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ALAN WHITESIDE: Welcome to what I think is one of the more important parts of the meeting: food security, nutrition and HIV. Sometimes it is quite hard for us to understand the personal aspects of what we listen to.

But each and every one of you will be buying food. And you will know what is happening to the prices of food around the world and in your own countries. And you will understand that this is a real issue for those people who are least able to purchase food in our societies.

With HIV it is a double whammy. Not only are you less able to produce, but you need more. So this meeting this afternoon, this session this afternoon on food security, nutrition, and HIV is I think not only important for the present but it will be increasingly important as the epidemic evolves and we put more and more people on treatment.

My name is Alan Whiteside; I am the director of the Health Economics and HIV/AIDS Research Division at the University of KwaZulu Natal. I have many beliefs, most of which I will not share with you. But the one I will is about chairing.

I believe that the role of the chair is to introduce the presentations and to make sure that the discussion goes freely. Each presenter will have 12 minutes. Interventions from the floor will have one minute. And I will observe that,

so be aware of it. Statements are not invited; comments and questions are.

Let us begin the session, therefore, with the first presentation. And it is a real pleasure for me to introduce Lucy Chescire [misspelled?], who works for an organization with which I have had many links of many years, the Kenyan AIDS Consortium. She also deserves a prize because this afternoon she is going to be probably the only speaker in the conference center who is going to talk without a PowerPoint presentation. So welcome, Lucy. [Applause]

LUCY CHESCIRE: Good afternoon, everyone. Thanks for the humble introduction. As you have heard, my name is Lucy. I work as a clinical nutritionist, but I am basically here to introduce the session in a very simple way. And for one, I am a woman living with HIV.

And I just want to share in terms of what nutrition means to me as a clinical nutritionist and at the same time as a woman living with HIV who is actually able to survive 10 years without having to start HART and then down the line being able to start antiretroviral therapy and then going down to ensuring that I actually sustained the basics around nutrition.

We have overwhelming research that has proved the importance that nutrition plays in the management of HIV. And there are many people living with HIV and AIDS who, as long as they have accessibility to food, and they are actually able to

endure healthy lifestyles on a day to day basis. We understand very well that there is a link between HIV and nutrition.

Now HIV infection many times increases the nutrient requirements. And so one of the things I would like to do when I am in the clinic is look at the person who is in front of me, who has come for nutrition education and counseling and try to work out any nutrition requirements, get to know their dietary history to find out what is available within their households and how do we design a nutrition package for the individual so that at the end of the day they get the most benefits in relation to care.

Now HIV and AIDS, again, increases the risk of malnutrition because we know very well that if a household is food insecure, the chances are they may not be able to meet their nutrient requirements and at the end of the day this exposes one to vulnerability in terms of being able to develop opportunistic infections because of weakened immune systems.

Now how is HIV and AIDS related to malnutrition? We see many patients presenting with weight loss, progressive muscle wasting, reduced immune competence, hair changes, diarrhea and poor absorption. So one of the things I would always want to do in the clinic is carry out a clinical evaluation, look at my patients, are they symptomatic in any way? Do they have oral thrush? Are they having diarrhea? Take the history, find out what foods are available and actually try to strike a balance.

We know very well that there are strategies for us to be able to reduce the risk of malnutrition. One of the things is eating a variety of foods, dietary adjustments to provide for all the essential nutrients in adequate amounts, nutrition interventions to replenish any deficiencies, and giving out vitamin A supplementation, vitamin C. And also most importantly is the issue around exercise.

Nutrition plays a very big role. When in the clinic one of the things I would also want to do is carry out what you call the ABCDE approach. Which is, A for the anthropometric measures. A patient walks into the clinic. Take their weight, height, what their BMI is. And then of course look at if there are any available clinical symptoms that are available that could have an impact in relation to nutrition.

And then of course the biochemical assessment, looking at the lab results and finding out, are they anemic? Do they have any other issues that could bring about complication in relation to nutrition?

And then most importantly is their dietary assessment. What food is available within the household? How many meals are they able to take within a day? And then the environment where they live. Is food available? Do they purchase it in the market? Do they have a kitchen garden that is available?

And I just want to end by saying that while doing all this, one of the greatest challenges that I actually faced while in the clinic is the issue about food security, whereby

we realize that HIV and AIDS causes and increases food insecurity and at the same time, food insecurity can increase the vulnerability to HIV and AIDS and also impacts on HIV.

Now why does this become very important? Because one, there are three components of food insecurity that are really critical to all this. One is availability. The other is accessibility. And then we also have the issue of utilization.

Now what can we do in order to be able to address food insecurity? One is strategies that will deal with program food aid in such a way that it does not create dependency. We know that it is good to give food, but it is better to teach someone how to fish than to give them the fish that they need.

Also other strategies include food assistance, support in relation to agricultural activities, support in training programs whereby as you are enhancing the issues around agricultural production, lets them have the nutrition knowledge so that it is better to buy an orange than taking a bottle of coke or a glass of processed juice.

So the benefits actually need to strike a balance. But the most important thing is being able to ensure that at the end of the day, the person is actually able to have a very nutritious meal irrespective of wherever they are.

And then of course the issue of microcredit comes in really handy, because one is that you realize a person might be household food insecure. Maybe they do not have a job. How do we build in microcredit so that at the end of the day they get

the benefits of actually being able to sustain their food security issues at household level?

So let me just stop there and I am sure we have good speakers who will be able to share with us their great experiences. And I wish you all a beautiful session.

[Applause]

ALAN WHITESIDE: Thank you very much, Lucy for speaking from the heart but with some very practical suggestions. The next speaker, and it is my pleasure to introduce Nigel Rollins. Nigel spent a great deal of time at the University of KwaZulu Natal.

He is a pediatrician by training, but I know that he is an open-minded person because he has lengthy conversations with my deputy director, who is an anthropologist. And I am afraid I don't understand anthropologists, but Nigel does seem to. So over to you, Nigel.

NIGEL ROLLINS: Thank you, Alan for the introduction. And it is a real pleasure to be here, and thank you too, Robin, for inviting me. I was trying to get the presentation up. Here we go.

I think whenever Robin asks me to give a presentation with this title, she knew me a bit too well. Because she was almost including in the title all the things that I shouldn't forget, whenever she added the things in brackets.

Carol Bellamy in 2004 said that AIDS is the worst disaster in history. And of course it is. It is something

that we have been talking about all these days that never before in humankind have we encountered something like this. But actually if you look at the right hand side of the paper, you see that it is not just a matter of a virus, but it is the context within which the epidemic is occurring.

And it says that one in six children is severely hungry. One in seven has no health care. Over 640 million children live in dwellings with mud floors or extreme overcrowding, and over 120 million are shut out of primary schools, mainly girls.

So as a clinical pediatrician, for me to be standing here talking about food security is in fact a necessity. Because you cannot really deal with the clinical, and the individual, without being really aware of the context within which these things occur.

And having worked in South Africa, where the bulk of the epidemic is occurring, it is important to realize that South Africa and sub-Saharan Africa is the only region in the world where there has been increasing poverty over the past 10 years.

In South Africa they have a thing called the HIV AIDS barometer, and they talk about the silent hunger. And talking from the World Bank annual report, they say that most people affected by HIV depend on agriculture. And that reflects maybe more of the African reality.

And the food consumption drops by up to 40 percent in homes afflicted by HIV/AIDS, and farmers are often forced to liquidate assets for treatment. And that really starts telling us something about the interaction between food, money, income and work.

