Solthis Newsletter

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Issue 15 - June 2013
SPECIAL 10 YEARS

Solthis 10 ANS

10 years of Solthis

SOLTHIS HIV FORUM

Summary

Scientific commitment for universal access to health

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Pr. Françoise Barré Sinoussi

Professor Françoise Barré-Sinoussi is the Director of the Regulation of Retroviral Infections Unit at the Institut Pasteur. cause of AIDS. She received the Nobel Prize in Medicine on October 8, 2008 for her important contribution. She is in Africa and in Asia, and is the President of the International Aids Society. Professor Françoise Barré-Sinoussi will

In July 2012, the scientific strategy "Towards an HIV cure" was published by the International Aids Society, where you are now President. Could you explain what this refers to?

Thanks to progress in research during the past few years, optimism that therapeutic approaches can be developed which will allow patients to control the virus without treatment has increased. This is called a "functional" cure or "permanent remission" of HIV infection. The scientific strategy, which was published in the summer of 2012, was the result of a collective effort of several dozen internationally acclaimed research scientists. The strategy defined 7 priorities for integrated basic and clinical research to solve the problem of persistent HIV in patients receiving antiretroviral treatment. This is part of a greater initiative to coordinate and accelerate the research and development of new therapeutic approaches for the future and on an international scale. In order to achieve these goals, we have created a Governing Board of representatives composed of the international funding agencies as well as representatives from countries with limited resources and patient groups. Our strategy is to take an integrated and interactive approach to this research.

Besides this very scientific focus, is the initiative working in other directions?

This "scientific strategy" of biomedical research is a very important first step. However we are also working in other equally essential areas. We have created a social and human sciences research group whose goal is to evaluate patients' expectations and their desire to participate in clinical trials. Today, different approaches to remission are being studied, and we need to know if people living with HIV (PLHIV) are willing to accept these varying approaches. We also have a study group that focuses on ethical questions associated with these approaches. For example, questions in relation to the risks and benefits must be examined before we can ask healthy patients receiving treatment to participate in clinical trials.

Another study group is focused on the issue of cost-effectiveness. There is no use in developing therapeutic strategies if they are going to be too expensive or inaccessible to many patients in particular those residing in Sub-Saharan countries. I am categorically against those who want to put off answering these questions until tomorrow. It is impossible to work that way in the context of an economic crisis.

Finally we have an "Industry" group which allows us to begin early discussions on public-private partnerships as well as between industrial partners. If we want to make progress we must work together; in particular, the players in the pharmaceutical industry will probably have to work together to combine their therapeutic formulas. It should be mentioned that there are PLHIV participating in all these groups.

The 7 Priorities for HIV Cure

1. Determine the cellular and viral mechanisms that maintain HIV persistence.
2. Determine the tissue and cellular sources of persistent HIV in long-term antiretroviral-treated individuals.
3. Determine the origins of immune activation and inflammation in the presence of antiretroviral therapy and their consequences for HIV persistence.
4. Determine the host and immune mechanisms that control infection but allow viral persistence.
5. Study, compare and validate assays to measure persistent infection.
6. Develop and test therapeutic agents or immunological strategies to safely eliminate latent infection in individuals on antiretroviral therapy.
7. Develop and test strategies to enhance the capacity of the host response to control active viral replication.

What progress has been made in the program up to now?

There is very strong support for this initiative. Since it was launched, numerous calls for proposals on the theme an "HIV Cure" have been published at institutes such as the NIH, AmfAR, Gates Foundation, CIHR, and The European program HIVERA. Numerous conferences have been held on this topic, which is a sign of positive interest in the medical and scientific community. In fact there is perhaps a little too much interest at the moment

Our role is to stimulate, promote, coordinate and facilitate progress in science on this subject. As a result we would like to create a database of all the research and studies performed worldwide that would be accessible on the Internet.

What are the main challenges and specificities of treatment in the developing countries (this subject will be discussed at the SOLTHIS HIV FORUM)?

Although the developing countries have their own particular challenges, their problems are increasingly similar to those of the developed countries. Thanks to the progress that has been made, in particular in relation to access to treatment, they find themselves gradually shifting to the same problems as the developed countries, such as co-morbidities associated with HIV infections in patients receiving treatment, diseases associated with aging and metabolic disorders. The real challenge is to anticipate this change.

Besides that, and without providing an exhaustive list, another top priority that comes to mind is the eradication of mother to child transmission (MTCT), which is a goal we are supposed to reach in 2015. In this day and age it is unacceptable to have more than 300,000 children infected with HIV and more than 40% of pregnant women without access to ARV. I could also mention the quality of follow-up in treated patients (immunovirological, detection of resistances), the organization of the health care systems and the battle against stigmatization.

What is your feeling about the place of the fight against AIDS in the post- 2015 agenda?

In 2015, the next durable long term Millennium Development Goals must inevitably include the issue of health. And health will become part of AIDS, even if this doesn't appear in black and white. This is understandable.

The AIDS community is slightly isolated compared to other diseases and it may be partly responsible for the criticisms made against it: concentrated funding, lack of consideration for other diseases…And yet the actors in the fight against AIDS have always worked to im-

In 1983, she was a key member in the identification of HIV which is the especially known for her strong commitment to research and training officially open the Solthis HIV Forum on September 19, 2013.

prove the healthcare systems overall, even if they did not advertise this fact, in particular in the non-AIDS community.

What is your feeling about the commitment in France to the fight against AIDS?

France must also invest in improving global health, while continuing to support the fight against AIDS. It must continue its international commitment through international programs, in particular by supporting the Global Fund, which has proven itself and which truly needs French support.

The other debate in France is multilateral vs. bilateral aid. We need both. The 5% Initiative in France goes in that direction. France has also created a tax on financial transactions, with a small proportion dedicated to health in the developing countries. We still do not know how the portion for AIDS will be distributed, but this is being discussed.

A final word for the teams at Solthis?

I was extremely impressed by the work Solthis was doing in Niger when I visited. So, my main remark would be "keep it up". We need you in the fight against AIDS and we need to work together. This is a value that I am very attached to: it is clear how effective we can be when we work together ■

For more information: SOLTHIS HIV FORUM

Opening : ***Françoise Barré-Sinoussi – Pasteur Institute***
Christine Katlama – Chairman of Solthis

HIV Cure and Reservoirs

Chair: **Françoise Barré-Sinoussi – Pasteur Institute**

HIV infection: remission is possible	Asier Sáez-Cirión – Pasteur Institute
Primary infection	Jade Ghosn – Hospital Hôtel Dieu
HIV reservoirs	Antoine Cheret – Hospital Tourcoing

Round table: ***Brigitte Autran – Hospital Pitié-Salpêtrière***
Christine Rouzioux – Hospital Necker

Edito

Our association is celebrating its 10th anniversary this year. A tumultuous and rewarding path is behind us, and there is a long way ahead on our horizon. To renew our scientific commitment for universal access to health, we will organize the "Solthis HIV Forum" in Paris this September. We hope that this occasion will be a moment for sharing and discussing the fight against HIV amongst the key stakeholders, who for the most part have generously contributed to the development of our association.

Whereas we are in the midst of a turning point for development assistance in post-2015, in addition to a stagnation of international funding dedicated to health, all actors committed to the fight against AIDS need to struggle to extend the success after 10 years of treatment in Africa.

This fight is played out in the field and on the international scene.

National strategies should be based on actions that have already proven to be effective and efficient. We need to be able to improve programs that give results and promote operational research to develop innovative proposals. Scientific methods and commitment, both on the medical and the social sciences fields, are the undeniable factors of success. Furthermore, this can only be achieved with a greater involvement of the population and civil society organizations.

At an international level, activists from the North and the South must accelerate the creation of a global civil society, capable of fully playing its role in the construction of global health governance. All the actors involved in the fight against HIV have understood the importance of strengthening health systems and fighting for universal access to health. They have also demonstrated how their struggle was able to improve conditions for the population's HIV management. The laws on patients' rights, the acknowledgement of chronic illnesses and the flexibility of intellectual property are all victories that benefit the whole society.

In this period where hope, brought by progress in the areas of "Cure" and "Treatment as Prevention: TasP", is offset by the uncertainties of the Global Funds' replenishment and the use of tax on financial transactions, Solthis wishes to make these two days a true "forum" for ideas and concrete proposals to move forward with universal access to health.

Louis Pizarro
Executive Chief


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Georges Merillon

Mark Dybul

Mark Dybul was nominated as Executive Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria last January. Formerly, he contributed to the creation of PEPFAR. He has occupied several positions in the organization before becoming the director in 2006, where he was in charge of coordinating the United States' response to fighting HIV on a global scale. He will close the SOLTHIS HIV FORUM on September 20th.

You have been committed to the fight against AIDS for several years. How did your personal and professional experience lead you to assuming the role of Executive Director for the Global Fund? You are entering this position after the special two-year mandate of a General Manager whose mission was to reorganize the GF after an unprecedented crisis of confidence and trust. Can we say that the crisis is behind us?

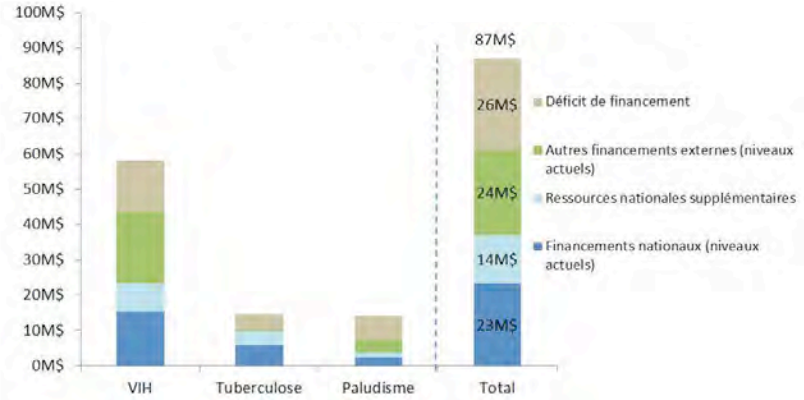
The Global Fund has been changing ever since it was created in 2002. The great thing about the Global Fund is that as a Twenty-First Century institution, it was created with a commitment to keep evolving, so that it can learn from experience and make adjustments when needed. That is a very modern approach, a Twenty-First Century approach. After the financial crisis, it was clear that the Global Fund needed to adjust its model to make choices about where and how to invest, to reach the greatest number of people, and to have the greatest impact. The Global Fund's re-organization was part of that evolution. For me personally, there is no place I would rather work than in an institution that is always growing and changing. I have been working on HIV and AIDS for many years, as well as on malaria and TB, and the circumstances of the diseases are always changing, which is why we have to always be changing. We are now at a very exciting moment, where science has given us the tools to actually control these three killers, and remove them as threats to public health. We have to seize this moment, and make the investment that is needed, to achieve this goal.

