as well as in Babwe.

I was very pleased to hear Ugodera say that supply chain is very important. That sounded essential for the provision of health services and one of the key components of the health system. Therefore, we certainly realize that our mission will be fulfilled most effectively when all health systems are being made stronger and we have actually identified four approaches through which we can contribute to strengthening health system. The first approach is about improving the skills of the workers in the health system. By increasing the number of health workers where adequately and appropriately trained, we created a work force of in country experts. We are able to manage and maintain supply chains long after STMS and PEPFAR are gone.

So far, we have conducted extensive trainings of pharmacists but also staff from the Ministry of Health, staff from national structures, such as central warehouses and central medical stores on a variety of topics such as forecasting logistic management information system, warehousing, distribution, procurement, quality assurance. And, of course, the basic tenants of those trainings are applying to all health commodities, not only to HIV AIDS commodities.

The second approach is to build sound infrastructure and I am not referring here to construction work but for

example to creating more capacity spacing warehouse, establishing shelving, creating cold chain facilities, ventilations, temperature security, etc.

In many countries, SCMS works with institutions that have the responsibility for managing whole health products that come into the system and when we improve the infrastructure of those institutions, we actually help improving a structure for whole health products that are being managed in those institutions.

The third approach is to create access to health commodities. To meet the health needs, the counties need to improve their forecasting so that the people that are in charge of procurement and the supply of commodities can make the necessary arrangement to ensure that the patients and the programs receive a continued supply of essential medicines and health products.

Without a well plan for procurement, you are risked to face stock out, emergency purchase or even over purchasing. So, we try to help our client to develop professional and planned procurement so that they can focus on their core mission which is to manage the health care programs and to treat the patients rather than spending unnecessary time pursuing the commodities that they need.

Finally, the fourth approach is to adopt effective practice for health logistics. Only a fully functioning distribution system will allow rapid regular and reliable

supply of commodities and will support health services and by distribution system I mean here an appropriate planning of deliveries but also the appropriate technology, the appropriate storage and of course the appropriate transport.

Besides the orders of medicine needs to be filled on time and in full to build the confidence and the full participation in the system by all, meaning the funders, the program managers, the clinicians and the patients.

Following those four approaches, the benefits from SCMS investments and initiatives often extend beyond HIV AIDS to the health sector in general but I would like to illustrate this statement with a few concrete country examples. And I will start with Guiana, where SCMS supports the Ministry of Health's materials management unit, which manages the procurement and distribution of all public sectors and donated health commodities.

In particular, we have provided support to developing and enhanced warehousing and distribution system for all the commodities that were managed at the MMU and we have a lot of other things, help put in place in a [inaudible] logistic management information system.

This included the implementation of a warehouse management system for an improved storage inventory and information management. Within the warehouse, but we are also in the process of developing and testing what we call an electronic combined requisition and monetary voucher which will

allow the facility to place their order directly into the warehouse management system at the MMU.

And thanks to those upgrades, today Guiana has the most advanced warehouse management system in the Caribbean, the system which benefits all health commodities being managed at country level.

Collaboration is another area, which one can use to have a broader impact on health systems and again in Guiana the World Bank, Global Fund, PEPFAR. And more recently, UNAIDS have joined their efforts under the Ministry of Health's leadership to improve the coordination of procurement planning for ARVs, antiretroviral drugs and other HIV AIDS commodities. And in view of the positive achievements of that initiative, the donors led by the Ministry of Health have invited the TB and malaria programs to actually join the initiative and apply this same process to other health commodities.

And in that regard, SCMS has trained staff from the TB and malaria program into procurement and supply management tools for the development of forecasting and supply plannings and in other words the experience and the expertise in the use of those two was sure to build the capacity of other programs that are dealing with other very serious diseases.

Moving now to Mozambique, in Mozambique we work with CMAM which is the central de medicamento artigos medicos [misspelled?] This is within the Ministry of Health department in charge of procurement, importation, warehousing and

distribution of all the medicines that are being used within the public health system. The warehousing and distribution functions were formally handled by parastatal organization named MEDIMOCK. But it has been transferred back to CMAM earlier this year at the request of the Ministry of Health. However, CMAM did not have any experience in the area of warehousing so SCMS has been asked to help CMAM with the transition and to support them develop warehousing plan.

Previously, MEDIMOCK had organized the warehousing of the central level stock across 11 different locations throughout Maputo. And when we started the assessment of those different warehouses, we quickly realized that this was a very inefficient way of managing warehousing of central level stock. So with USAID deliver and with CMAM of course we have worked on a plan to consolidate the 11 locations into three plan locations and this is just the beginning because ultimately there will be a single and unique location in Maputo for the central level stock.

However, already with this three location consolidation step, we have seen better and more efficient management of stock and we have managed to achieve an improvement of the distribution of all the medicines in the country.