And Alan who is beside us here was the coauthor on a paper a couple of years ago in the Lancet talking about a new variant famine, talking about all the possible ways of this interaction of the secondary effects of the AIDS epidemic could in fact be even greater than the direct effects of HIV itself by a number of different mechanisms.

But before going any further, I want to just say right here that HIV is not a disease of poverty; I think it is really important to remember that. HIV does not respect how much money you have in your wallet, although poverty confines it. And this is a graph that was published last year by Peter Piot, and it is showing the Gini coefficient, which is a measure of the discrepancy between the most wealthy people in the country and the poorest.

And you can see that as you get an increasing Gini coefficient, there is an increasing HIV prevalence, really telling us that HIV is really more a disease of inequity and inequality than solely of poverty in itself.

And geographically and regionally, there are important differences between North America and Europe and sub-Saharan Africa. In southern Africa, the populations mostly at risk are

also the same populations who are mainly at risk of food insecurity. It is not just a matter of how much food but the type of food that is available. And there is also the biological interaction that there is a higher burden of infectious diseases that therefore the need for effective antioxidant systems.

So when we look at HIV in the West, and there are a number of different mechanisms by which it occurs, HIV does increase the amount of energy that the body is using on a day by day basis. There are increased losses due to malabsorption and diarrhea, and there is also decreased intake through both curbed appetite, stress, depression, care practices and also the issue of lack of food.

So WHO; a couple of years ago they convened a series of technical meetings where they tried to quantify how much energy does the person with HIV need? And this is important. In order to be able to tailor and cater to the requirements both of the individual and also for programs, understanding how much energy should be provided to a particular population.

And it really goes something like this, that whenever you become infected, from the time you are infected, you need about 10 percent more energy. When you have an opportunistic infection like TB or chronic lung disease or diarrhea or some of the malignancies, that energy expenditure increases by about 25 to 30 percent. And when you are severely malnourished, up to 100 percent, especially in a small child.

But this should always be in addition to what is a normal and adequate diet, and a normal and adequate intake. And in a setting of food insecurity, this becomes very difficult.

One of the things that Robin asked me to talk about was micronutrients. And micronutrients in many ways, in Tanzania, the area where I work for, they talked about the eyes of the hippo— a bit like the tip of the iceberg. Because when you talk about micronutrient deficiency in terms of a blood level or something, there is something much larger, much greater, that is much more serious underneath the surface, rather than just that one micronutrient deficiency.

And it is complicated. Because with HIV and micronutrients, there is that complex interaction. This is work by Richard Sen [misspelled?] done a couple years ago. Whenever he would find that women had low retinol levels in the blood, had high transmission rates to their children. Whenever women had high vitamin A levels in the blood, there was very much lower transmission rates to the child. And people got very excited, well maybe we can give vitamin A.

But all this was really telling us, and the subsequent studies proved this, was that some of the things we see in the blood are merely a mirror of the advancing disease in the person. It is not truly an effect of the low vitamin A. And it gets more complicated.

And I do not want you to read anything of this slide, but this is some work by David Thurnham. He really just illustrated the number of complex interactions. One micronutrient will increase or decrease the absorption of another. Or will facilitate or take away from the functionality of another.

And so it becomes very complicated to simply try and interpret a single, one blood result. And it is really the functionality that is more important than simply a blood level.

So while we do have a strong evidence base, and we do not have time to go through the papers, these are some of the things that we can do. Vitamin A supplements to children infected by HIV makes a difference. It helps protect against diarrhea and all cause mortality, and there is a reason why we need to strengthen that part of the program.

Zinc in diarrheal disease helps to shorten the duration of diarrhea and prevent the progression to prolonged diarrhea. Iron in anemia is okay if you can demonstrate an iron deficiency, and routine iron and folate are ok in pregnancy.

The question comes about multiple micronutrients. There have been some papers that have demonstrated some clinical benefit in getting multiple micronutrients, even mega doses, in preventing disease progression, and the bottom line on this is we still do not really have enough evidence to say that we should go with this at a full program level. More research is certainly needed.

And WHO in a review, this is how they summarized the information. HIV infected adults and children frequently have low levels of micronutrients in the blood. But that what we should be doing is guaranteeing a micronutrient intake of RDA. That the recommendations of vitamin A, zinc, iron folate and multiple micronutrients remain the same.

One area of interaction is with diarrhea. And diarrhea is as you all know is very common both in affected adults and children. And it is important because it predicts survival. Chronic diarrhea is six times more likely to develop in infected versus unaffected children. And persistent diarrhea is associated with an 11-fold increased risk of death.

And when we talk about diarrhea, the next thing that should be on our breath is actually water. And in 2006 the UNDP human development report said that globally, more than 1.1 billion people worldwide do not have access to clean water. 2.6 billion do not have adequate sanitation. And diarrhea due to lack of clean water kills five times as many children as HIV.

In Botswana in 2006, there was an outbreak of cryptosporidia in the water supply. In the course of about four or five months there were 24,000 cases of diarrhea and about 500 deaths, which was over 10 times more than what had been in the previous three months of the preceding three years.

And in one report this particular paper talked that most of the children that died were in fact enrolled in the

prevention of mother to child transmission program, and were being bottle-fed against the ministry's advice that they should be cup fed. Which I think is rather simplistic.

This work by CDC they find that the highest predictor of admission was if the child was not being breastfed. This is another area of strong evidence that whenever we talk about HIV and feeding, we must be thinking about overall child survival, and not just avoidance of HIV.

One other area where we have a strong evidence base is with respect to breastfeeding. Breast feeding in the uninfected women has a nutritional cost much more than pregnancy. About 500 calories a day. Two studies have shown that HIV infected women tend to lose more weight over a period of prolonged breastfeeding. Not just short breastfeeding, but if there is prolonged breastfeeding.

This was work by Peggy Papathakis in South Africa. And there was a similar study by Filinia [misspelled?] Otienne in Kenya, showing a decline in BMI over a two year period if women, infected women, were breastfeeding for two years.

And there are different ways of interpreting this. Some people would say, well, you shouldn't breastfeed, then. Another way to look at this is that these women should be getting nutritional support. It gives you a strong biological reason to say that these women who are choosing to breastfeed because it is the most appropriate of her child need nutritional support themselves.

One area that is a bit different from the clinical impact is with HIV prevention. This was a paper published by Shari [misspelled?] Weiser last year. And she did a cross-sectional population case study in both Botswana and Swaziland, did a lot of interviews.

And the bottom line was that she found that where women had reported any time in the past 12 months of food insufficiency, that there was an increased risk of inconsistent condom use with nonprimary partners, of sex exchange, of intergenerational sex and loss of control in sexual relationships, telling us that the food insecurity is not just important for the person who has HIV, but may in fact be a really important factor at population level that actually helps to drive the epidemic. And while we would have said that intuitively, this is the first data that has really been published that is showing that.

And really just a final comment in all of this, out of the time whenever there is a global food crisis, whenever poverty is endemic within the region most heavily afflicted by HIV, does equity matter? If you have two households, one affected by HIV and the other one not, can you support food being given to one hungry family and not being given to the person next door? We have got to be taking a much broader perspective.

So really in summary this is to say that HIV does have a direct affect on the nutritional status of the individual,

and nutrition has an effect on immune. Nutrition assessments as Lucy mentioned need to include both the clinical but also assessments of food security, rapid and simple systems are needed, ART adherence and primary prevention are important factors, and protecting families from food insecurity may decrease transmission risks. Thank you very much indeed.