The NFM, recently implemented, is heavily criticized by the civil society because it deeply touches the basic principles of the GF, notably the capping of subventions. What is your strategy for getting back the confidence of the civil society? How will the new reorganization of the Secretariat and the new financing model help to avoid the problems that have been faced in countries where Solthis intervenes, such as the subventions that were frozen for more than one year? One of the objectives stated in the Reform was to simplify the grant process. But the NFM will ask more effective work from the countries on definition and strategic planning. What is your strategy to support the countries during the new process? How will the GF support countries with very low capacities in their adaptation to the NFM? Concretely, what will change for our countries with the NFM?

In fact, civil society is now very supportive of the new funding model. As they learn more about it, they see that the main goal for the new funding model is to reach more people, so we can have greater impact. One of the things we have learned is that a highly effective way to control and defeat infectious diseases like AIDS, tuberculosis and malaria is by focusing on the most vulnerable populations. When we can better identify and locate those people who are at greatest risk of becoming infected because of where they live or who they are, we can drastically improve our ability to control the spread of these diseases. In the case of HIV and tuberculosis, that means reaching the most vulnerable populations: women and girls, sex workers, people who use drugs, men who have sex with men, transgender people, people in prison and migrants. The new funding model is designed to allow our implementing partners to improve the effectiveness of grants. In the countries that are already taking the first steps in the new funding model, there is great feedback. They are telling us that the flexibility, and the constructive engagement with the Global Fund, is giving the grant-making a lot more effective. We are supporting countries during the new funding model by working with them closely. Inside the Global Fund, we call it 'iterative dialogue,' meaning we can be in contact, and respond to questions, and offer guidance, at many points along the way. Countries with low capacity sometimes need extra consultation. That is exactly what will happen in the new funding model.

In September, the Replenishment conference will be held and you have just launched the Big Push campaign to mobilize donors. What do you expect of this Replenishment conference? More specifically from France: what do you expect from France and how do you think you will work with France on this topic?

What we are aiming for in this Replenishment later this year is participation from all of our partners. Our replenishment strategy is to build four strong pillars of support – traditional donors, implementing countries, emerging economies and the private sector – and to coordinate action between them. We think that in order to succeed at raising the money we need, we have to recognize the historic opportunity that faces us and also understand the financial constraints that everyone faces. France has been a key leader, not only as a pioneer in scientific advances and a compassionate partner with all sectors of our common cause, but more broadly as a model for democracy and social justice, and a champion of human rights. The people of France are deeply committed to global progress, and they recognize the importance of the opportunity we have now, to make a transformative difference with AIDS, TB and malaria. I know they will do everything possible to advance our common cause. ■



Resource needs in eligible countries of the Global Fund contributions, 2014-2016
Needs estimation, April 13th by the Gobal Fund

The Group JURTA PSM: towards a coordinated regional response to supply

Since 2006, reform of the UN system advocating "Delivering as One"—to act together as one UN entity—urged agencies to approach regional groups in order to improve the consistency and effectiveness of field operations. Thus, the Joint UN Team on HIV/AIDS in West and Central Africa (JURTA (WCA)) was born. Initially limited to UN agencies, this group has been expanded to include technical and financial partners in the region whose goal, like that of Solthis, is to provide effective support for universal access to prevention, treatment, and care for HIV.

Presently, the region of West Africa and Central Africa (25 countries) has more than 7 million people living with HIV/AIDS, including more than one million people treated with anti-retroviral (ARV) in 2011, a coverage rate of 34%. To achieve the Millennium Development Goals, at least 2 million people should be following anti-retroviral treatment by 2015.

Although access to ARV treatment has largely expanded over the last decade, the implementation of programs of care for HIV are regularly confronted with the risk of stock-outs due to a combination of factors, including: systems of inefficient supply, a lack of monitoring, erroneous estimates of requirements, or fails in distribution and management of inputs (cf. Letter Solthis No. 9 and No. 10). Given the frequency of these supply problems, JURTA created a group dedicated to Procurement and Supply Management (PSM) in January 2012. The objective of this group is to strengthen the management capacity of national procurement systems in the region in order to have permanent access to ARV drugs and other medical products used in the fight against HIV/AIDS (PS/HIV).

For this reason, the JURTA PSM group has developed a collaborative approach that seeks to promote the sharing of information and coordination of many actors in the supply chain. This will ensure that countries with a risk of stock-outs will have a more efficient response for their requests. The PSM technical group is composed of JURTA forces: agencies of the UN system, bilateral and multilateral cooperatives (USAID, French Cooperation, ESTHER Initiative 5%/FEI), international NGOs (Solthis PAH/CHMP, RBM AFRICASO, HIV Alliance) and Regional Economic Communities (OCEAC, the Technical Support device for West Africa DAT/COA). Thus, the network of technical experts encompassing forty members is an added advantage for the regional coordination mechanism.

The group has the duties of drafting and disseminating technical advice and recommendations. This promotes better practices and supports regional countries and organizations in West Africa and Central Africa in their response to PSM problems.

Specifically, this group is led by regular teleconferences, meetings, and workshops. In addition, an internet platform for dedicated members provides a simplified method to exchange information. These elements allow the regional mechanism to be operational and responsive.

The solutions to the problems of PSM cannot be implemented without the strong involvement of nations. JURTA PSM focuses its efforts around national stakeholder groups, particularly the national committees responsible for monitoring the management of procurement and the supply of ARVs and PS/HIV (the committees exist in Benin, Burkina Faso, Cote d'Ivoire, Mali, Niger, Togo, and Guinea). These committees, which Solthis has been supporting for several years, are developed so that they play their full role in the monitoring and alert of risks in order to successfully avoid them.

Faced with numerous alerts on the risk of stock-outs, JURTA PSM has developed procedures to structure the processing alert. These procedures define the role of each actor in the supply chain and the links within the groups, in order to maximize the efficiency of a response to a stock-out.

The group's work is not only to respond to crises once they occur; a set of activities is conducted to predict the risk of stock-outs:

- The identification and understanding of the causes, in order to establish mechanisms to avoid or limit stock-outs.
- The development and implementation of an early warning system in a harmonized approach between the three priority diseases, HIV/AIDS, tuberculosis and malaria. To complete this work of monitoring and warning, the establishment of pharmaceutical sub-regional and regional information systems is being suggested.
- Support for the mobilization of financial resources and sound management of available budgets.

One of the achievements of the JURTA PSM group includes support for the resolution of tensions on the supply of ARVs, at which a risk of rupture is found. Following an alert sent by Guinea in January 2013 on the shortage of availability for some ARVs and TB (ATBC), the group mobilized the various partners to support the countries in this situation: the Global Fund, USAID, and local partners. The possible responses were studied: solicitation of an emergency ECF/PEPFAR mechanism with its prepositioned stock in Ghana, accelerated procurement plan on funding from the Global Fund, transfer from a neighboring country. The mobilization of JURTA PSM and all other actors has accelerated financing by the Global Fund for an ARV procurement plan, and the transfer of drugs from Burkina Faso and Senegal for ATBC. These rapid and appropriate responses helped avoid stock-outs in Guinea.

To Solthis, who has faced several years of stock-outs risks in the countries in which it operates, this kind of group allows us to relay advocacy and mobilization of partners with a coordinated approach.

In addition to the work of responding to alerts or preventing the risk of stock-outs, other projects were initiated to develop opportunities for this community of practice. For instance, an effort to harmonize methods of technical activities related to PSM was conducted to simplify the interaction between different stakeholders. The organization of joint visits between different stakeholders within a country is being developed in this direction. This group is also a laboratory of reflection on specific themes: the establishment of emergency stocks, local production, etc.

Many activities are planned by the JURTA PSM group in the coming months, and funding opportunities must be seized to help mobilize this venture; in particular, partnerships with the 5% Initiative/FEI, the Global Fund or Agency French Development.

Despite all costs, this technical collaboration ensures that the ambitious objectives of the group will be met. ■

Jean-Marie Milleliri, UNAIDS
Christophe Rochigneux, WHO
Etienne Guillard, Solthis
Sophie Ouvrard, Solthis

Caroline Gallais
Donor Relations Manager

The CASSIS Project: improve access to care and health information system in Niger and Guinea

Solthis and France Expertise Internationale (FEI) have signed an agreement for 1.5 million euros to implement the "CASSIS" (Capacity for Access to Healthcare and the Healthcare information system) project, whose goal is to provide capacity building for the implementation and monitoring of activities in the fight against HIV/AIDS funded by the Global Fund in Niger and Guinea.

For a duration of 3 years and a total of 2.2 million euros, the project is built around two main goals:

1. Capacity building of healthcare personnel to extend and improve the quality of care of PLHIV in outlying areas.

2. Capacity building of national players to improve the collection, availability and use of HIV program data.

Support to extend and improve the quality of care

The goal of this project is to support national plans to extend HIV/AIDS treatment to 16 new healthcare facilities to improve coverage of patients' ART needs.

In Niger where treatment programs exist in 15 national and regional centers, the project will be based on the decentralization of treatment in 6 district hospitals in two regions: Dosso and Tillabéri.

In Guinea, where treatment is provided by 42 healthcare facilities throughout the country, 10 new sites in all 7 regions of the country will become operational thanks to the project.

For this the project will include the training and follow-up of healthcare providers (physicians, paramedics, pharmacists, laboratory technicians) as well as capacity building of regional authorities in their role as supervisors and the development of a pool of national experts to guarantee sustainable treatment.

Besides extending the coverage of treatment, the quality of treatment in existing as well as new treatment centers must be ensured, by refresher training courses, clinical staff meetings and practical discussions among healthcare teams in different centers.

