

## Technical support by Solthis for health-care workers in order to decentralise medical treatment for people living with HIV in the Ségou region of Mali

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**Abstract.** Medical treatment for people living with HIV/AIDS started in Mali as early as 1997 thanks to civil society. The national response was officialised by the adoption of the *Malian Initiative for Access to Antiretroviral Therapy (Initiative Malienne d'Accès aux Antirétroviraux IMAARV)*. In 2004 ART, drugs against opportunistic infections and basic biological monitoring were made available free of charge by decree. In 2005, decentralisation of health-care to regions and circles became one of the main thrusts of the national strategy for the fight against the pandemic.

Sub-Saharan African countries are making significant efforts to provide full geographical coverage of their national territory.

It is in this “scaling-up” context that the Solthis NGO (Solidarité Thérapeutique et Initiatives contre le Sida) began cooperating with Malian actors to extend access to quality treatment for patients living with HIV/AIDS in the city and region of Ségou. Based on a developmental approach, Solthis opted for continuing in situ technical support for national actors in the fight against AIDS. Thanks to the daily presence of a team “in the field” Solthis devotes a large part of its activities to capacity-building for health-care workers through an exchange of medical and scientific expertise.

Efforts were also made to improve health-care workers’ working conditions and to make various tests and drugs accessible to patients infected with HIV.

The initial aim was to encourage universal access to ART. Today, the Ségou programme supported by Solthis has developed over 1500 new treatments in the region. In addition, every PMTCT centre in the region offers prevention and treatment services to mothers and children. Today, the Ségou region is an integral part of the IMAARV initiative as a decentralisation pilot project.

### 1 Background

#### 1.1 Decentralisation of HIV/AIDS treatment in Africa

Today Africa remains the continent where health-care needs are the most urgent. Lack of access to essential medication, and the need for human resources, adequate health-care infrastructure and facilities are the obstacles to be surmounted in order to provide a genuine right to health for all. Unfortunately, today most African rural people still suffer from very limited access to health-care services.

The HIV epidemic is an unprecedented scourge in the history of mankind. Never before has a disease raised such public health challenges. Since its appearance in 1981, it has affected over 65 million people. Although prevention of opportunistic infections and the introduction of antiviral therapy in 1996 have drastically changed the natural course of the disease and improved many patients’ life quality and expectancy, on the whole treatment is mainly available for people living in rich countries and is still cruelly lacking where it most urgently needed.



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**Table 1.** Socioeconomic data.

Population	12 million
Life expectancy at birth	53 years
HDI ranking out of 177 countries	173
Infant mortality (under age 1)	120
Physicians per 100,000 inhabitants	8
Total health expenditure in GDP %	6.6%
Total health expenditure per capita (USD PPA)	US \$ 54
Adult literacy rate	24%
Gross national income per capita (USD PPA)	US \$ 1033

The decentralisation of HIV/AIDS treatment from capitals to regional areas was decided in view of this situation and from a will to facilitate access to adequate medical care (screening, diagnosis and therapy). To achieve this, the involvement of local authorities in coordinating the fight against the epidemic is essential.

There are two approaches in the field. Either specialized HIV/AIDS health centres can be created, or use can be made of existing health-care centres while preserving the national health pyramid-like structures. The two approaches are often applied jointly at different levels depending on the country. In either case, governments try to ensure full geographical coverage of their national territory.

Naturally, scaling-up treatment depends on the capacity of States to commit funds and mobilise resources. The available referral systems show considerable disparities, ranging from full coverage of all health districts in one region to total lack of antiretroviral therapy (ART) in other regions of the same country (Mali).

### 1.2 Mali: general data

Mali is a landlocked country located in the East of West Africa in the Sahel-Sahara area (Fig. 1). Mali is one of the poorest countries in the world: according to the Human Development Index (HDI) developed by the United Nations Development Programme (UNDP) for 177 countries, Mali ranks 173rd (UNDP, 2008) (Table 1). Malians, of which there are an estimated 12 million, are unequally distributed throughout the country, with a relatively high density in the South and a very low one in the North.

The Malian health care system is organized on the basis of the country's administrative division into eight regions plus one district (the capital, Bamako). Each region is made up of several circles (or prefectures) made up in turn of several towns. The health-care system is therefore built like a pyramid with a central level involving National Reference Hospitals, an intermediate level involving Regional Reference Hospitals (seven in all), and the lower level made up of health care districts in the circles. In spite of this meshed

**Figure 1.** Location on the map.

structure, over half of Malian households live more than 5 km from a health-care centre.