[Applause]

ALAN WHITESIDE: Thank you very much indeed, Nigel, for an interesting and thought-provoking paper. It is my pleasure to introduce now Christine Nabiryo and she told me how to pronounce it, and I have failed miserably, so perhaps you will say your name again. Christine is from TASO in Uganda, and she is going to be talking about Barriers to Scale-up: Treatment Success and Ensuring Food Security and Nutrition in the Long Term. Thank you.

CHRISTINE NABIRYO: Thank you very much, Alan, and I hope that I will get two more minutes for failing to pronounce my name.

My name is Christine Nabiryo, and I work with the AIDS Support Organization. And I am here to present what our experience has been with the work that we have been doing. And the title of the presentation is Barriers to Scale Up: Treatment Success and Ensuring Food Security and Nutrition in the long Term.

I would like to start by acknowledging some of our partners that are helping us to document this work in food

security, and these are research partners, the Makara [misspelled?] University and the Minister of Health, the World Food Program, renewal and precollaboration, and then the George Washington University collaboration. And if at the end of my presentation you feel that you would want to add to the list of our collaborators you are more than welcome.

So that is the list of what the outline for my presentation is, and to start with that statement, that in June 2006 the UN General Assembly mentioned that there was going to be a commitment to scale up of comprehensive HIV treatment, prevention care and treatment by 2010, and there will be address of the obstacles to scale up.

But we still see, and we still know, that there are many barriers to scale up and many of them we have been able to tackle and touch but they have not yet gone away. There are inadequate health systems in terms of infrastructure, logistics and supplies, management chains, human resources challenges. That theme has resounded throughout this conference.

Stigma and discrimination still is a huge challenge. Inadequate focus on high risk groups. And of course, this bullet on other basic needs highlights food security which many times may be masked by the other, bigger challenges and obstacles and to highlight that the people that have to come and access the treatment and the care wherever it is housed in a facility have to incur transport costs and be able to come over. So if they are poor then there are problems and there is

a challenge to their access. And of course overwhelming numbers of new infections.

That slide Nigel has already mentioned about what the study in Botswana and Swaziland comparing women who had sufficient food and those who lacked sufficient food, what the findings were. So I will not belabor that point.

But I want to introduce where Uganda is found. I know that I should not take it for granted that we all know where Uganda is. It is in the heart of Africa with a high HIV/AIDS burden but currently our prevalence has fallen down to 6.5. And then TASO, the AIDS support organization, is an NGO that was established in 1987 to respond to the epidemic and to support and complement the efforts of the government in terms of address of HIV/AIDS programming. And our core business is psychosocial support, medical care and treatment of people living with HIV AIDS, but also community capacity building for prevention care and support.

Most of our clients are female. And 50 percent of the female clients are widowed, and 80 percent of our clients are unemployed, earning less than \$1 a day. And that is a graphic presentation of our gender participation of our clients.

So in terms of what we do when clients come to us for care, the psychosocial needs assessment and psychosocial support services offered. And when we did a ranking of the psychosocial needs of our clients, we find that closely after their health, which is the primary reason they come to us, food

security was a big concern, and then followed by support of their children and livelihoods.

And when we carry out— TASO currently has 20,000 people living with HIV/AIDS on antiretroviral program, out of 80,000 active clientele across 11 centers in the country. And when you are carrying out screening for ART readiness, we do the HIV status and the WHO staging and CD4, and we also have a criteria called the psychosocial readiness criteria.

And one of the issued that we look at and which is of great concern to our clients as they start going to the ART program is food security. And this is cited by the clients themselves as a worry, because they know that the drugs they are going to start are strong and they need to have food available.

When we looked at our database it was interesting to see in blips and an increase in new client registration around 2002 and 2004. And looking at the environmental context around 2002, that is when, with the support of the World Food program, TASO was able to introduce the food support short term food support program. And so we can extrapolate from that that the need for food drives people to access services. And then 2004 is when we started the antiretroviral program.

So there is noted good effects of the ART program and also just to note that our clients have mentioned an increased food intake noted during the first three months due to the demand for their body recovery from the effect of the disease.

And also just a slide on a survey amongst our clients, we found that most of their income was spent on food, and that there was a 29 percent who had to even get support, so this was support from their relatives.

A short study also that was done on short term food insecurity actually from one of our centers, the Mbale [misspelled?] Center, where the George Washington University Collaboration established that there was severe food insecurity in 68.7-percent of the participants in that study.

So we need to ensure longer term food security and nutrition. Even within the context of our care and treatment services, beyond the short term food support that may be offered when it is available, if it is available. So food security and nutrition needs of the clients at TASO has led to an emphasis on food and nutrition security.

Like I mentioned in earlier slides, this is not part of our core business. Our core business is psychosocial support, treatment and other forms of care and community capacity building. But we found that if we were to be relevant and responsive to the clientele we were serving, there was no way we would do away without addressing food security and nutrition.

And nutrition, food, and livelihoods programming is implemented through partnerships. It is not our core business. But we have gone out and sowed partnerships for livelihoods.

And the next set of slides reflects just some of the work that has been done with our partners.

So this framework shows you what we are looking at. We start off with food support and social welfare in the short term. But we want to look at opportunities. And we are looking out and have tried to link up with partners that can help us have jump start programs in terms of programs that can help support our clients. Agribusiness, like the Heifer International Project, food security projects like the ACDI/VOCA World Food Program project, into a sustainability process where we can have loans and microfinance to support the clients. So that is our long term vision of a successful, sustainable livelihood program.

So there are benefits to food security and livelihoods. And I will just highlight the first one, client attendance and retention in the programs is very useful if you have livelihoods. So the next set of pictures just shows some of what has been done.

A demonstration garden can help change a paradise. Training of some of our client representatives who are the leaders of the client groups also helps to bring the skills forward. And this slide shows a client who has been supported by a partner and has grown some tomatoes. Hopefully they will not only eat them, but also have surplus to sell and have some income.

Family involvement is very important, so that it is not only the index client that has the skills but even their families, so that if the index participant is sick, then their family is able to take on those activities.

So this is a slide showing goats. I hope it looks like goats. And it is one of our clients in the TASO center in Jinja, and she is able to get 12 liters of milk a day and has been able to take her first born child to university and the rest of her children are attending universal primary education.

But the point to get out of this is that then she is able to get some income and able to address transport costs and able to continue coming to seek services and get services whenever her follow-up visits are due.

But there are challenges, many challenges. We have been able to get 6000 out of our 80,000 clients onto these partnerships. But there are few partners to cover all the 80,000. And that is just for TASO. There are so many more that would need this in Uganda. So taking the efforts to scale is a challenge. Seasonality, and the rest of the slide as it appears as I am running out of time highlights other challenges.

I would also want to highlights some of the partnerships and livelihoods that we have to date that have been able to help us scale up to the level we are at: Heifer International, FADEP and other partners.

So in terms of recommendations, sustainable livelihoods needs to be included as a component of comprehensive care of people living with HIV/AIDS, and we need to advocate more for resources and inclusion for people living with HIV/AIDS in these programs.

Do I have the two minutes? No. Okay, one more minute. So I would want to end with this slide, that we have had big challenges in the past in the world of HIV AIDS programming, we had very big challenges around scaling up treatment and care, and I know that food security and HIV programming poses yet another challenge, but I want to say that with partnerships and commitments to address the needs of people living with HIV/AIDS as a holistic package, we can register even greater success in treatment scale up as we focus on ensuring food security and nutrition in the long term. Thank you. [Applause]

ALAN WHITESIDE: Thank you very very much, Christine. TASO is a shining example of what can be done in resource-poor settings. We move not very far away, to Kenya, now, as we invite Dr. Abraham Siika to come to the podium and to talk on nutrition, food security and ART, an example of good programming practice, challenge and successes. Dr. Siika is from Moi University in Eldoret, in a beautiful part of Kenya, I remember.