Improvement of follow-up-evaluation

To measure, evaluate and redirect the country's efforts, the follow-up/evaluation system must be strengthened to build an efficient, long lasting healthcare management system. For this purpose, the goal of the project is to improve routine HIV data collection systems by providing capacity building to the players at three levels of the healthcare information system organization:

In treatment centers for high quality data collection. For this, direct support will be provided to organize the data collection process and to install tools adapted to the specific needs of each center (paper tools such as registers and/or computerized tools when this is appropriate).

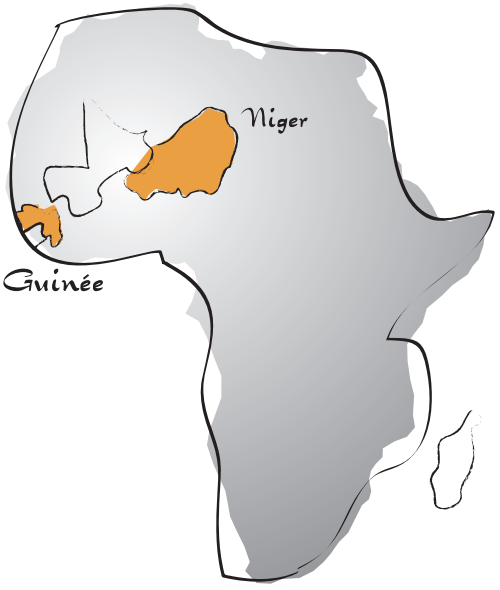
On a middle level (regional and districts), information system managers must be allowed to participate fully in the organization of HIV data, in the same way as they do for other diseases. These managers therefore will receive training on the monitoring and follow-up of data to improve the quality of HIV data.

On the central level this will involve supporting and equipping HIV program directors so that they can integrate incoming data into the national system, analyze collected data for regular evaluation of the quality of program results and learn lessons from this for HIV program operations.

Consortium

A consortium of partners is implementing the project, and Solthis is the leading partner in two countries:

- Niger: The Minister of Health through the Unit of the Sectorial Fight Against AIDS (Unité de Lutte Sectorielle contre le Sida (ULSS)) The Intersectorial Fight against Aids (la Cellule Intersectorielle de Lutte contre le Sida (CISLS)) and UNAIDS Niger



- Guinea: The Minister of Health through the National Program of Health Management, (Programme National de Prise en Charge Sanitaire) the Prevention of STD/HIV/AIDS (Prévention des IST/VIH/SIDA (PNPCSP)), the National Committee of the Fight Against AIDS (Comité National de lutte contre le Sida (CNLS)), and UNAIDS Guinea. ■

5% INITIATIVE
FOR AIDS, TUBERCULOSIS AND MALARIA

The 5% Initiative is the French response to a diagnosis shared by various actors in diagnosis French-speaking countries, on their recurring difficulties to obtain the Global Fund's grants or to implement them. This 5% Initiative is performed as an indirect contribution of France to the Global Fund, equivalent to 5% of the French direct contribution to the Global Fund. Thus, from 2011 to 2013, the contribution is up to 18 million every year. It aims to respond to requests for technical expertise in French-speaking countries to support in the design, implementation, monitoring and evaluation of grants allocated by the Global Fund to strengthen their effectiveness and health impact. It relies on the mobilization of French and Francophone expertise available in these areas.

The 5% Initiative is an indirect contribution managed by France Expertise Internationale (FEI), under the Ministry of Foreign Affairs.

A few words from National partners

Interview with Dr Koïta, Director of the National Program of Health Management and the Prevention of STD/HIV AIDS (PNPCSP)

What are you expectations for CASSIS ?
We are expecting two things from this project:

1. Decentralization of the management of PLHIV is critical if we are going to reach our strategic goals in terms of coverage ARV treatment needs. Capacity building of healthcare personnel to extend and improve the quality of treatment must include:

a. Initial training of the healthcare personnel at the 10 new treatment centers that were defined in round 10 of the GF on the different aspects of HIV management so that they can be operational. These new centers are scattered throughout Guinea. After evaluation missions, the future managers of HIV treatment programs will gather in Conakry for introductory training sessions to provide them with a minimum of knowledge on the management of this disease. The centers that are traditionally supported by Solthis will also be taken into account in two regions: Conakry and Boké.

b. Until now HIV programs have been managed vertically in Guinea, but the project plans to create refresher training courses and supervised training by central and middle level supervisors. The so-called middle and peripheral authorities will also benefit from this project. A series of training sessions are also planned for them. The themes include: HIV, its management, epidemiology, management of specific data, supply and stock management. This series of training sessions for middle and peripheral authorities, as well as accompanied supervision, will begin the process of integrating HIV into their primary and secondary healthcare supervision activities. This integration is necessary at this point to improve HIV management, to provide closer supervision and to extend the treatment of this disease in Guinea

2. To improve access to and the use of data from HIV programs through capacity building of national players, we will need:

- to reinforce data collection in the HIV treatment centers by providing tools that are adapted to each center
- improve the quality of data
- evaluate the quality of services.

This work already began years ago, but the increased resources from this project will accelerate the implementation of capacity building of managers in treatment centers and regional or prefectural authorities.

In the same way, the roles of middle level authorities will be strengthened which is essential for the optimal recovery of data at the central level

How do you plan to collaborate with Solthis ?
The collaboration with Solthis began in 2008, when Solthis began participating at our request. Solthis has already trained hundreds of healthcare professionals in Conakry and Boké and supported decentralization in the Healthcare Centers and Community Medical Centers. Thus, our main collaboration in this new project is going to focus on consolidating activities that support decentralization of the treatment centers. There will be 5 strategic axes:

- Support of coordination bodies
- Support of healthcare personnel
- Support of technical platforms
- Support for pharmaceutical issues
- Support of the healthcare information system).

With Solthis' expertise we will gradually introduce software to manage patients in treatment centers that have at least 500 patients receiving ARV treatment.

The two entities responsible for implementing the Cassis project are the PNPCSP and Solthis. A steering committee has also been created. The existing collaboration is going to be further strengthened by this project.

Pr Gilles Pialoux
Head of Department, Hospital Tenon (APHP), UPMC, SFLS, www.vih.org

TASP : Antiretroviral treatment as a tool for prevention. Indisputable scientific results and public health doubts.

On Monday July 18, 2011, following a special session during the International Aids Society (IAS) meeting in Rome to report the complete results of the HPTN 052 study, the notion of TASP went global. This important trial gave indisputable scientific support to TASP (1).

A historical reminder

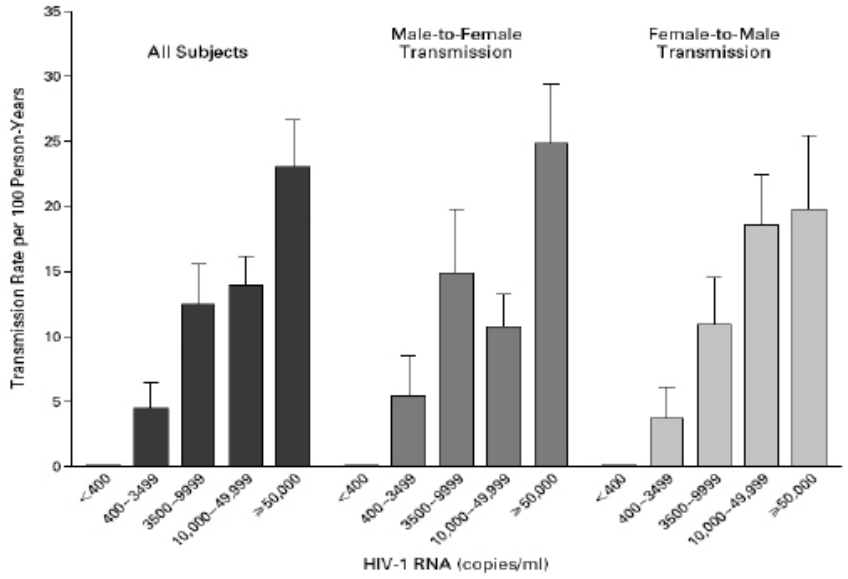
The idea was first described in 2000 even before highly active antiretroviral therapy (HAART) was used in the developing countries (DC) with epidemiological data from the Rakai province in Uganda (2). Data were collected from 415 serodiscordant heterosexual African couples, one of whom had HIV-1, which showed that there was no contamination when the HIV positive partner had a viral load of < 400 copies.

The idea of TASP, which was based on a model to prevent mother to child transmission, gained popularity in 2008 with the "the Swiss Statement" when Bernard Hirschel and his colleagues relaunched the debate by publishing an article in the Bulletin des médecins suisses announcing that HIV positive individuals receiving effective antiretroviral treatment (undetectable viral load for more than 6 months and an absence of co-factors of transmission), with no other sexually transmissible diseases and who were receiving medical monitoring, no longer transmitted HIV by sexual route (3). In 2009, Reuben Granich et al published a mathematical model, that has been "demodelized" and strongly criticized since, showing that universal HIV screening, repeated annually, followed by immediately beginning ART treatment in infected individuals, whatever their clinical condition, could eradicate the epidemic in thirty years (4).

The HPTN 052 Trial

This large study included 1763 stable serodiscordant couples- with one HIV positive and one HIV negative partner – and a total of 3526 people. The study compared the impact of immediately beginning antiretroviral treatment on the couple to deferring treatment when one of the 2 partners had a CD4 level of 200-250 cells/mm3. A total of 886 couples were included in the "immediate" treatment arm and 877 couples in the "deferred" treatment arm: 278 in the United States, 954 in Africa and 531 in Asia (Thailand, India). The greatest proportion of patients were therefore found in Africa including Malawi, Kenya, Zimbabwe and South Africa.There were 50% women and very few admitted unprotected sexual relations (between 6 and 8%) and the CD4 of the index case had a baseline between 428 and 442. The independent committee monitoring the study was clear in their decision to stop the study 18 months earlier than planned: "We recommend that the results of the trial be announced as early as possible and that all PLHIV have access to ARV treatment". Statistically, the HPTN 052 trial showed that ARV treatment reduced the transmission of HIV by 96%. The investigators registered a total of 39 contaminations, including 4 in the immediate treatment arm and 35 in the deferred treatment arm. When the 28 definite contaminations in the couple were assessed, which was confirmed by phylogenetic analysis of the virus, the difference was still significant. This confirmed that ARV treatment protects sero-discordant stable heterosexual couples in Africa from contamination, of course under the specific conditions of the trial. Moreover the only infection from a HIV positive individual being treated occurred when treatment was begun.