### 1.3 HIV/AIDS situation in Mali

With a population of 12 million and an estimated prevalence of 1.3%<sup>1</sup> in adults, the number of people infected with HIV/AIDS in the country is estimated at 130 000 and the number of people needing ART at 27 000. Women have a higher prevalence (1.4% versus 0.9% for men) with a peak in the 25–30 age-bracket. Urban prevalence is 1.6% versus 0.9% in rural areas. The city of Bamako has the highest prevalence in the country (1.9%).

As to the programme for the prevention of mother to child transmission (PMTCT), an estimated 13 000 pregnant women are infected with HIV but only 3% are estimated to benefit today from ART for PMTCT. The number of children (aged 0 to 14) living with AIDS is estimated at 16 000, 5500 needed ART in 2006 and 600 children were estimated to benefit from ART at the end of 2007.

Antiretroviral treatment for people living with HIV/AIDS started as early as 1997 at CESAC (Centre d'Ecoute, de Soins, d'Animation et de Conseils) in Bamako. As a concrete expression of the national response, the Malian Initiative for Access to Antiretroviral Medication (Initiative Malienne d'Accès aux Antirétroviraux) was launched in 2001 and has expanded significantly over the last few years, with strong political commitment towards fighting HIV. This

<sup>1</sup>Demography/health survey, EDMS IV, 2006.

commitment led to national funds being rapidly made available, to the public national declaration in April 2004 making AIDS a priority, and above all a decree making ART, drugs against opportunistic infections, and basic biological monitoring available free of charge in the Spring of 2004.

At the institutional level, the National Programme for the Fight against AIDS was replaced in 2005 by the Sectorial Coordinating Unit for the Fight against HIV/AIDS (CCSLS) within the Ministry of Health. The CCSLS is now responsible for implementing the strategic framework. When the HIV/AIDS sectorial plan of the Ministry of Health was drawn up in June 2005, the decentralisation of health-care to regions and circles was made a national priority.

Numerous partners have also mobilized against HIV/AIDS in Mali (World Bank, Global Fund, French ODA, etc.) and Malian civil society which initiated treatment efforts now plays a prime role in the health care system.

## 2 The decentralisation process in the Ségou region

### 2.1 Description of the Ségou region

The Ségou region benefits from a central location between the Koulikoro, Mopti, Timbuktu and Sikasso regions. It has part of the borders with the Republics of Burkina Faso and Mauritania. Its location has given it an historical role as a national and international crossroad. Constituted of eight circles, the city of Ségou is its capital. It has an estimated population of 2 million, half aged under 15 and 80% living in rural areas.

Ségou covers 65 000 km<sup>2</sup>, 5% of the country's total area. The region is divided into 7 circles (Barouéli, Bla, Macina, Niono, San, Ségou and Tominian) which all have a Health Reference Centre (CSRef) and a central Community Health Centre (CSCCom central)., Each circle has a varying number of Community Health Centres (CSCCom) generally set up according to population density and existing community facilities. The region has 118 municipalities encompassing 2166 villages.

The regional health-care pyramid in Mali is constituted first of the Regional Health Directorate (DRS) and of the Regional Hospital, both situated in the capital's circle. The DRS governs all the activities of the health sector, whether they are funded by the Malian Government (public services and local or regional authorities) or by development organizations (bi- and multilateral programmes, national and international NGOs). For example, it monitors health-care workers, improves their skills, and assesses their activities through integrated supervisory systems.

For any intervention in a Community Health Centre (CSCCom), in addition to consulting those in charge (CSRef Head Medical Officer and CSCCom head of station, physician or nurse), the agreement in principle of the organization managing the site (ASACO) must be obtained, thus completing

the local authority consultation phase. Technical and financial partners must keep the authorities informed and consult the different actors. This minimizes potential duplication and more particularly ensures better coordination of available resources.

### 2.2 The Solthis approach

*In 2003, the main objective of the project was to “allow efficient ARV treatment of patients coming to health-care structures. This was a pilot programme providing free drugs.”*

*The indicators selected to monitor activities were:*

- A monthly enrolment of approximately 3 children and 23 adults. To be reviewed according to needs and programme capacity.
- In monitoring centres for pregnant women involved in the programme, all women should have access to HIV screening and advice, and to ARV treatment for themselves or to prevent mother to child transmission.