DR. ABRAHAM MOSIGISI SIIKA: So I am trying to get my presentation up. All right, thank you, chair, and let me also thank the organizers of the conference for inviting AMPATH to

present. I wish to thank the organizers and my director, Dr. Kimaiyo for allowing me to speak on behalf of AMPATH, and I will briefly show you some of the challenges and successes we have had in our nutrition program at AMPATH.

AMPATH stands for Academic Model for the Prevention and Treatment of HIV, which was initiated in November 2001. We have currently about 18 care sites in western Kenya, in east Africa, with a catchment area population of about 2 million people where the prevalence of HIV ranges between 2 and 30 percent. We have more than 70,000 patients that have been enrolled, so far, 55,000 of whom are still in care, and 35,000 are receiving antiretroviral therapy.

In our catchment area, in the places that we have clinics, the food insecurity estimated to be between 20 percent in some of our sites to as high as 80 percent in some of our other sites, the arid areas, but generally the average is 30 to 40 percent. So we do have a large number of patients that are actually food insecure.

In terms of our nutrition program at AMPATH, the components of which include a nutrition assessment and education and counseling for all our new patients, and for all the other patients, they continue counseling education assessment, followed by a food prescription for those patients that are qualified as being food insecure. They then present to a distribution point that is run by our program for supply of food on a weekly basis.

We also have a number of high production, low cost farms in some of our sites that produce vegetables, eggs, milk and fruits to supplement the food that we give to our patients. We recently have initiated a community-based therapeutic feeding program, but it is for extremely sick and weakened, wasted patients, and I shall come to it in a short while.

We have an infant and young child feeding program as well as a fully electronic nutrition information system that is used for planning as well as for reporting and forecasting of food requirements.

In terms of the food support that we give to our patients, we aim to give food to meet 75 percent of the required daily requirement, the daily requirement, and to give out food for the duration of the treatment, for none months. For six months and then we wean off our patients over a three month period.

We give food to all of the household members of the patient benefit, and our sources of food are from the World Food Program, Health Aid, World Fund, and Abbot gives us Instamix. We have different kinds of food: maize, pulses, oil, CSB, vegetables, fruits, milk as well as eggs.

In terms of beneficiaries, since 2005 when we started a really robust and active food program, we have seen our numbers increase from 557, that is the blue bar on that graph representing the year 2005, and by April of this year, 2007, we were feeding close to 30,000 individuals in the program.

In terms of success, it is kind of difficult to say how successful one has been and what parameters one should use. I do not think that there are standard barometers for success in providing food. Is it how many patients you are feeding, or is it how well the food is being consumed?

But I have chosen to look at some data that we have from a retrospective study that was done on some of our individuals, and that graph there looks at a cohort of patients that required food and got it, and comparing this with patients that did not require food. And we have looked at the CD count improvement over time to see how the two groups of patients perform.

And if you look at the point at which we start treatment, which would be between minus three and positive three, there is a definite difference in the baseline CD cell counts for these two groups of patients. The upper line, here, represents the patients that required food by our assessment and the green line represents those who did not require food.

And there was definitely a difference. The patients who required food were definitely much more immune suppressed. But if you look at this graph is over a period of about one year, the patients that were more immune suppressed, requiring food and got it actually are able to catch up with the other patients. And we think that it does in a way elaborate on success. And this does not for the CD4 cell counts but also for the BMI does catch up with time.

Now this is even more clearly expressed in this particular graph, where we have looked at patients who got food which required food and got it, and those patients that required food but did not get it, whether because they did not come for it or because that particular time we did not have enough food to provide to everybody. And you can see that in this graph that we are looking at just BMIs, you can see as time goes by, even as they get into antiretroviral therapy, the ones who did not get food are doing much worse and are not able to catch up, even with treatment, at 12 months.

I did mention that initially about what we call our community therapeutic feeding program. This is a new program that we have introduced in our organization. And we take the extremely weak, extremely wasted, very sick patients, bring them into a central place, and we feed them ourselves. We have our nutritionists who take care of them and nurses and community health workers assisting feeding these particular patients until such a time when they are able to get up on their feet and go back home.

And here is the most treated one, one of our very first patients who came up could not walk, had a BMI of about 15. and it is the same patient that you see on the right hand side, three months after going through our program. And we are now trying to expand this program to as many of our clinics as possible.

In terms of challenges, basically the same challenges that have already been told. Nigel has talked about them and Christine. But those that are specific to our program, one of them is the fact that we have not been able to satisfy the demand for food from our patients and this is largely because of the very high endemic poverty levels and the very high number of vulnerable orphans and children that are been left behind. And on the right side, you can see a grandfather, typically extremely poor and has been left with several grandchildren to take care of.

Then we have another problem that is late presentation patients, you get patients with BMIs as low as 14 and 13, and sometimes it can be pretty challenging to bring these patients out of that amount of wasting. Their chances of survival are markedly reduced.

We have logistical challenges. Like you saw, we have 18 sites, and we have to give food to patients on a weekly basis. We have to transport this food to those places and it can be quite challenging to get the right amount of food at the right time in the right places. We have issues of storage, some of our sites are in arid places, very high temperatures of between 35 and 40 degrees on any one day, and even by the time that the truck that supplies the food gets there you find that the vegetables and fruits are already wilting, so that is a big challenge that we have.

The distances between our distribution centers and where the patients are, we think, is a big challenge and it may be a big hindrance to some of our patients coming in for food. We have sustainability issues. Currently we are only able to wean between 60 and 70 percent of our patients at the six month level, and we have about 30 percent of our patients who we are absolutely unable to wean. That is a big challenge.

And then we also have patients who have been successfully weaned but come in six months or one year down the line already with wasting disease because they did not get enough food while they were away.

In terms of solutions for some of the challenges that we have, we do believe in enterprise development and management and we do have in our program a family preservation initiative that concentrates on building skills and educating our patients on business skills. They also provide microfinance and perform agricultural extension.

We have been trying to see if we can double our output in our funds and we also have an Early HIV Diagnosis program. Basically we go into the community into peoples homes and ask to test them. And the reason behind this is that we want to get our patients when they are still strong enough to counter the effects of HIV, the long term effects of HIV, of poverty and wasting and severe morbidity and illnesses.

In conclusion, we as a program do believe that adequate nutrition is key to successful ART provision. We do know that

there are lots of challenges to providing nutrition support, but with the proper planning and support it is possible to wean our beneficiaries off the food support that we provide them. And we also do believe that we can conquer hunger, but only if we do, at the same time, address the twin issue of poverty. Thank you very much. [Applause]

ALAN WHITESIDE: Thank you very much indeed. Challenges indeed, and I think the question of long term dependence on food aid is something which we are going to see increasingly over the next little while, with the changes in the global situation.

The final speaker this afternoon is a friend of long standing, Robin Jackson, who also deserves to be congratulated for putting this meeting this afternoon together. And thank you for that, Robin. Robin is going to talk to us about the cost of providing food and nutrition and care support and treatment programs.

It is an exceptionally interesting presentation and there is some really important and new data that I certainly had not seen until this morning. So over to you, Robin. I should also say that she is an economist, but she is, unlike most, articulate. [Laughter]

ROBIN JACKSON: Okay, thanks a lot. And just to say that there were many other people who were involved in organizing this panel discussion. Thanks.