This 96% reduction in the risk of heterosexual transmission places TASP at the top of the list for the efficacy of "new preventive tools": for the moment the RV144 Thai vaccine trial has shown a 31% reduction in risk at best, topical pre exposure prophylaxis (PREP) with Caprisa vaginal gel 39%, oral PREP 42% in men who have sex with other men (MSM), and 73% in the Iprex trial in Partners Prep.



The remaining questions

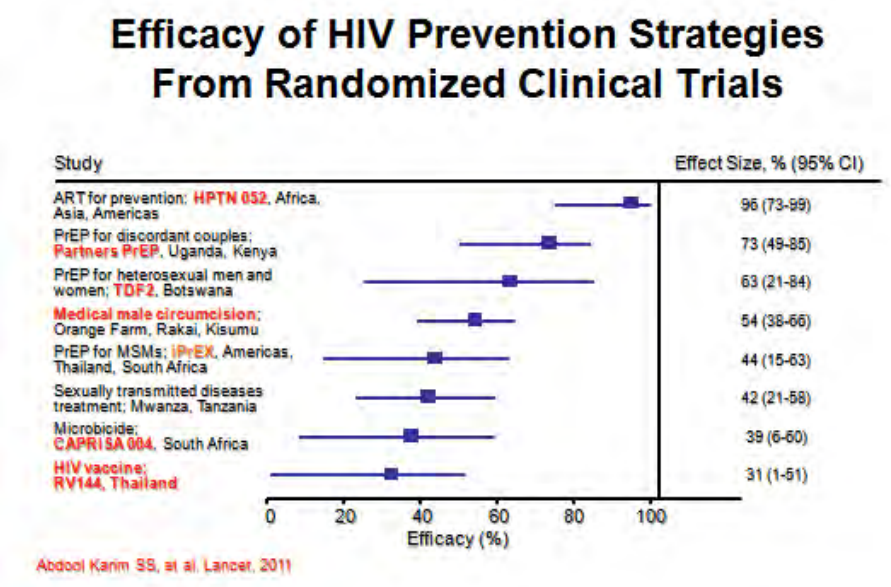
A certain number of questions still remain concerning TASP. How can TASP be economically applicable, cost-effective and economically viable in the world economy today? How can these additional treatments be funded when funding of the fight against AIDS is not guaranteed? In this respect, several econometric models have been presented to evaluate the cost-effectiveness of these approaches. Certain of them have concluded that it would be preferable to target MSM and UDIV (WHAT IS THIS?) first. Other models showed the positive effects (19% reduction in deaths 34% fewer new infections) and the negative effects (doubling the rate of viral resistance) of Test and Treat (more screening and early treatment in contaminated individuals) of the extension of TASP including massive testing and the "linkage of care" (5). Will the associations have the same financial resources and political will power to accompany the use of this preventive tool as they did with the condom?

Finally today in the eyes of some, TASP, which has seemed so tempting since HPTN 052, has become literally "insulting" for the 7 million patients with less than 250 CD4/mm3 in the Sub Saharan countries who are in terrible need of antiretroviral treatment Additionally, there are the PLHIV who refuse TASP such as those in Kenya and South Africa. There is increased fear, seen in the Sub Saharan countries and in Asia, of having TASP as opposed to prevention while waiting for the new WHO recommendations on "when and who to treat."

■

HIV awareness, Camp Sékou - Mali

HIV awareness, HIV testing, Blah - Mali



For more information: SOLTHIS HIV FORUM

Treatment as prevention

Chair: Jean-François Delfraissy – ANRS

HAART treatment as prevention (TASP)	Gilles Pialoux - Hospital Tenon
TASP: a possibility to African countries?	Pr François Dabis - ISPED
PREP, microbicides, condoms: the others strategies of prevention.	Dr Bruno Spire – AIDES

Round table: ***Pierre-Marie Girard – Hospital Saint-Antoine***
Joseph Lamarange - IRD (TBC)

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5. Voir les articles de Joseph Lamarange et Louis Pizarro dans le numéro spécial Transcriptases/ANRS Compte rendu de la 19ème conférence internationale sur le sida 22-27 juillet 2012 www.vih.org

10 years after the arrival of ARV in Africa:

At the beginning of the 21st century, the arrival of ARV in Africa generated much hope But what are the challenges facing the partners in the fight against AIDS in Africa today? monitoring, treatment of children, the increase in hepatitis, and the changes in the

Children: still a neglected population

Pr Mariam Sylla
Head of the Department of the Neonatology-Emergency Unit, Department of Pediatrics, Hospital Gabriel Touré de Bamako (Mali)

An estimated 3.4 million children under the age of 15 were living with HIV in 2011, including 91% in Sub Saharan Africa, and there were 330,000 new infections in children with more than 90% occurring in Sub-Saharan Africa. These figures, which are decreasing yet still alarming, show that pediatric HIV is a neglected emergency in Africa. This problem must be treated early as without treatment, 50% of infected children will die before the age of 2. Efforts have been made (free care and ARV) but scaling up presents several problems in African countries.

Coverage of PMTCT services remains limited: the average coverage of PMTCT service needs is 59% in the developing countries; only 6 countries have more than 75% coverage. The coverage in pediatric centers is even lower. For example, in Mali there are 338 PMTCT centers compared to 79 pediatric treatment centers. This coverage is insufficient and obviously results in insufficient diagnostic screening in children.

The results of PMTCT are still mixed. Voluntary diagnostic testing is limited by the risk of stigmatization and discrimination of women. The goal of eliminating mother to child transmission will be difficult to reach because of the low proportion of integrated services (HIV and prenatal care) and the low rate of diagnostic screening aggravated by frequent shortages of supplies reagents and insufficient human resources. The therapeutic strategies of PMTCT have changed considerably and progress has been made in overall access to treatment but there are disparities among countries: in 2011 57 % of pregnant HIV positive women received antiretroviral treatment to avoid contaminating their children.

Early diagnosis and testing of children is still a major obstacle. The transmission of HIV is vertical in children in 90% of cases. Diagnostic testing of HIV in babies less than 18 months old was simplified several years ago by the western blot test but this technique is still not accessible throughout the country in most countries. . Follow up of exposed children is not optimal in most treatment centers. The use of other entry points to test as many children as possible, in particular nutritional rehabilitation units, pediatric hospitalization units, or vaccination units is still a problem especially in countries with a low prevalence of HIV due to the reticence of parents and the "hesitation" of healthcare providers. The proposition of systematic testing is difficult to accept for parents who are not aware of their own HIV status. Without diagnosis and treatment, the disease is rapidly mortal in 50% of infected children.

There are numerous difficulties associated with treatment

- Access to antiretroviral treatment is still low in most countries. Children represent 7% of the PLHIV receiving treatment and only 28% of the children in need of treatment actually received it in 2011. In most African cohorts the mean age for beginning treatment is 4-5 years old, which means that these patients have been diagnosed late.
- The choice of molecules is still limited in the adult, and galenic formulas are not always adapted to babies; the only protease inhibitor with a pediatric presentation (lopinavir/ritonavir) has a "disgusting" taste for certain children.
- Treatment observance is a daily concern for healthcare providers. Parents of babies and adolescents have difficulty accepting the disease and the demands of treatment for life. Orphans, and there are many, do not receive the family support they need for their treatment to be fulfilled. Improving observance is the central issue in preventing the development of resistance.

Management of HIV in adolescents: Access to ARV has made HIV a chronic disease. The medical teams in Sub Saharan countries must learn to manage the difficulties of adolescence: failure to take treatment, sexuality, announcing the diagnosis, and especially transfer to adult healthcare services.

Task shifting: this essential strategy in a situation where human resources are insufficient is being tested. Its implementation would allow a maximum number of children to be diagnosed and treated.

Finally we must insist upon **pluridisciplinary management;** children with HIV should have access to good nutrition, psychological support and a favorable social environment. All of this requires effective organization and integration of services.

Research: pediatric HIV is not a priority in the developed countries because they have managed to control mother to child transmission, and the Sub Saharan countries do not have sufficient resources to perform research. Networks for collaborative research between the developed/developing countries should be created. ■

Source : Rapport ONUSIDA 2011

CSI Madina, Niger

the new challenges of HIV management

while creating new problems. Because of these changes, Solthis has adapted its intervention strategy over time. In the following dossier Solthis has chosen to look at the four following challenges: the challenge of biological healthcare system as a result of PMTCT programs.

Managing co-infections: the emergence of hepatitis

Pr Eric Adehossi
Head of the Department of Internal Medicine Niamey National Hospital (Niger)

There are an estimated 40 million HIV positive individuals in the world, 400 chronic hepatitis B virus (HBV) carriers and 180 million chronic hepatitis C virus (HCV) carriers. Because of the common routes of transmission for HCV, HBV and HIV, the prevalence of co-infections is high. In Europe an estimated 8% of HIV patients are Ag HBS carriers and 40% are HCV carriers. In Africa these figures are approximately 8 and 15% for HBV depending on the series and 1 to 3% for HCV.

In countries with limited resources, morbidity associated with HIV/AIDS should decrease thanks to improved access to antiretrovirals. Patients infected with HIV and viral hepatitis will progress rapidly and more frequently towards chronic disease and thus towards cirrhosis and hepatocellular carcinoma. An increase in morbidity and mortality from liver diseases can therefore be expected. Co-infection with HIV multiplies the risk of having chronic active hepatitis with cirrhosis by 3-6 times and the risk of mortality by 17 times compared to patients without HIV.

HIV coinfection on one hand and hepatitis B and C on the other pose numerous problems. But in Africa especially, practitioners are confronted with the challenges of managing these cases.

The technical platform for diagnosis and monitoring is underequipped. In the developed countries the diagnosis of chronic active hepatitis is based on liver biopsy and viral load for the specific virus. These two tests are often unavailable in countries with limited resources. An evaluation based on simple clinical and biological criteria is being developed by WHO for countries with limited resources. It is therefore essential to develop valid diagnostic tools, but especially to provide capacity building in human resources in the countries of Africa and support technology transfer. This transfer can be achieved gradually first on a regional level, then nationally.