To help Mali decentralise treatment for people living with HIV, Solthis has been working along *five strategic directions*:

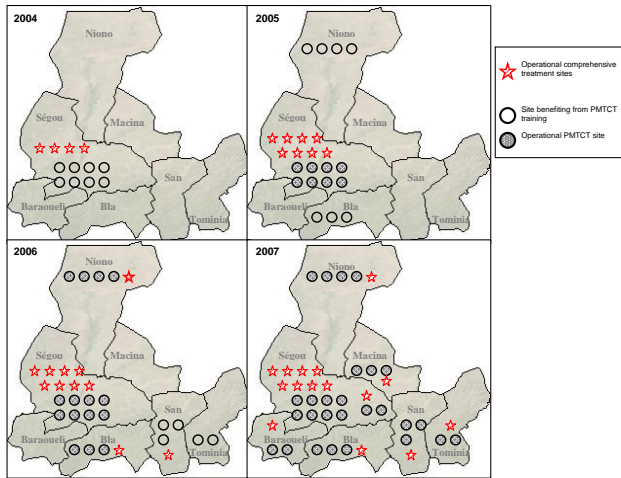
1. Capacity-building for local health-care workers through various training initiatives,
2. Improving the capacity of laboratories in the region and the links between them and the capital to provide biological monitoring of all Ségou patients
3. Supporting the national and regional drug and reagent supply system
4. Developing a data collection and analysis system for all patients monitored in the region, and,
5. Supporting regional and national coordination bodies in choosing both national protocols and health policies related to decentralisation.

This went hand in hand with a *strengthening of site resources and equipment*: rehabilitation of drug distribution warehouses and of maternity hospitals; supply of small equipment. Material and specific organizational support was also provided to patient support groups.

### 2.3 The various decentralisation stages in the Ségou region

The programme for access to ART developed and supported by Solthis in Ségou and included in the Malian Initiative for Access to ART (IMAARV) as a pilot decentralisation project is now fully anchored in the 2005–2009 Sectorial Plan for the fight against HIV/AIDS, spearheaded by the Mali Ministry of Health of Mali.

After almost four years, the programme has moved on from the decentralisation of treatment from the capital to



**Figure 2.** Chronology of decentralisation in the Ségou region.

Total number of sites at end of 2007:

- 28 PMTCT centres
- 15 Medical treatment centres

the region and is now working on scale-up within the region itself (Fig. 2).

2004–2005:

- Initial and continuous training of available human resources (physicians, pharmacists, laboratory technicians, midwives, nurses),
- Supply of equipment (automated CD4 counters, plasma banks, small laboratory appliances)
- Rehabilitation of facilities such as laboratory rooms, a pharmaceutical store in the Regional Hospital and consultation rooms in maternity hospitals where prevention of mother to child transmission (PMTCT) activities take place.

2006:

- Gradual roll-out to the whole region
- First, PMTCT work spread to Bla and Niono circles
- Next, work concentrated on extending comprehensive treatment to those circles and to the San circle.

2007:

- Support for all actors already involved in HIV/AIDS response through improved treatment quality
- Opening of two PMTCT centres in the three circles of the region (Macina, Markala, Baraouéli) that did not have any until then
- Creation of a Ségou/Bamako sampling circuit for viral load tests.

Timing of medical treatment centre openings in the Ségou region:

- 2004: 4 ARV and OI sites in the Ségou city circle
- 2005: 4 new ARV and OI sites in Ségou city
- 2006: ARV and OI sites in the CSRefs of the Bla, Niono and San circles
- 2007: ARV and OI sites in the CSRefs of the Baraouéli, Macina, Markala and Tominiian circles.

In all for the region, the Ségou programme for access to ART has allowed launching and expanding the fight against HIV/AIDS in:

- 15 comprehensive treatment sites
- 10 paediatric treatment sites
- 28 PMTCT sites
- 17 screening sites including 7 voluntary screening centres.

#### 2.4 Description of therapeutic treatment of patients in Ségou

First of all, it is important to note that *Solthis focuses its technical support on medical treatment* for patients. This paper therefore will not deal with activities relating to prevention and awareness-raising, or with the social and psychological support provided by community organizations.

Solthis supported the creation of a single patient medical record for the whole region. Data collected are entered in the Fuchia software developed by Médecins Sans Frontières and Epicentre. Solthis managed the implementation of the system.

All patients in the region receive medical treatment complying with international protocols, those drawn up by WHO in particular. Solthis contributed to an updating of national protocols.