I am going to be very, very brief, you will be happy to know, presenting a costing study on nutritional support for HIV programming. This study was carried out by UN/AIDS, WFP and George Washington University Center for Global Health.

I think we have seen the importance of food and nutrition in HIV programming in all of the different discussions this afternoon, but we think that understanding the costs of providing nutritional support for programming is also important. And we think that this study will show you actually how affordable it is.

One of the issues that we have run up against is that donors have a tendency to say, ah, if we provide food, then we will not be able to provide drugs. We do not have enough money. And as we know, we can not do without one or the other. We need to have both. What this study shows is actually how affordable and feasible including nutrition in these programs is.

For this study we looked at 18 countries and 29 programs. The costs that were included are transportation, staff, warehousing, payment to NGOs. It includes both imported and locally purchased foods, and the importance here is these are real costs of the projects from 2006 and 2007 and this means that the most recent price hikes in food and fuel have been taken into account.

One of the things that makes this study extremely robust is these are not estimates. This is one of the only

studies that has such detailed real costs from a range of countries and programs. As you can see, there is a bias toward sub-Saharan Africa, but again, these are high burden countries. It is also where this is the biggest HIV programs that have food components in WFP, and this is where our data set comes from.

On this table you can see on the, I guess it is the left hand side you have four different activities. The first three are care and treatment programs and the last is OVCs. For the care and treatment programs, the beneficiary numbers include both the patient and four family members. So that is five people. The daily cost of providing nutritional support is approximately 70 cents.

If you look at OVCs, and OVC orphan and vulnerable children programming, this does not include family. However it does include three meals a day for the affected child. And it is approximately 31 cents. I think this shows just how affordable it is, and I do not think you can get much cheaper than this. And I will probably say most of you probably paid more for your cup of coffee this morning than that.

Here is the standardized food package that we used as the basis of our calculations. You can see the amount and the type of food for each of the programs. One of the very interesting features of the model that we have done is that we have calculated each of the commodities in the food basket based on 100 kcals. So we have the price per CSB by 100 kcals,

for example. This means that we can continue to refine the commodity basket as it changes.

This slide shows exactly what is in the costing. As you can see, the amount of money that is going towards food alone is approximately half of the total. Food costs for the first set of activities, the care and treatment, are approximately 35 cents a day, and approximately 15 cents a day for orphans and vulnerable children.

It is important to note that a lot of costing studies look at commodities alone and do not look at all of the supply chain costs involved. So for example if we were to compare the cost of food to anything else, we should be using the 15 cents or the 35 cents. But we believe that it is much more realistic and accurate to take into account all of the costs involved in the supply chain to deliver a particular good. So here you have it, from farm gate to family plate.

As I mentioned earlier, this model has taken into account increased food and fuel costs for 2007. We have used data from IMF and FAO to forecast food and fuel costs from 2008 and 2015. Based on these projections, the maximum increase in costs would be 87 cents for nutritional support around care and treatment programs and 37 cents for the orphan and vulnerable children programs. Again as you can see, even with these increases, the total cost is still quite low.

The current data shows that in 2015, the annual global need for nutritional support will be between \$1.7 and \$2.7

billion. This range takes into account the increase in food and fuel prices. It also takes into account a corresponding increase in food insecure people and those in need of nutritional support participating in HIV programs. This is approximately 3-percent to 6-percent of total HIV costs in 2015. And this estimate is based on UN/AIDS phased scale up scenario to achieve universal access to treatment in 2015.

I am sure you would agree that nutritional support represents a very small percentage of the total resources needed to address this epidemic.

So in conclusion, I think that we have seen that advances in treatment care and prevention risk being undermined if we do not provide basic nutritional support to those in need. What I have tried to show is that we think it is very affordable to build nutrition components into HIV programs. And what we would really like to see, and what we have been really trying to ask is that global and nutrition financing mechanisms do more to ensure that these basic needs are met. Thank you very much, Alan. [Applause]

ALAN WHITESIDE: Thank you very much, Robin. I should have mentioned that Robin is a special advisor at UN/AIDS on nutrition. Phrases that will be remembered for me: from farm gate to family plate. That is a wonderful phrase and I think it's well worth noting.

Also I think when you give your figures, the 71 cents per day is great for advocacy, but when you are talking to the

policy makers, the \$127 a year is probably more appropriate, and it is certainly something which I can take back to the people I speak to.

We now open the floor for questions, and I would like to invite delegates to come to the microphones if you wish to ask a question or make a point. And please note that you have 90 seconds. You, sir.

JOHANN KULAMER: My name is Johann Kulamer [misspelled?], freelance journalist. This is primarily for Robin Jackson. Do you think as an economist, and seeing the situation of food prices, the money is best spent simply handing out food to people, some of whom are still working? Or some of the money could be invested in actual structural mechanisms to keep food prices lower? Thanks.

ALAN WHITESIDE: Thank you so much. We will take a few points and then hand it back to the panel. The back microphone? The lady?

WISAL MUSTAFA: Thank you. Wisal Mustafa [misspelled?], Health Alliance International, Sudan. My question is for all the panelists. They provided very good vertical programs for nutrition support. As we are approaching universal access, I am wondering how can this be expanded on a larger scale and involve the national mechanism, as Robin has mentioned. So I would like to have any thoughts on expanding this to more patients.

ALAN WHITESIDE: Thank you very much. At the front microphone?

WES SAI: Wes Sai [misspelled?] from OXFAM. I find the contradiction between the second speaker and the rest of the panel on the issue of HIV/AIDS and poverty a bit intriguing, and I would like the panel to comment on that. Because in the— in this times where we have free ARVs out of told we would not be having a situation where we have a large number of people suffering from food insecurity at the same time having HIV. Thank you.

ALAN WHITESIDE: Thank you very much. And then to the back microphone?

RACHEL YATES: Thank you very much for those great presentations. My name is Rachel Yates from DFID. I think my concern is really about the possibility of equating food security with food handouts. And perhaps we also need to look at other predictable forms of social assistance such as cash transfers, which we know in Kenya and other parts of the world have had predictable outcomes on nutrition but also give households affected by AIDS greater choice on health education food expenditure.

And I just wondering whether you can say anything about other studies that have perhaps compared the cost effectiveness of food transfers versus cash transfers, and whether indeed cash transfers might be more affordable and sustainable.

ALAN WHITESIDE: Thank you Rachel. And let us go to the panel and get some comments on the first four questions. Nigel, one was specifically addressed to you.

NIGEL ROLLINS: The point I was trying to make was that whether it is someone with a lot of money in their wallet or with no money in their wallet, that the biological risks are not related to poverty. And I think that is— one of the backgrounds is coming from South Africa, where it was related, it was related or said that this is a disease of poverty and therefore the primary response needed to be poverty alleviation.

Prevention needs to incorporate many of those social structural responses, but it is not strictly a disease of poverty. You have a raging epidemic.

While I would say that there was a nice poster the other day which showed that in Uganda, that the levels of food insecurity and HIV affected population were lower than in some other communities, and they were I think getting to your point that where you do get ARV rollout, you get families being protected from many of the consequences of HIV and that there was not the amount of food insecurity.

So I do not think that they are contradictory. I think in fact they are complementary, these realities. Biologically it is not a disease of poverty, but it clearly has an impact on poverty and food security.

ALAN WHITESIDE: Robin, there was a question to you.

ROBIN JACKSON: Yes, I think that you are talking a little bit apples and oranges in the sense that I do not think that these are considered to be handouts to people. I think that these programs are nutritionally based programs which are part of medical care. And that I think that it is necessary, certainly from what we have seen and what is in scientific literature to make sure that these are part of these care and treatment programs and part of the orphan and vulnerable children programs.