For the treatment of HBV, the drugs that have been approved in Europe include interferon: IFN-α2a and α2b and pegylated IFN (PEG-IFN)-α2a, lamivudine, and adefovir. Tenofovir and emtricitabine, which are commercialized for HIV are also active against HBV. The drugs under active development against HBV include entecavir, clevudine, and telbivudine. The association of pegylated interferon (IFN)-α and ribavirin is the treatment of choice for HCV infection. Except for the non-nucleoside reverse transcriptase analogues used for the treatment of HIV (lamivudine, tenofovir), these drugs are not available in Africa. Therefore only HIV-HBV co-infections are treated.

For prevention, testing for AgHBs should be systematic during diagnostic HIV testing. The HBV vaccine is offered to HIV+ AgHBs negative and Antibody anti-HBs negative patients. The newborns of co-infected mothers should be vaccinated at birth. Trials on materno-fetal transmission are ongoing.

In a recent cross-sectional study of the healthcare workers at the Niamey National Hospital, the prevalence of the HBs antigen was 15.3% [95% CI: 9.9-20.7] and there was a very low proportion of people susceptible to HBV infection. Based on these results, the authors suggested that in a global approach to prevent occupational infections by blood borne pathogens, universal hepatitis B vaccination of healthcare workers is not a priority compared to primary prevention. Diagnostic testing and treatment of hepatitis B should also be considered. ■

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For more information: SOLTHIS HIV FORUM

Future medical challenges
Chair : Dr. Leopold Zekeng - UNAIDS

New challenges, new answers	Robert Murphy – Northwestern University
Children: a neglected population	Pr Mariam Sylla – Hospital Gabriel Touré, Mali
Co-infections and viral hepatitis	Eric Adehossi – National Hospital of Niamey, Niger

Round table: ***Franck Lamontagne – Solthis***
Gilles Raguin – ESTHER
Marco Vitoria – WHO

Pr Robert Murphy
Northwestern University,
Chicago (United States)

Biomedical Engineering Programs for Sub-Saharan Africa: Innovative Models for Now

Medical care in the developing world lags far behind the industrialized world due to limited financial and human resources. The burden of disease is radically different in the developing world with higher mortality rates for patients living with HIV, tuberculosis or malaria. Likewise, infant and maternal mortality is unacceptably high. Transplanting Western healthcare systems and technologies to resource-limited settings is a slow and expensive process, and in many instances inappropriate or impossible [1-7]. Developing new healthcare delivery methods tailored to these environments will be more cost-effective.

There has been a glaring lack of cross-disciplinary research in Low and Middle Income Countries (LMIC) where global health research has been traditionally driven by single-problem focused approaches. For example, early infant diagnosis with PCR-based detection of HIV DNA, is available in many tertiary care centers in LMICs, but getting the actual results back to the patient can take as long 3 months. In our own experience, we have found that 41% of mothers never returned to collect the test results of their babies. There continues to be well-recognized gaps in the ability to translate operational research findings into concrete and efficient applications [8]. Innovations such as easy to use, point of care diagnostic devices and other technologies in healthcare can prevent, diagnose and treat disease. In the context of global health, such innovations can additionally save many lives.

Models for Traditional Western Medical Technologies: Problems for LMICs

LMICs are sold the same products as high income countries. For example, the most commonly used HIV PCR tests are made and distributed by Chiron and Abbott, both US-based companies. Their products are highly accurate, but expensive, labor intensive and require a cold chain supply system. One of the more commonly used CD4 count machines used in Africa is made by Partec, a German company who makes a very good testing device, however it is expensive and parts and service are supplied from Germany. While the new GeneXpert tuberculosis diagnostic machine is an improvement, it is made at a high cost by Cepheid, a US company, and its tests are also very expensive.

Because of the way devices and consumables are priced and paid for in the developed countries, there is little motivation to develop technologies that are more effective, affordable, accessible, easier to use, deliver and/or provide superior scalability. In the high-income countries there is little if any motivation to develop a point-of-care HIV test, as there already exists a very precise test that can be done virtually anywhere in the West where a blood specimen can be obtained and sent to a reference lab with the result reported back within 24 hours. Although expensive, it works well and few complain so there is no demand for a simple, less expensive, point of care device. Indeed few medical professionals in the West would want a point of care device because it would not be useful. As for the diagnosis of tuberculosis, developing countries use techniques that are for most of most the part, decades old, poorly sensitive and take weeks for results to become available.

In order to address the challenges of Global Health in relation to development of new and innovative technologies, the following objectives must be addressed:

- Expand the base of expertise needed and available to the most pressing problems in global health by developing trans-institutional, problem solving-based research training programs in biomedical engineering that bring together widely diverse experts who work together on research problems in Global Health;
- Stimulate new knowledge, approaches and solutions in Global Health by putting "innovation" in the context of developing countries;
- Integrate Global Health research communities within and among institutions by raising awareness and building interdisciplinary biomedical engineering capacity where it is needed the most, in sub-Saharan Africa.

In order to develop innovative interdisciplinary biomedical engineering programs in Africa we must create opportunities and resources for interdisciplinary training in Global Health Innovation. At Northwestern University, we have supported the development of a multidisciplinary global health curricula and creation of three Global Health centers in engineering, medicine and business.

Innovation can be defined as an implementation that is often disruptive of the prevailing product, process, policy or paradigm and creates an outcome that is more effective, affordable, accessible, easier to use or deliver, and/or provides superior scalability has been described in these settings as creativity reduced to practice. The innovation in our programs includes:

- Development of new biomedical engineering programs or enhancement of existing biomedical engineering programs sub-Saharan Africa;
- The cross disciplinary team approach with trainees from engineering, medicine and business;
- The bottom-up approach that will be taken by engineers, doctors, and business professionals living in the developing world who are in the best position to identify needs and innovate;
- Incorporation of the training program at the University of Cape Town in South Africa, the most developed Biomedical Engineering Program in Africa, to a lead institution and promotion of significant South-South training;
- Training in Intellectual Property and Commercialization, a new field for most Africans and critical for the success of this project.

With training in user needs assessment and product development processes, the Africans can best identify where new medical devices and practices can have the greatest impact, decide which technologies and methods are most appropriate for their settings, and demonstrate that their solutions are safe and cost-effective, and can be competitive in African markets. In general, what can be accomplished is the replacement of expensive, complicated equipment that is difficult to purchase, operate, service, and manage with easy to use, locally manufactured, inexpensive technologies. One example here is replacing PCR machines with hand held easy to use devices that don't require amplification (see example #1 below). Additionally, we want to develop novel products and technologies that don't exist, such as quick, easy TB diagnostic technologies that could be as simple as using a dipstick. This is innovation as defined here. It can be done and indeed in a few cases has already been done.

Examples of technologies in development

Point-of-care infant HIV test

The first product being commercialized by NGHF is the Northwestern-developed point-of-care (POC) infant HIV test. [14-15] This test will reduce the time required to diagnose an infant with HIV from as long as several months to 30 minutes while the test is being performed on site. In 2013, NGHF will deliver 25,000 infant HIV tests and 190 devices to the Clinton Health Access Initiative (CHAI) for pilot testing in ten African countries. NGHF plans to scale up manufacturing and delivery of the infant HIV test to over 300,000 tests and nearly 5,000 devices by 2016.

IMCI Tablet
Community health clinics are often staffed by caregivers who use the Integrated Management of Childhood Illnesses (IMCI) protocol to diagnose and treat common diseases. The IMCI tablet is an electronic diagnostic aid currently running on the iPad platform and the the open-source Android platform. This IMCI Tablet with DxDb Client includes software developed at Northwestern and UCT, presents pictures, videos and sounds of key symptoms to help non-physician health care workers navigate complicated diagnostic algorithms from the World Health Organization and/or their country's Ministry of Health. The CIGHT and UCT teams are currently assessing the effect this application has on healthcare worker performance in Cape Town. The results should be available early 2013.

Rapid test strip reader
In 2013, NGHF plans to launch a rapid test strip reader being developed by Northwestern and UCT that will read qualitative rapid tests more accurately and will send results to a central database via text messages for forecasting and program management.

Birth attendant training kit
NGHF will commercialize a birth attendant training kit in 2016 to help reduce maternal mortality in developing countries. The kit is being manufactured in South Africa.

Kangaroo Mother Care
Approximately 80% of premature infants suffer from hyperbilirubinemia, or jaundice, which if left untreated can lead to brain damage. Conventional therapy calls for phototherapy in a temperature controlled incubator. This approach is not possible in most LMIC settings. Northwestern and UCT teams developed a blanket that emits LEDs at exactly the wavelength necessary for the photocatalysis of bilirubin. Mothers can simply wrap the baby in the blanket and swaddle the child to her chest with her own body providing the necessary heat. A local Cape Town manufacturer, Infantrust LLC, has undertaken the final stages of testing, commercialization and manufacturing.

Apnea-Alert Affordable Apnea Monitoring for Preterm Infants
Detection of apnea in premature infants remains a challenge in LMICs. An affordable alert system would allow mother and infant to sleep but sound an alarm should the baby's breathing be disruptive. Apnea-Alert combines a piezoelectric sensor to detect the infant's belly breathing as well as a reflectance pulse-oximeter to detect heart rate and oxygen saturation. A local Cape Town manufacturer has been identified to act as primary manufacturer, however significant funding is still needed to develop reliable detection algorithms.

Digital Radiology for First Referral Hospitals
In a busy government clinic in Cape Town, 300-400 patients per day may be served, many with pulmonary symptoms requiring a chest radiograph. With this many radiographs being taken per day, the conventional system was not feasible. The Northwestern/UCT team designed, purchased and installed a digital radiography system and engineered the software and hardware to ensure appropriate functionality and interoperability. The system is now serving as a prototype for the World Health Imaging Alliance, recently renamed HealthGreen.

Conclusion

While Research & Development funding for medical devices for resource-limited settings has grown dramatically in the past decade, these efforts have essentially not affected health care delivery because the business functions required to manufacture, market, sell, service, and train in these geographies are not well coordinated. Recognizing this gap, a team of faculty at Northwestern University and the University of Cape Town has developed programs and courses to fill the gap between medical device research and developing world markets. We aim to expand these programs throughout Africa. ■

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Pr Jean-Pierre Olivier de Sardan
LASDEL (Niger)

The healthcare system, a weak link in the prevention of mother to child transmission in Niger

PMTCT has now become a central service in healthcare systems around Africa, and represents a decisive step towards "normalization" of the management of HIV-AIDS and its inclusion into a minimum package of activities for healthcare workers.