Finally Rwanda, in Rwanda we worked with the government coordinated procurement distribution system (CPDS), which is a coordination mechanism for HIV AIDS commodities and we have the responsibility to provide technical assistance to CPDS for the

forecasting and supply planning of all HIV AIDS commodities which includes ARVs but also drugs for opportunistic infections, test kits, lab commodities.

And also TB commodities for the management of TB and HIV coinfections and the staff that have been trained, were actually coming from different local organizations and institutions in CPDS. For example, they were coming from the national AIDS control program but also from Camarwa, which is the national pharmaceutical procurement agency, or the pharmacy task force within the Ministry of Health or the national reference laboratory, etc. And all those staff are now able to apply the methodologies and the principles of forecasting and supply planning of HIV AIDS commodities to the other health products that they are managing in the broader context of their activities outside of CPDS.

And I will finish talking a little bit about logistic management information system because in Rwanda there are many different LMIS which coexists for different categories of commodities, HIV, AIDS, TB, malaria, essential medicines, family planning and this is really a burden for health workers.

SCMS was asked to help improve the LMIS for HIV AIDS commodities but instead in spite of building a stronger but [inaudible] LMI, SCMS in collaboration with USAID deliver decided to work at strengthening a national unique LMIS, national LMIS that would handle all health commodities being used in country.

Of course this is not something that happens overnight and this is still work in progress. It involves all the stakeholders in country and a lot of harmonization work shops to achieve this but what is interesting here is that the improvements of the HIV AIDS LMIS was actually the starting point of a broader effort to rationalize existing multiple parallel systems into one common and consolidated national LMIS for all the commodities.

And I would like to conclude by saying yes interventions specific to HIV AIDS can raise all boats in the health system. If we work with and if we strengthen existing national system infrastructure and if we foster collaboration among the international and national stakeholders, as the example that I've just described, I've shown, there has been some positive impact of HIV AIDS intervention but we need to develop further efforts to leverage HIV AIDS intervention and maybe we could have a more coordinated and integrated approach to ensure that strengthening the health system is entirely part of a strategy.

We also need to develop further effort to more widely shared best practices and lessons learned across the different programs to benefit all health commodities. And thank you very much. [Applause]

DR. BADARASOM: Thank you so much. We, as you have noticed we have basically run over the time, but I will allow five minutes. I'll just take the liberty to ask the

presenters, Linda, Margot, and Stephanie just to come here and take one, two, or three questions. So, I have seen a hand over there, another one, okay so please introduce yourself first.

CHRISTIAN UNIBERG: I'm Christian Uniberg from the STOP TB department in Geneva WHO, and I was wanting to ask from the THAT'S IT program, it seems that you are finding quite a lot of cases amongst those that are diagnosed with HIV and I'm wondering if that is because they are coming from the peripheral to the center?

I am assuming the TB HIV collaboration is happening in the centers where there is HIV ART provision, is that right, it's more in the central or is it more peripherally in all the centers that provide TB? I was just wondering what your view was on why you are finding such a high number of TB cases amongst those with HIV, is it late presentation or something else?

DR. BADARASOM: I think there are two other questions before I give the floor to the speakers, yes sir? Can you introduce yourself first? Can you take the mic as well and you're prepared, good. That's wonderful.

MALE SPEAKER 1: I'm [Inaudible] from Zambia and my question goes again to THAT'S IT program. Would drug preventative lessons from you, because we are working more or less same program but the TB HIV, the approaches to the way we take TB and HIV. With HIV, I think, we tend to do a bit of science [inaudible] to the most naive person who understands

how the virus is working in their body and how the ARVs work. We are trying to make people understand how the virus works. That is why there is more adherence to drugs for, or to ARVs but for TB, the approach seems to be different.

How differently are you working on this program? Or what is your approach so that people are more adherent also to the TB drugs?

DR. BADARASOM: Thank you so much.

FEMALE SPEAKER 3: Thank you to all the presenters. I'm [Inaudible] from South Africa, the TASK TB Project. My question is directed to Margot Uys, the THAT'S IT program seems to be very comprehensive and elaborate, basically, providing all that which a patient needs to give a good quality of life. My concern is always around assessing morbidity and continuity, that what's going to happen if the program aid seized, are there measures that are put in place to ensure that this is continued, to further contribute to health system strengthening and also my other concern is around skills transfer, when you do the training do you also invite the whole district to make sure that other health care workers benefit from the training that you provide?

DR. BADARASOM: Thank you and the last question.

MALE SPEAKER 2: Okay my name is [Inaudible] from the program management unit of TBCAP at KNCV. My question is also related to the South African integration to Margot, one issue is that you try to integrate the recording and monitoring of

the two diseases but in most countries there are parallel to programs and you have to have separatory cords or at least registers, so how did you manage with that? The other question is you had to require screening some of the settings so what was the barriers for not implementing IPT?