And what can be done in terms of keeping food prices lower in terms of subsidies, etc., I think it is a different issue.

The other— can I answer one other question, with— well, I will not answer it, but I will contribute to it. And this is the issue about food and cash. And I think that in different situations, cash is wonderful. And I think in some situations, food is great.

One of the things that we need to make sure is that the specific types of food, particularly in terms of micronutrients, are available. And if they are not available, then actually giving them in these settings is going to be much better.

The other issue is in terms of high areas of high food prices, for example in Zimbabwe, and South Africa where you have very high inflation, cash actually is not that useful,

because its value is diminishing daily. And so in these kinds of situations possibly food transfers will be more successful.

ALAN WHITESIDE: Thank you. Let us hand that question on cash transfers for comment to Abraham and Christine, because both of you are involved in programs providing food. What would you say if somebody said provide cash instead? How would you answer that?

DR. ABRAHAM MOSIGISI SIIKA: We do not have much experience with handing out cash to patients who require food. And quite honestly I really, for patient it is giving them cash does not make sense to me as a clinician.

I would rather give you food to get on your feet. Then we train you to utilize your skills and whatever little land or whatever it is that you have, we empower you, and actually in our program then we go ahead and give you some money as a loan for you to be able to sustain yourself and pay us back that money.

But in terms of cash on its own versus food, I am afraid I do not have much experience on that.

DR. CHRISTINE NABIRYO: Well, in terms of cash transfers I now speak in the context of TASO, I presented a slide that showed that 80 percent of our clients are unemployed and living below the poverty line. And so you can imagine what happens when you give this person a cash transfer, with the many competing demands that this person may have.

A child may be thrown out of school that day, a house that may be leaking, or rent that is due. And so many other challenges that there are.

So if you are dealing with people who are living below the poverty line, I think you need to make sure that the cash transfer actually does take care of a wide range of things. I think these are some of the lessons that even the microfinance agencies in terms of collaboration have shown, that sometimes they give loans for a business but the money never gets into the investment that it is supposed to get into.

But that is from my personal point of view and from the challenges that I see with our program. And other people could talk to this.

And I would also say that somebody mentioned that maybe food is given to people who are alive and well and walking around and it is just dishing out food left right and center. We do not do this. There is an assessment that goes into identifying who are the food beneficiaries, and we do not just give out food to everybody who comes through our doors.

Somebody wanted to know about what happens— I will go on to— what we presented as vertical programs and how do these relate to the national mechanisms. And I would say that many times in our contexts as civil society organizations, we are faced with challenges and are rapidly required to provide an answer and to provide strategies with which to address the challenges and we move then beyond that to address and document

what we have seen and put that to the policy makers and share our experiences in how this can be scaled up.

So what I have shared is what we have documented as what has worked in our context. And we know that they are challenges but it is ongoing work. We are part of a consortium for the food security and nutrition programming.

Currently in Uganda we have been going through a process of – we finalized the national strategic HIV framework on nutrition and HIV/AIDS, actually hit, the table of priorities that needed to be addressed. And what we were doing has been documented as part of the process to inform the policy on how this will move forward.

So now we have nutrition and HIV hitting the list of priorities in our national HIV/AIDS framework. So that is what I will say for Uganda.

ALAN WHITESIDE: Thank you. Lets go to the microphone. At the back there?

MISU DEBIEN: Hi, Misu Debien [misspelled], journalist. Sorry I do not speak English very well, but I want to know how much for affect the international high price of the food to the attention and the infection on the food countries?

ALAN WHITESIDE: Could you repeat that again? Could you repeat the question? I did not quite get it.

MISU DEBIEN: How much of the international high price of the food at the mission and infection on the food price?

ALAN WHITESIDE: Okay. Thank you. Take the lady behind you, and then we will come to the front.

MISU DEBIEN: Sorry.

ALAN WHITESIDE: Thank you very much. I have got it, I think. The lady behind you? Could you pass the microphone?

MISU DEBIEN: Thank you.

ALAN WHITESIDE: Thank you.

FEMALE SPEAKER: My question is related to the idea of, if there is any evidence that any of the panel is aware of that indicates that nutritional therapy might have a benefit to people living with HIV prior to the need to go on antiretrovirals, as well as the potential for nutrition therapy to serve as a biomedical mechanism for HIV prevention.

ALAN WHITESIDE: You, sir.

ELMER VAN THOMAS: Hi, My name is Elmer Van Thomas with the Global Fund. I look after the East Asia/Pacific work that the Fund does. And really a comment and a plea. Comment is this: we recently did an analysis of the nutrition component in the grants in the region that I oversee, and we found that less than 0.1-percent of the disbursements that we have made, of the portfolio that I oversee, goes towards nutrition programs.

I understand it is high end sub-Saharan Africa which is appropriate, however 0.1-percent is very low. My plea is this: What can we do at the CCM level, at the level of people who are writing proposals, to ensure that nutrition programming plays out more prominently in the proposals that we receive? Thanks.

ALAN WHITESIDE: Thank you. And— [applause] Thank you. I suspect you also have part of the answer for this. At the back there.

JAVIER CRUZ: Thank you. My name is Javier Cruz from the Science Journalism Office of Mexico's National University. I have a question for Dr. Siika. One of your graphs showed indeed how people following your health program can catch up, you said, in terms of CD4 counts. But then at 12 months they seem to rebound back down. And I missed the explanation for that.

It might be because you said also that your program goes from six to nine months. Presumably you then stop and something else happens. I would be very interested in knowing what it is.

And also a question for Mr. Nigel Rollins. If you identified population clusters with some nutritional needs, say in Mexico, for instance, and then you flashed up some WHO recommendations for presumably you would plan and then implement an intervention, a nutritional intervention. Do you have a compact set of parameters, not necessarily CD4 counts because you would also have people not HIV positive in these clusters. But would you have a brief set of parameters that show some improvement in that timeframe, six, nine, 12 months? Thank you very much.

ALAN WHITESIDE: Okay. We will give the panel a chance to answer and I will come back to the floor. So let us start

off with the questions that have been addressed. Nigel, perhaps you would respond to both the last question and also the question about nutritional status and risk of infection?

NIGEL ROLLINS: So, the two questions from the first one was, if I understand it, nutrition and is there value of nutritional support early in disease as opposed to simply in late disease? And this is a big question.

The data, I do not think, is available to us. There is no data that I am aware of that tells us that very early nutritional support prolongs the period before needing antiretroviral drugs. It is a question that many, many people have asked, and methodologically it would probably require a very very large study indeed. And it may be a question that we never actually get an answer to.

Where we do have more explicit data is in the use of micronutrients. As a way of prolonging health before needing antiretrovirals. And there have been two studies, one from Thailand, one from Tanzania which were suggestive of that. And they were actually using micronutrients up to 20 times the RDA.

And there are other studies ongoing at the moment looking at whether early use of micronutrients actually prolonged the period before needing antiretroviral drugs. But those results are not available as yet.

Biologically is there a rationale, why better nutrition? And the answer would be yes, that many of our body's functions, whether it be immune or the integrity of

lining, whether it be in our lungs or in our guts, for women in the vagina, those things can be affected by the quality of nutrition and so theoretically the answer would be yes, there are good reasons why better nutrition may protect someone.

But I think the work by Shari Weiser is actually more compelling, that food insecurity in driving people into alternate behaviors may be actually equally important.