However, PMTCT has encountered numerous problems which are a result of 2 indicators: the important number of HIV positive pregnant women who are lost to follow-up after being diagnosed and the low percentage of follow-up in children born to HIV positive women.

What is the cause of the mediocre results of PMTCT programs in Africa despite the mobilization of international funding agencies (WHO, UNICEF, UNFPA), non-profit medical organizations (Solthis, Esther), and the significant financial and human resources dedicated to this issue? Although many analyses mention social and cultural factors such as significant stigmatization of PLHIV in Africa, the patriarchal system and the influence of polygamy, the role of local healers, illiteracy, and cultural traditions,we feel that institutional and professional factors play an important, even decisive role. The condition of the healthcare systems, their poor management of human resources, poor quality of care and the specific social logic of the midwife profession are well known elements common to many African countries which help understand the difficulty of implementing PMTCT programs.

Methodology

To identify the "gaps" between PMTCT programs as they are presented in official documents, healthcare programs or organizational charts, and PMTCT as it is actually managed in daily practice (in other words, to study the "implementation gap"), questionnaires and evaluations based on statistics and official reports have numerous biases and are not very reliable.

The methodology used by the LASDEL team on the other hand is socio-anthropologic and includes: in-depth field studies requiring familiarity with the milieu under investigation and performed by experienced researchers; the use of repeated observations; case studies; free and semi-directive interviews with members of different strategic groups: midwives, nurses, hospital room assistants, NGO personnel, HIV activist groups, district management teams, public healthcare professionals, HIV positive, negative and untested pregnant women, mothers, families.

Some results

Based on the results and analyses of LASDEL research on the problems encountered in PMTCT programs, we can mention the following conclusions: difficult relationships between midwives and women giving birth, the demand for bonuses, the absenteeism of prescribing doctors, supply shortages.

Midwives are at the heart of PMTCT programs, and many midwives simply refuse to participate in PMTCT activities, or participate half-heartedly for financial reasons. Indeed, healthcare workers consider any new activity in the healthcare system to be extra work that merits extra pay. This practice has been supported by numerous vertically organized programs. And yet although PMTCT activities are indeed time consuming and require specific expertise (psychological support, performing tests, ARV prescriptions), mid-wives performed them in the past without receiving "motivation" (meaning bonuses) and the bonuses they receive today seem ridiculously low in comparison to funding received by the HIV-AIDS sector. These demands and this reticence occurs in a context where the relationship between the midwife and pregnant women, women in labor, or women who have given birth is far from excellent. Giving birth in the maternity where one was diagnosed can also become the source of a "leak" as the midwife who revealed the diagnosis to the patient will not handle the birth, and because women are afraid of a lack of confidentiality or discrimination during childbirth by midwives in the unit. Moreover we observed that (collective) pretest counseling was frequently not performed at all, and when it was, the conditions were often poor. Tests results were not always announced confidentially and compassionately to HIV positive women and the demand that they bring their spouse to be tested was not appreciated and could result in her "disappearing." The necessity of changing the contact person again after giving birth and of having to see a prescribing doctor is also a cause of lost to follow up in mothers and babies.

Absenteeism by physicians (for meetings, teaching, training programs, social obligations or activities in the private sector) is a problem in all healthcare systems, and is the same for prescribing doctors in these programs. However the consequences are serious: when a patient arrives sometimes from far away to find the door closed, this is a frequent cause of abandoning treatment for the mother and the child.

Finally supply shortages (ARV, diagnostic tests, laboratory reagents) are still too frequent; they are not specific to HIV-AIDS , but are found at all levels of the healthcare system.

Conclusion

While most healthcare policies focus on the financial or geographic barriers to access to care, the question of quality of care in the healthcare systems has not been sufficiently taken into account.

Except for PMTCT, for more than 10 years HIV-AIDS programs have been providing better quality of care than the rest of the healthcare system, so that they represent a sort of functional enclave. On the other hand PMTCT was developed in the heart of the healthcare system without taking into account the real situation and the difficultly of providing high quality care. . Research by LASDEL in Niger shows that to a certain extent the dysfunctional healthcare system has "tainted" PMTCT programs. The challenge is clear: if we want to have effective PMTCT programs the healthcare system itself must be reformed starting with PMTCT itself. ■

For more information: SOLTHIS HIV FORUM

PTMC: lessons learned from socio-economic studies

Chair: Alice Desclaux – IRD

Healthcare system, weak link of PTMTC — **Jean Pierre Olivier de Sardan – LASDEL**
The role of men in PTMTC — **Joanna Orne-Gliemann – ISPED**

Round table: ***Sanata Diallo – Solthis***
Frédéric Lemarcis – IRD
Roland Tubiana – Hospital Pitié-Salpêtrière

3rd edition of the clinical research methodology training course

The third Francophone Clinical Research Course for HIV was held in Grand Bassam from March 24-27, 2013. Organized in association with AFRAVIH, RESAPSI, ANRS, The West African Health Organization, GIP ESTHER and Solthis, there were 38 participants from 14 countries in Sub Saharan Africa and North Africa.

This course was attended by young clinicians, pharmacists and biologists involved in different aspects of the fight against HIV. The goal was to provide academic training in a pleasant environment in order to facilitate the exchange between the students and the teaching staff. The program includes theoretical courses in biostatistics, epidemiology and ethics and more practical courses on developing and implementing a clinical research project. This year Solthis participated by teaching two workshops on database management in clinical research and by sponsoring three participants.

Working groups where students are required to present a research project play an important role in these courses, as students must rapidly apply the theoretical knowledge acquired in the program. Supported by members of the teaching staff, the students must identify a research topic, explore the literature on this topic, and define the methodological parameters. The notions of the classes are explored in more detail during the workshops but, most importantly, the students work like a scientific team developing a research project. They work together to find solutions to methodological problems that come up, develop ideas based on specific scientific arguments, discuss, convince or let themselves be convinced to define a project that they will defend as a group in front of the other groups and the teaching staff.

The 4 working groups each receive a theme to direct their reflections. This year the themes were:

- Complications and morbidities
- Specific populations
- ART Strategies
- Coïnfections

These 4 very different projects were presented in the final session. The first group proposed a randomized trial to evaluate the efficacy and tolerance of tenofovir for the reduction of mother to child transmission of hepatitis B during pregnancy and breastfeeding. The second group worked on the specific needs of older HIV positive patients (over 50) and suggested studying this question in case-controlled studies. The third group worked on a clinical trial to compare the clinical efficacy and tolerance of 2 therapeutic strategies in severely immune depressed patients to show that tenofovir + emtricitabine + dolutegravir was a better combination than therapeutic tenofovir + emtricitabine + efavirenz. Finally the last group proposed a cross-sectional study on the prevalence of hepatitis C in adults being followed for HIV and a case controlled study to determine the risk factors.

Thus the students acquired the tools necessary to develop clinical research projects with diverse methodologies from these courses. Although the projects that were presented must be clarified a bit, they are all in an advanced stage of development, and certain students have stated that they would like to continue their collaboration to finalize these projects once they return home

Another merit of the Francophone Course of HIV clinical research is that it is the occasion to meet and exchange ideas with trained research scientists from many horizons. It also helps create a Francophone African scientific community that is ready to develop its own research agenda so that the new generation of Africans can contribute to serving Scientific Research. ■

Educational support:
Pr Serge Paul Eholié, CHU de Treichville, Abidjan (Côte d'Ivoire)
Pr Christine Katlama, CHU Pitié-Salpêtière, Paris (France)
Pr Gilles Brucker, Université Paris XIII (France)
Dr Xavier Anglaret, ANRS, Abidjan (Cote d'Ivoire)
Dr Lambert Assoumou, UMR S 943 INSERM (France)
Dr Brigitte Bazin, ANRS (France)
Dr Christine Danel, Programme PACCI, Abidjan (Cote d'Ivoire)
Dr Didier Koumavi, Cote d'Ivoire
Dr Ekouevi Valerie Journot, l'INSERM U897 / ANRS (France)
Dr Karine Lacombe, CHU Saint-Antoine, Paris (France)
Grégoire Lurton, Solthis
Dr Roland Tubiana, CHU Pitié-Salpêtrière, Paris (France)

Students and professors, Grand Bassam – Côte d'Ivoire

Dr Rémi Lefrançois
Scientific Manager

CROI 2013: update by Solthis

The 20th edition of the annual Conference on the Retrovirus and Opportunistic Infections (CROI), the key event for international players in the fight against HIV, was held in Atlanta, Georgia from March 3-6, 2013.

Solthis reports the most recent results that were presented there, in particular concerning the developing countries.

The "cure" of a newborn

It is impossible not to mention the case of the "functional cure" that was reported everywhere in the daily press and that occurred in the USA in a newborn with an in-utero HIV infection [1].

The child, whose mother was diagnosed as HIV positive at work, was diagnosed HIV positive at birth by viral load testing. The baby was immediately treated when he was 31 hours old with zidovudine - lamivudine – nevirapine (AZT/3TC/NVP), then zidovudine - lamivudine – boosted lopinavir (AZT/3TC/LPV/r) from 7 days old to 18 months when he was lost to follow-up and his treatment was stopped. When the child was contacted again 10 months after treatment had been interrupted, he had a perfectly undetectable viral load and was HIV negative. Even if it is difficult to speak of a real cure rather than remission, because different DNA proviral measurements integrated in the CD4 reservoirs were weakly positive, the virus does not seem to be capable of multiplying. This exceptional case seems to show that treatment of this newborn in the very early primary-infection phase limits spreading of HIV towards the reservoirs, and facilitates future immune control of HIV by the child's organism.

This does not seem to be an isolated case; in the results of other studies including one performed in Thailand in adult patients, treatment in the very early phase of the primary-infection [2] also shows that this protocol can limit seeding of the cell reservoirs and integration of viral DNA into the CD4 memory and mononuclear cells helping to facilitate future control of the virus by specific immune responses. These cases are perfectly similar to the case of the Elite controllers in the Visconti cohort in France.

However, despite these exceptional cases, the road to a cure in most patients who are diagnosed much later still seems far off as the results of strategies presented by CROI targeting intervention in the reservoirs constituted by activating infected memory CD4 cells to eliminate them later are inconclusive (Eramune-01 trial [3] and disappointing Vorinostat [4]).