DR. BADARASOM: Okay and the very, very last question comes from this gentleman.

MALE SPEAKER 3: Hello. Dr. [Inaudible] from Tanzania, my question goes to Margot and this one is regarding to infection control, as we all know, that screening of HIV patient TB clinic is easier but somehow it's very difficult to screen people in a care and treatment center. As I can see from your supermarket approach, I mean that is it, how do you go with that one so that you can shows yours to see how much we can learn with the practice from your country? Thank you.

DR. BADARASOM: Thank you so much for all those who asked questions. I think what people tend to ask questions to Margot but I see that all the questions, the questions that we have are relevant to the three presenters so I ask them all to react to those so I'll start with Margot.

MARGOT UYS: I hope I can remember all the questions. First of all, the one that comes first is the training, we do training for all the health care workers in that district that we support, so it's not only directed for the THAT'S IT team, and in turns of sustainability, we are very careful in not appointing many staff members.

We try and be very conservative with that, trying to build capacity from the staff that are there from the healthcare, Departments of Health themselves. Very often the positions are available in the department of health structure that they have just been frozen for some certain reasons or whatever so it is a temporary hindrance from their part.

So I think the sustainability, once the funds are not available, will continue because the department will take over and of course very important is that one has collaboration at all levels of the department so that they are aware of the position that you want to employ the people in or what you want to do.

Infrastructure, obviously, that has been done and that will carry on, so I think that's the issue of sustainability. Then, in terms of how do we do it differently? We work at the periphery at the TB clinics so we bring the antiretroviral virus to the periphery and we also work at the district hospital from that district, so trying, because very often we cannot get accreditation immediately.

That's a long process but if we do [inaudible] of several patients that we can do immediately to the periphery so that's why we've got those mobile clinics so that those stable patients can then access the antiretrovirals at the periphery where they get their TB medication.

I think the success of the program, it has to do also with basically what the HIV program also does is to really

concentrate on patient care and a good relationship between health care worker and the patient and through that, working through with the education of the patient and also making the communities then aware. The community outreach program I think is very important to get the communities to understand and buy in and then making sure that they, patients then adhere to their treatment, so just in terms of the question from Zambia I think it was.

Then, in terms of the statistics recording and reporting, in South Africa there's also two separate recording systems. I think this is one of the hindrances of integrated care but we are working towards, with the national health laboratory system, towards a patient management system that is integrated and it's also PEPFAR funded system that will be developed eventually but that's in the early stages.

If I say integrated care, I talk about working together with the [inaudible], getting our statistics that we need from just the basic [inaudible] spreadsheet for PEPFAR funding purchases, it's getting them together to make sure that they match. I think that was all the questions that I can remember.

MALE SPEAKER 4: [Inaudible].

MARGOT UYS: We adhere to what the providence does in the area. If the province does not implement RPT, then we don't go ahead. We have to adhere because we team work. We do team work with the province. We don't do our own thing.

DR. BADARASOM: Thank you, Margot, then I will allow half a minute to Stephanie and Linda.

STEPHANIE XUEREF: Okay maybe I'll just react very quickly on the question related to separate reports, I think it's indeed a challenge for the implementers in general to have to deal with different constraints and requirements from different donors but I think our role as we are on the field and donors and governments to all work together and to coordinate our efforts to try and establish systems that accommodate those requirements and different constraints.

It is possible we need to be creative and we need to establish mechanisms and tools that allows the collection of data that are important for all of us. And, I think that in the area of supply chain management, there is also a lot to do in terms of trying and better bridge TB and HIV and there are also a lot of reports to manage supply chains that we need to better integrate.

LINDA PEARSON: I'll just comment briefly about diagnostic screening, laboratory screening of TB patients for HIV or vice versa, it is much easier to screen TB patients for HIV because of the use of the rapid tests and however screening HIV patients for TB has more challenges. There is no nice rapid test for TB. The current assay is smear microscopy although there have been some great improvements in that by use of or development of better fluorescent microscopes, less expensive.

And, so, improving the sensitivity however many HIV positive individuals do not have a negative smear. So in the past two or three years there have been much more activities and research into newer point of care assays for TB and we hope that, we are not there yet. But we have heard a lot of information at this meeting and in the literature about newer assays that are under development and now and hopefully there will be something in the near future for that. There are new assays now including the new molecular tests but they are at the reference lab level and so we don't yet have a good assay for point of care but hopefully we will get there.

DR. BADARASOM: Okay thank you Linda. Now it's definitely time to close this session so I will not go into a big wrap up but I will just say that I'm sure everybody here in this room will concur that this session has participated significantly in bringing more life in the ongoing debate on positive synergies between global health initiatives and health systems and I would just close by asking all of you to basically applaud Caroline, Elizabeth, Wesler, Linda, Margot, and Stephanie for a wonderful presentation and wonderful debate. Thank you. [Applause]

[END RECORDING]