The questions from the gentleman about do we have evidence about indicators; the answer is no at the moment. The past five years have seen the nutrition world move through a very rapid period of trying to put together evidence, of trying to gain advocacy, getting statements from the General Assembly, getting agreement from the Global Fund where there have been meetings, and I know that the Global Fund would welcome these things.

But in terms of having a population-based set of indicators and studies and indicators, we do not have that.

ALAN WHITESIDE: Thank you very much. There was a question addressed to you, Abraham.

DR. ABRAHAM MOSIGISI SIIKA: Yes. I am glad you noticed that drop in CD4 count at 12 month. And we also have—I am not sure whether it is not a statistical problem. But if it is a real issue that our patients actually dropping CD cells after weaning off, we have a couple of theories about it and we are looking into it in terms of research.

One of the things we think is that it could be nutrition related. They are not getting enough food. Number two is, and my colleague here already alluded to the fact that food does help patients be adherent to clinic, and to medications. And the fact that they are not, we are not giving them food any more may be affecting their adherence levels to both clinic attendance as well as to care.

But we are looking at it, and hopefully we shall be—

ALAN WHITESIDE: Christine? Christine I would like you to try and answer the first question, which was about what effect does food inflation and prices having on I guess both the infected and uninfected populations that you serve? What is happening in Uganda today?

DR. CHRISTINE NABIRYO: Well, I am part of that population. I am affected, because the prices hit everybody. And the requirements, then, if somebody's income is like our nation, below the poverty line, and they do not have another source of food, for example, from their garden, it definitely is heightening and deepening the food insecurity situation and problem.

Just from the slide that I showed there was an assessment carried out at one of our centers and it is just a short term food insecurity assessment, and it was showing 68-percent. So I am imagining that if we go back there now, it would be much higher than 68-percent.

ALAN WHITESIDE: Thank you very much. Robin do you want to comment on any of the questions?

ROBIN JACKSON: No. I think that we actually do not know. All we can do is surmise. I think that the study that was just cited by Nigel in terms of the impact of poverty and food insecurity on risk taking behavior in women, I think that this should be looked at very, very carefully in light of higher food prices.

And I also think that we are going to see what we have seen in other emergencies, where you begin to have people who will normally, who are on ART, have been on ART, have no problem, but suddenly begin to have a food insecurity problem and will begin to drop off. But I think that for the time being it is a bit early days but I believe that we will be seeing this in different hard-hit countries. Thank you.

ALAN WHITESIDE: Thank you, Robin. At the microphone in the back.

SHAN LO: Shan Lo [misspelled?] from Save the Children in South Africa. I am afraid it is back to the cash question again. Did the study make a comparison in the nontherapeutic programs, that is food support to OVC, did you— were you able to do any comparison between food baskets, food supply and the potential for cash transfers? And I think there is a distinction between therapeutic food intervention for treatment and general food insecurity.

And a quick comment: when there is inflation, food costs more whether the person receives cash or whether the agency providing food buys the food. The increase is there. So I feel that inflation should not be a reason to not give people cash. The inflationary costs are carried by somebody somewhere, upstream or downstream. So we would have to look at building inflation in rather than just saying do not give cash because food might cost more. Other people are paying more for food.

ALAN WHITESIDE: Thank you, thank you very much. Let us go to the front microphone.

SUSIE FOSTER: Susie Foster from Boston University. The panel is understandably focused on problem of under nutrition, but there was a very interesting poster yesterday about a high incidence of over nutrition and obesity in people with HIV. And I think particularly in urban areas where quality of food may be poor, certainly in the United States we have this problem where a lot of people with HIV have also very poor quality food available to them in the urban areas and so on. So I wonder if any of the panel had any thoughts on that.

ALAN WHITESIDE: A very interesting question. To the back microphone.

VASH HASHABA: Vash Hashaba [misspelled?] from the London School of Hygiene and Tropical Medicine, but working for the National Institute for Medical Research in Rwanda and Tanzania. The first speaker touched on an issue that was

ignored by the others. Do you provide food support for other hungry families, not necessarily affected by HIV?

This is an issue which not only affects the cost of the program but also the community support for it. In the rural community in North Tanzania where I work, a bigger source of stigma than sexual blame is the view that HIV infected persons are useless when it comes to food production— this is a subsistence farming area— but greedy when it comes to food demand. Food support directed only to HIV affected households fuels this kind of jealousy and resentment.

Can the panel comment on this in relation to the sustainability of food supplementation and HIV care?

ALAN WHITESIDE: Thank you for an important question. Let us come to the front microphone.

FEMALE SPEAKER: I am from the coalition of the food and agriculture organization, and I would like to just comment on the responses that have been given for food insecurity. But I am quite aware that in Africa, most of the affected are also in urban areas, but have not yet had a sense of satisfaction in terms of what are the responses for food insecurity in urban areas. So maybe if we could share that a bit more. Thanks.

ALAN WHITESIDE: Okay. I have one more person at a microphone, so let us take that and then go to the panel. And then we will see if we have time for additional round of questions.

I would like to just say that this country, this amazing country that we are in, Mexico, which I am stunned by, is also the location where there is a major cash transfer program going on. I do not know enough about it. It is something that I need to learn more about. But it is certainly probably the first and most successful cash transfer program that I am aware of. So Shan's question is actually a very important one.

BARBARA PILLSBURY: I am Barbara Pillsbury working with medical service corporation international in southern Africa. And I apologize if I am misinformed, however as we have been looking at the problems of populations we are working with in places such as Zambezia province in northern Mozambique, we are informed that yes, the World Food Program has ample supplies in the country of Mozambique but does not have the logistic mechanisms to support food supplies getting up to the north.

And I wonder if any of the panelists have experiences with logistics systems that are available or that can be mobilized to be able to take advantage of World Food Program supplies that are available for example in a capital city or in a port city.

ALAN WHITESIDE: Robin, you probably need to be the first person to respond to the last question, since you come from that stable, if I may use the term.

ROBIN JACKSON: My presentation was not on that topic.

[Laughter] No, what I would suggest you do is— I believe she

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is in the room, we have a WP staff member from our Mozambique office, and I would suggest that you speak with her. She is right there. Her name is Francesca Ertleman [misspelled?].

ALAN WHITESIDE: So nice to deal with a question quickly, eh? All right, let us move on and look at some of the other questions. How do you deal with this question of what Vash Hashaba said about how people are perceived? Christine, that's probably for you.

DR. CHRISTINE NABIRYO: Well, as that question was being posed, I was thinking that there is also an underlying structural challenge there that may also need to be addressed, and that is the fact that this community, as it is being presented, is not owning HIV/AIDS as their problem. They are seeing HIV/AIDS, people living with HIV/AIDS as "those people" who are part of our community but is not part of "us".

And I think it is very important that even as we are doing HIV programming we link whatever we are doing to bringing the community on board to understand that these issues are the community issues. It is not the provider's issue. It is our issue.

So if a person living with HIV/AIDS is getting food, is that going to be of help? And how is, even in structuring the program of food support worse the community involved at all, or is it just people moving from the community and into a service provider's place and getting the food and then going back to the community.

So I think that there is a structural issue there. And it makes me think that these issues of stigma around those kinds of settings and we need to bring the community on board to address these issues. Because definitely, if the community is going to think like that, it is going to be a big problem.

But going back to, what can we do then, is it more important to address people living with HIV/AIDS and leave out the rest? I think from what I presented, we have partners who are working not only with people living with HIV/AIDS but with other people in the communities. So we need to bring these food security programming if we have the partners— of course I know there are challenges about how many partners can be brought on board. There are areas where there are no food security partnerships, and where the governments need to come up and provide these services and extensions of services and view that that kind of infrastructure to support the whole community and not only the community of people living with HIV/AIDS.