Progress and numerous research trials on the African continent

It's true that immense progress has been made in Africa in relation to programs to provide access to treatment. A F. Dabis (ISPED - Bordeaux) calls it an "African Success story"; at the end of 2011, more than 8 million people had access to ARV [5]. But even more than the overall success which hides contrasting situations, it is also satisfying to observe the number of clinical trials and studies being performed on Africa soil and that concern topics which will help patients primarily in the developing countries.

On March 5, several interesting studies were presented on pediatrics and PMTCT during the oral session.

In pediatrics, the results of a randomized study suggests that the prevention of opportunistic infections in children infected with HIV could be improved. This study performed in Uganda and Zimbabwe with 758 children who were followed up for 2 years showed that continuing preventive treatment with cotrimoxazole was still beneficial even after ARV treatment was begun and regardless of the CD4 count in the child. [6]. Protection against bacterial infections such as pneumonia, sepsis, meningitis as well as malaria could explain the significant decrease in hospitalizations and deaths found in this study. This strategy, which is simple to implement, could therefore be recommended in numerous countries that have a similar epidemiological context.

In PMTCT, the initial results of the ANRS 12174 Promise-PrEP study were reported. This study tested a new strategy of preventing HIV transmission during breastfeeding by substituting the administration of neviparine to the newborn, (option A) which has never really been evaluated, by other molecules [7]. This study performed in 4 African countries in 1273 newborns of HIV positive mothers who did not require ARV treatment (>350 Cd4) provided lamivudine (3TC) or lopinavir (LPV/r) monotherapy to breastfed children until one week after they were weaned.

The initial results showed a very low rate of transmission by breastfeeding with lopinair limited to 1.1% at 12 months, with an overall rate of survival (3TC and LPV/r) of 96.2%. The results of this strategy need yet to be confirmed, but as such contribute to the ongoing debate from 2012 that started after WHO recommended beginning ARV in all pregnant women and continuing it for life irrespective of the CD4 count (option B+), a recommendation that is a problem because of the availability of ARV in the field.

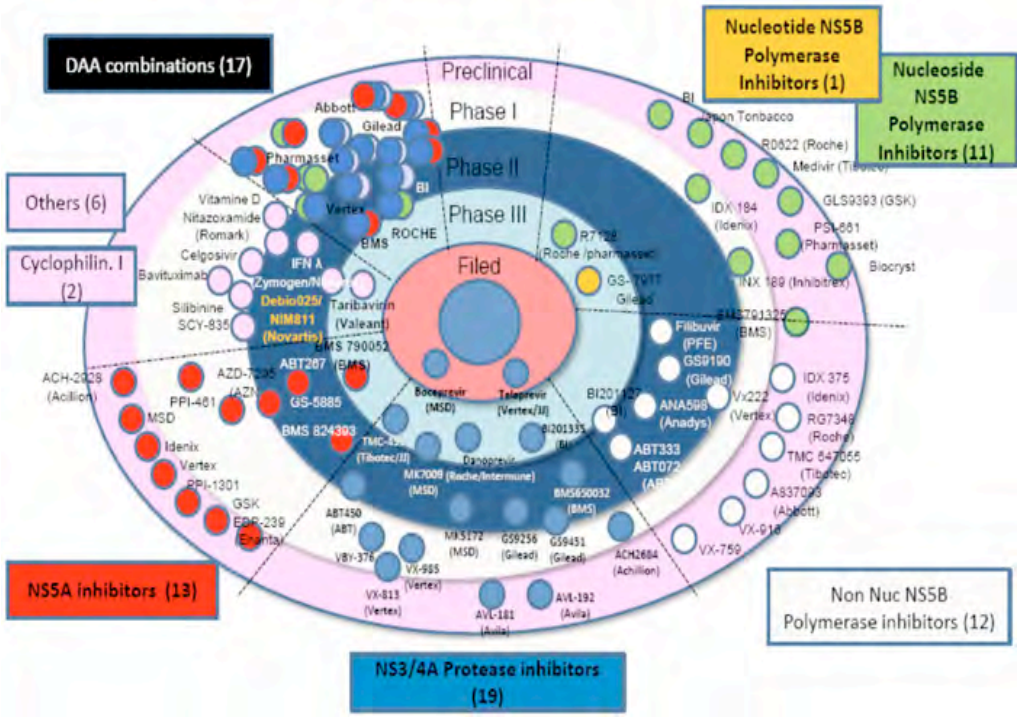
Finally a large French study documented the relationship between taking different ARV during pregnancy and the development of birth defects. Based on a retrospective analysis of 13,124 children exposed to ARV during pregnancy in France between 1994 and 2010 [8], the results confirm previously suspected notions. Thus, exposure to efavirenz in this first trimester of pregnancy is associated with an increased risk of neurological anomalies; zidovudine results in an increased risk of cardiac anomalies, while didanosine and lamivudine result in head and neck malformations. These results support ideas that were strongly suspected based on animal models. However, they should not call into question the importance of ARV treatment in PMTCT including efavirenz if it is the only available molecule, because the benefits largely outweigh the potential risk of malformations.

The interest of regular biological testing in adults and children in the developing countries.

Although monitoring the CD4 count which is more accessible than viral load in the developing countries--has been shown to be clinically beneficial in adults (DART trial) this has never been evaluated in children. One study performed in Uganda [9] showed that systematic trimestrial monitoring of CD4 count had a slightly significant individual clinical benefit, but only after one year of follow-up. Nevertheless on a collective scale, the authors consider that extending access to ARV to other children would be more cost effective than providing those who are on treatment with this immunological monitoring.

The CLADE [10] trial, another randomized study performed for 18 months on 820 Kenyan adults in a rural area, evaluated the feasibility and interest of virological monitoring every six months in this population. While nearly 80% of patients were still being followed at 18 months in both arms, systematic monitoring of viral load every 6 months reduced the risk of virological failure by 46% at the end of the study (15.2% vs 8.7%). In 18 months, 7.3% of patients in the study arm that received monitoring had begun 2nd line treatment because of a therapeutic failure compared to

The molecules in development



0.9% of patients without systematic virological follow up. A cost-effective study is ongoing to determine if this strategy is realistic in resource limited countries.

Cryptococcus

Cryptococcal neuromeningitis is a major cause of death in Africa. The optimal delay for beginning ARV after a first episode of cryptococcal meningitis was evaluated in the randomized COAT (Cryptococcal Optimal ART Timing) trial [11].

At 26 weeks overall survival of patients who received early ARV (1 - 2 weeks after antifungal treatment) compared to those who received deferred ARV treatment (4 weeks) was much lower with a much higher risk of IRIS (OR 1.7 (CI95 : 0.65-4.54). According to the authors patients presenting factors of severity: Glascow score <15 and LCR cellularity <5 elements, can benefit from even later introduction of ARV (5-6 weeks).

Prevention

While the 2012 edition of the CROI presented very encouraging results of trials for the prevention of HIV transmission (Partners Prep Study), the VOICE trial [12] performed in South Africa in 5000 HIV negative heterosexual women to compare 3 pre-exposure prophylaxis strategies (microbicide gel with tenofovir, oral tenofovir or Truvada) was a failure, including the Truvada arm, whose results were not presented. This failure was associated with poor observance, confirmed by insufficient ARV dosing in the blood (only 29% of women had undetectable ARV levels). It shows the difficulty of long-term observance in these pre-exposure treatment strategies

Hepatitis C

Finally this year's conference was especially focused on hepatitis C, which is understandable considering the arrival of new treatments that have generated much hope.

For example the ELECTRON study [13] tested the combination of ribavirin associated with two new molecules: sofosbuvir (a nucleotide analogue), and ledispavir (protease inhibitor NS5A) in monoinfected genotype 1 patients, who are the most difficult to treat. Results after 12 weeks showed 100% efficacy (VL HCV < 15Ui/ml) in previously untreated patients as well as in non-responders. Moreover, this treatment seems to be associated with very few adverse effects (4%).

The results presented on the ANRS HC26 and HC27 trials for HIV-HCV coinfection [14,15] evaluating telaprevir and boceprevir respectively were also interesting. The overall virological response rate observed at 16 weeks was 88% with telaprevir and 63% with boceprevir in patients with controlled HIV but with what are considered negative prognostic factors: genotype 1, prior treatment failure and advanced stages of liver fibrosis F3 or F4 in 25%. Although there were frequent adverse events with both strategies these molecules still provided a therapeutic option to patients who are normally difficult to treat (genotype 1a) or in whom treatment was no longer possible.

Even if these new treatments have no immediate impact on patients in the developing countries, the number of molecules under development is impressive and could pave the way to screening and treatment of this "orphan" disease in these countries, where the epidemiology is unknown and treatment is inexistent. ■

1. Functional HIV Cure after Very Early ART of an Infected Infant, Abstract #48LB.
2. Early ART Intervention Restricts the Seeding of the HIV Reservoir in Long-lived Central Memory CD4 T Cells, Abstract #47.
3. Impact of interleukin-7 and Raltegravir + Maraviroc Intensifcation on Total HIv DNA Reservoir: result from ERAMUNE 01, Abstract #170aLB.
4. The safety and Effect of Multiple Doses of Vorinostat on HIV Transcription in HIV+ Patients receiving cART, Abstract #50LB.
5. Reality Check: Is the End of Aids in Sight? Abstract #18
6. Randomized Comparison of Stopping vs Continuing Cotrimoxazole Prophylaxis among 758 HIV+ Children on Long-term ART : The Anti-Retroviral Research for Watoto Trial, Abstract #86.
7. Birth defects and ART in the French Perinatal Cohort, a Prospective Exhaustive Study among 13,124 Live Births from 1994 to 2010, Abstract #81.
8. Towards Elimination of Breastfeeding Transmission by Infant Prep: Results of ANRS 12174 Trial Using Boosted Lopinavir or Lamivudine in Africa, poster #912.
9. Impact of routine Laboratory Monitoring after ART Initiation in 1206 HIV+ African Children : The 5-Year Anti-Retroviral Research for Watoto Trial, poster #912
10. Superiority of Routine Viral Load Monitoring in Rural Kenya: the Kericho Clinic-based ART Diagnostic Evaluation (CLADE) Trial, Abstract #151
11. ART Initiation within the First 2 Week of Cryptococcal Meningitis Is Associated with Higher Mortality: A Multisite Randomized Trial, Abstract #144
12. Pre-exposure Prophylaxis for HIV in Women: Daily Oral Tenofovir, Oral Tenofovir/Emtricitabine, or Vaginal Tenofovir Gel in the VOICE Study, Abstract #26LB.
13. ELECTRON: 100% Suppression of Viral Load through 4 Weeks Post-Treatment for Sofosbuvir + Ledispavir (GS-5885) + Ribavirin for 12 Weeks in Treatment-naïve and-experienced Hepatitis C Virus GT1 patients, Abstract #41LB.
14. High Early Virological Response with Telaprevir-Pegylated-Interferon-Ribavirin in Tratment-experienced Hepatitis C Virus Genotype1/HIV Co-infected Patients: ANRS HC26 TelapreVIH Study,Abstract #36.
15. ANRS-HC27 BocepreVIH Interim Analysis: High Early Virologic Response with Boceprevir+Pegylated Interferon + ribavirin in Hepatitis C Virus/HIV Co-infected Patients with Previous failure to Pegylated Interferon + Ribavirin, Abstract #37.

SOLTHIS HIV FORUM

THURSDAY, SEPTEMBER 19TH

RESEARCH
Prevention, recovery, remission, eradication of HIV : where do we stand ?

9.00-9.30 am	**Opening**	Françoise Barré-Sinoussi – Pasteur Institute Christine Katlama – Solthis

Session 1. HIV Cure and Reservoirs

Chair: Françoise Barré-Sinoussi – Pasteur Institute

9.30-9.50 am	**HIV infection : remission is possible**	Asier Sáez-Cirión – Pasteur Institute
9.50-10.00 am	**Primary infection**	Antoine Cheret – Hospital Tourcoing
10.00-10.10 am	**HIV reservoirs**	Jade Ghosn – Hospital Hôtel Dieu, Paris
10.10-11.00 am	***Round table: Brigitte Autran – Hospital Pitié-Salpêtrière, Christine Rouzioux – Hospital Necker***	

Session 2. Treatment as prevention

Chair : Jean-François Delfraissy – ANRS

11.20-11.40 am	**HAART treatment as prevention (TASP)**	Gilles Pialoux – CHU de Tenon
11.40-12.00 am	**TASP: a possibility to African countries?**	François Dabis – ISPED
12.00-12.20 am	**PREP, microbicides, condoms: the others strategies of prevention.**	Bruno Spire – AIDES
12.20-13.00 pm	***Round table :* Pierre-Marie Girard – Hospital Saint-Antoine, Joseph Larmarange - IRD (TBC)**	

SOCIO-ECONOMIC SCIENCES
Challenges of mother-to-child transmission and access to medicines

Session 1. Mother-to-child prevention : lessons learned from socio-economics studies

Chair: Alice Desclaux – IRD

2.00-2.20 pm	**Healthcare system, weak link of PTMTC**	Jean-Pierre Olivier de Sardan – LASDEL
2.20-2.40 pm	**The role of men in PTMTC**	Joanna Orne-Gliemann – ISPED
2.40-3.30 pm	***Round table :* Sanata Diallo – Solthis, Frédéric Le Marcis – IRD, Roland Tubiana – Hospital Pitié-Salpêtrière**	

Session 2. Challenges of access to treatment

Chair: Benjamin Coriat – ANRS

3.50-4.10 pm	**Next challenges in access to treatment**	German Velasquez – SNIS
4.10-4.20 pm	**Fighting monopolies: the example of viral load (OPP-ERA)**	Cristina d'Almeida - FEI
4.20-4.30 pm	**Quelle avenir pour la production en Afrique ?**	Frederick Mutebi Kitaka – QCIL (TBC)
4.30-5.30 pm	***Round table :* Etienne Guillard – Solthis, Robert Sebbag – Sanofi-aventis, Gaëlle Krikorian – EHESS**	

5.30-6.00 pm – Conclusions

If you missed the SOLTHIS HIV FORUM, you can find the presentations on our website: www.solthis.org

SOLTHIS 10 years

On the occasion of its 10th anniversary, deliers Campus of Pierre and Marie Curie association; photographs and testimo- against HIV/AIDS.

Challenges of HIV/AIDS in Africa

FRIDAY, SEPTEMBER 20TH

MEDICAL
10 years after the arrival of antiretroviral therapy in Africa, what challenges ?

Session 1. 10 years with HAART in Africa

Chair : Eric Delaporte – IRD

9.00-9.20 am	Opening	
9:20-9:40 am	10 years of HAART in Africa	Serge Eholié – Hospital Treichville, Côte d'Ivoire
9.40-10.00 am	10 years of Solthis in Africa	Louis Pizarro – Solthis
10.00-11.00 am	***Round table :*** **Alexandra Calmy – Hospital de Genève / MSF, Charlotte Dézé – Solthis, Alain Akondé – Solthis**	

Session 2. Medical Challenges

Chair : Leopold Zekeng – ONUSIDA

11.20-11.40 am	New challenges, new answers	Robert Murphy – Northwestern University
11.40-11.50 am	Children: a neglected population	Mariam Sylla – Hospital Gabriel Touré, Mali
11.50-12.00 am	Co-infections and viral hepatitis	Eric Adehossi – National Hospital, Niamey, Niger
12.00-13.00 am	***Round table :*** **Franck Lamontagne – Solthis, Gilles Raguin – ESTHER, Marco Vitoria – OMS**	

INTERNATIONAL POLITICS
HIV in the political agenda after 2015

Session 1. HIV and Healthcare System

Chair : Gilles Brücker – Hospital Kremlin-Bicêtre

2.00-2.20 pm	HIV effects on Healthcare systems	Rifat Atun – Imperial College London
2.20-2.40 pm	HIV and Healthcare System	Elisabeth Sandor – Consultant
2.40-3.30 pm	***Round table :*** **Sophie Calmettes – Solthis, Mohamed Cissé – CHU de Donka, Guinée, Momodu Sesay – NACP Sierra Leone**	

Session 2. HIV and MDG's in post 2015 agenda

Chair : Ambassadeur Sida – France (TBC)

3.50-4.10 pm	HIV and MDG's challenges	Mark Dybul – Global Fund
4.10-4.30 pm	Health Challenges in post 2015	Stefano Bertozzi – Gates Foundation
4.30-5.30pm	***Round table :*** **Eric Fleutelot – Sidaction, Fred Eboko – IRD**	

5.30-6.00 pm
Conclusions

of commitment in photos

Solthis organizes a photography exhibition from the 9th to 20th of September, 2013 at the Cor-
University (Paris, 6th). This exhibition aims to introduce you to the objectives and actions of the
nies highlight Solthis' various fields of intervention by raising the current challenges in the fight
For more information: www.10ans-solthis.org/en

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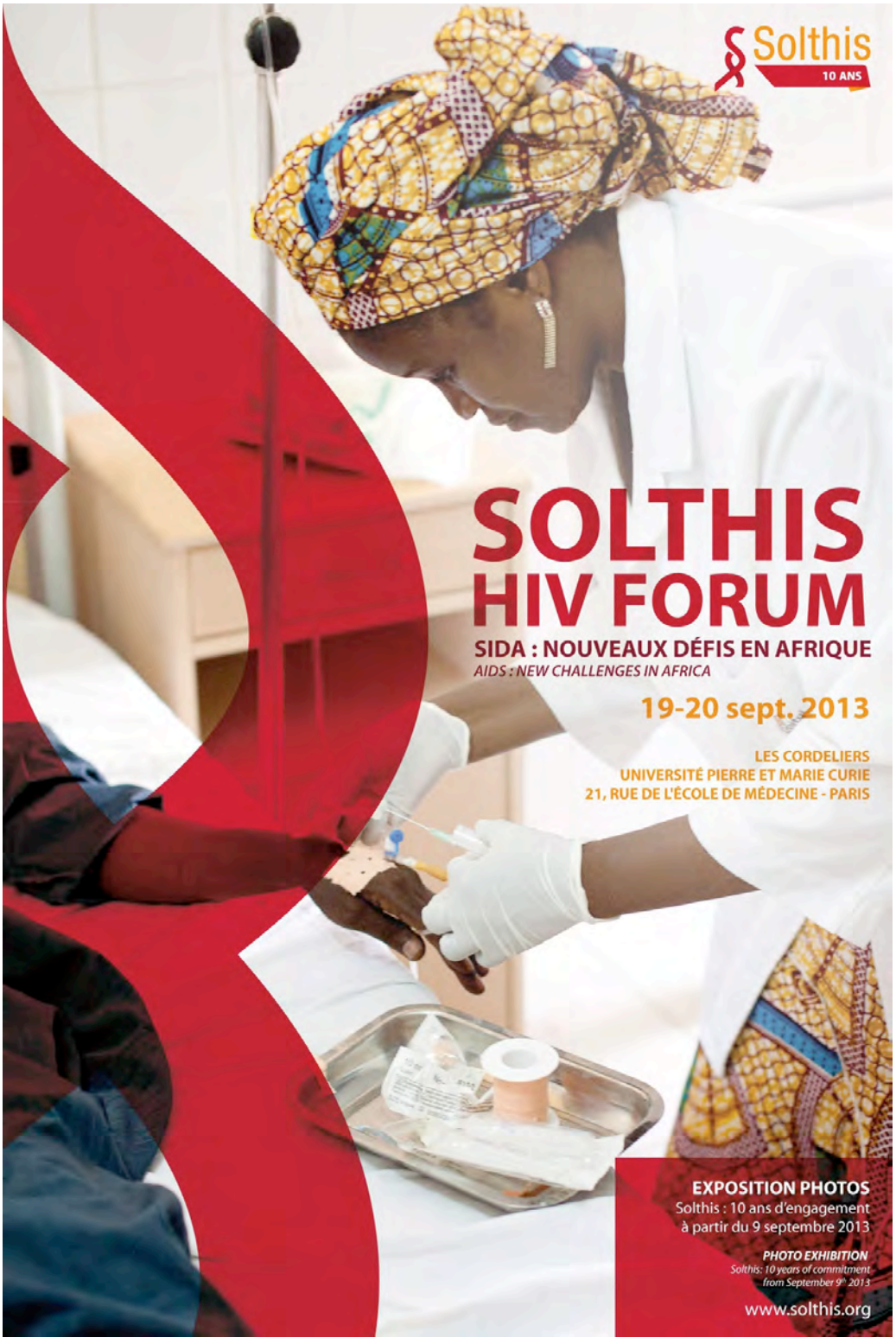

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