ALAN WHITESIDE: Thank you very much. Nigel.

NIGEL ROLLINS: There is—well, just going back to the last round of questions about the CD4 count, just quickly to say that nutrition and good nutrition benefits health in many ways other than CD4 count. So I would not get hung up on the only thing to look at being CD4 count. There are many other ways by which health will be improved by good nutrition other than your CD4 count.

In terms of the issue of obesity, it is a very common issue that is emerging, certainly I see it many times in southern Africa. And one of the things on the biology of it is that it is not just weight, it is lean body mass that really counts for survival. So simply being overweight does not confer any survival advantage.

So it is the same whether it be a diabetic or any of us that if we are overweight, then it is actually a bad thing for us. So for someone with HIV, if they are obese, then there is no advantage to that. They need to promote, if anything, their lean body tissue, getting much better muscle and getting into a much more healthy state. So certainly with antiretroviral drugs there are the lipid dystrophies and so on which are very hard to talk about in a very short moment like this.

ALAN WHITESIDE: And let us go to Abraham. Do you feel you want to make comments on any of the questions that have been posed? Do we have any more comments or questions from the floor? Yes. Janet.

JANET SEALY: Can I just make two comments? Firstly, I mean I think— I am Janet Sealy from the UK— firstly on quality of diet, in Papua New Guinea it is the tragedy, I think, where you see a very rich country in terms of sources of food, but people are eating noodles and fat and so forth, thinking that is a modern diet. And I think vitamin A deficiency and so forth in people living with HIV in a number of countries is a critical thing, and that I think we need to think about a bit

more. It is the quality, and that is what worries me with cash transfers. What people actually buy with them.

The second thing is that I have not heard enough about in this conference and I think it is to do with nutrition as well as older people, people not just over 49, over 50s, 60s, 70s as Vash [misspelled?] pointed out. They are living with HIV, now, and they have particular nutritional needs as the young people do.

ALAN WHITESIDE: Thank you very much. A very, very important point. As somebody who is working in HIV/AIDS and has been for many years, I was okay with the idea that the sexually active population was 15 to 49. I do not think so anymore. [Laughter] Stuart.

STUART GILLESPIE: Thanks. Just a point on the food price issue, two points, actually. Firstly there is a lot of speculation, discussion of the impacts of interactions. It raises the urgency of what we have been talking about, but simultaneously makes it harder to achieve in many ways.

There is a brief outside which talks about some of the interactions. Actually, it is not only on the upstream, it is right throughout. It is throughout care, treatment and mitigation. There is a study underway right now in eastern Africa as well as southern Africa with the EAC and the SUDAC community networks of people living with HIV and UN/AIDS that will be addressing this. And the results hopefully will be available in September. Thanks.

ALAN WHITESIDE: Thank you very much. And then at the front microphone, very briefly, please.

CAM LABATT: Cam Labatt [misspelled?], Catholic relief services. Dr. Rollins mentioned water and sanitation but then it got lost in the argument about nutrition, and I would like to put a plea, maybe for Robin, that she adds the cost of water and the amount of work because the burden of water goes to women. And if we need to add that into the nutrition equation.

ALAN WHITESIDE: Thank you. And then finally from the back mic.

GABRIEL MAHASSI: Thank you. Gabriel Mahassi. I am Gabriel Mahassi. Dr. Siika, Dr. [inaudible] and Dr. Kimaiyo are my wonderful lecturers in Eldoret at the Teaching Hospital in Kenya. I would like to just ask Dr. Siika to briefly comment on the cost, the percentage of the budget that goes towards producing the food in the farms for the patients, and again because of what they are doing in producing for the patients such wonderful work.

Someone asked me about it yesterday, and I was unable to explain how exactly we have been able to go about implementing this project. And some of the cost cutting mechanisms you put in place to ensure cost efficiency and cost effectiveness in producing this so that probably someone might want to duplicate it elsewhere in HIV care. And again, the second question is—

ALAN WHITESIDE: Thank you very much. We must move on. We are rapidly running out of time. Let us go down the panel and get the final comments from the four panelists that we have, and we will start with you, Nigel.

NIGEL ROLLINS: The point made about food quality, I think this is very important. That whenever we talk about nutrition I think one thing we leave out is just having knowledge in order to be able to make good choices. To think a lot of good money is squandered or limited resources are squandered through poor knowledge.

People can make better choices. And there are a lot of people and there is a large commercial market trying to sell micronutrients and so on and people will spend money on expensive products rather than good products. And good quality food.

And just very quickly to say that the issue of the urban poor and the urban hungry I think is underestimated and really unknown in situations like South Africa where the social fabric I think is much more fragmented in urban settings. It makes a consolidated response to something like food insecurity I think much more difficult.

ALAN WHITESIDE: Thank you, and Christine?

DR. CHRISTINE NABIRYO: I just want to thank everybody for coming and listening to us and for that wonderful interaction. I think for me from the e programming side, three years ago it was such a challenge to get people to be

interested and to understand the kinds of challenges we were having around food programming and HIV/aids. The issue was only antiretroviral therapy and that is what we want to listen to.

So I am happy to see that today food and nutrition, food security, is hitting the discussion priority. And I want to thank the people that have taken this to this height, and I want to recruit all of us here into that and to work out partnerships to take this forward. And we are able, just like we have done with other things. Thank you.

ALAN WHITESIDE: Thank you. And then Abraham?

DR. ABRAHAM MOSIGISI SIIKA: Yes. I was asked about what it costs to provide food. To the patient, nothing. To the program also nothing. Why? Because the World Food program gives us all the food that we give to the patients. It is free of charge to us. Warren Buffet and a couple of other good people in the world also provide funds for us to put into the food that we give to the patients.

The only thing it costs us is just our brains and a bit of time to write the proposals. And to ensure the food gets to the patients. But we are worried about sustainability and the fact that patients are rebounding back into malnutrition after we withdraw the support. And we are really thinking about how to get that out of the way. Thanks.

ALAN WHITESIDE: Thank you. Robin?

ROBIN JACKSON: One last thing, I think the issue of water is terribly important and I appreciate the comment in terms of trying to make sure that it is included in the costing. I would also like to just say that I agree, I think that the low level of nutrition in terms of the Asia Pacific region and what they are spending it on, this is tragic. And I think that even if you look at Africa, the amount that is being spent in these areas is small.

Working with PETFAR and the Global Fund, which are the major donors of HIV programs, we are trying hard. And I think that is one thing that everybody does need to do is to try and make them understand that it is necessary and affordable.

The last thing is that I would like to make a plug for a new operational guidelines which is being put out by WHO and WFP. It is on food and nutrition in care and treatment programs. You can find it on the WHO website; it is in draft right now. We are looking for comments particularly from those in the field, so that we may finalize it. Thank you very much.

ALAN WHITESIDE: As the chair, it is my chance just to note that working in HIV/AIDS for 20 years, HIV has brought into severe focus the inequalities, the injustices in this world. Nutrition as it stands at the moment, with the price inflation, with the climate changes making the situation worse.

We are sitting in Mexico, where in 1910 there was a revolution. Maybe it is time to think revolutionarily about what is going on in this world, and to make things change. And

I would put that as a plea, and remember that the army has to march with a full stomach. [Laughter]

Ladies and gentlemen, it just remains for me to thank you all for coming, to the IAS staff, to the conference staff who have managed this conference so well, to the presenters, but most of all to you who have come and made this a very important interactive session. Thank you very much indeed.
[Applause]

[END RECORDING]