In particular:

- 2004: Use of single dose combined D4T-3TC-NVP (Triomune) as first line treatment. The second line is ABC-ddI-IDV/r
- 2007: Switching to AZT-3TC-NVP as first line treatment if possible, as recommended recently by WHO. As a second line, LPV/r can be proposed instead of IDV/r
- 2007: Use of a tri-therapy regimen for the prevention of mother to child virus transmission.

Solthis has helped women who so wish to receive breast milk substitutes during the first six months. Thought is being given to generalize tri-therapy for nursing mothers thus

allowing them to avoid the social and medical drawbacks of substitute milk.

In the same vein, all patients can benefit throughout from immunological follow-up (CD4) starting from pre-therapy tests.

In addition, since 2007, all patients have access to a viral load test as of 6 months so as to ensure optimal treatment follow-up. In some cases, a resistance profile is determined in partnership with the virological laboratory of the Pitié-Salpêtrière hospital in Paris.

As to Opportunistic Infections (OI), until the Malian Government took over, Solthis subsidised the anti-OI drugs which were not yet available to patients. Naturally, all patients receive Cotrimoxazole as a prophylactic.

## 2.5 Resources mobilized for the project

Solthis intervenes at three different levels in its projects.

The first level involves *field teams*. In Mali, the team is headed by a project officer and has a medical coordinator, (a physician specialised in HIV/AIDS), a medical assistant (a supporting physician for decentralisation to the districts) a person in charge of mother/child issues (a supporting midwife for PMTCT sites), a data entry operator (for data collection and analysis), and an administrative and financial officer. The team provides *continuous technical support* to local actors involved in care.

The second level calls on all the *voluntary scientific teams* that are members of Solthis. For this project, this involves in particular the clinical team headed by Professor Christine Katlama, the virology team headed by Professor Vincent Calvez, and the immunology team headed by Professors Patrice Debré and Brigitte Autran. The three teams are based in the Pitié-Salpêtrière Hospital in Paris. A fourth team, headed by Dr Arnaud Fontanet (Department for the epidemiology of emerging diseases) at the Pasteur Institute in Paris, provides essential support in programme assessment and follow-up. All the teams support the project with in situ missions (training, workshops, scientific conferences, etc.) and distance technical assistance.

The last level involves the Solthis coordination team based in Paris. It monitors the project and provides an interface between field technical support and members' scientific expertise.

The budget defined for the project was 2 million euros over 5 years and was funded thanks to the support of the Bettencourt-Schueller Foundation. The main item of expenditure (40%) is related to the human resources involved in continuous technical support. The two other most expensive items are investment in pharmaceuticals and in training.

## 3 Results of decentralised medical treatment for HIV/AIDS in Ségou

### 3.1 Local capacity-building

Solthis, in view of its members' experience and expertise, has chosen to concentrate capacity-building in five main areas: health-care providers (physicians and paramedics<sup>2</sup>); laboratory staff; staff involved in the pharmaceutical supply chain; staff responsible for data collection and analysis; staff in charge of HIV/AIDS-related health policies.

At the start of the Ségou programme for access to ART, none of the medical staff had been specifically trained in HIV/AIDS treatment. Four years later, as a result of the support programme for decentralisation, a total of 250 *health-care workers* have been trained in the Ségou region.

In all, 67 *physicians* have benefited from initial training followed by retraining and continuing medical support provided by the Solthis team. In total, 57 of them were able to acquire specific skills in clinical and therapeutic management (ART and diagnosis of OIs), 10 in paediatric HIV treatment, 16 in PMTCT medical support, and 7 in the treatment of the TB/HIV coinfection; 17 physicians not directly involved in the treatment of infected patients benefited from an HIV/AIDS awareness programme in order to improve early screening and treatment for those patients.

*Paramedical staff* (168 people in all) were also given specific training and continuing technical support in several areas. This involved 91 maternity hospital workers (PMTCT), 15 nurses in nursing care for patients, 17 laboratory technicians (improvement of IO diagnosis), and 16 other people involved in drug supply chain management, drug dispensing and supplies. In addition, 41 paramedics (midwives, nurses, social workers) were trained in therapeutic education, 21 of them in comprehensive treatment sites and 17 in PMTCT sites.

Since its onset, the programme has also facilitated participation in *nine further training courses* at the Pitié Salpêtrière Hospital in France (seven physicians and two biologists), and in seven international university training courses (IMEA course in Paris and DIU in HIV/AIDS treatment in Ouagadougou).

### 3.2 Capacity-building specificities

Training modules were developed and taught in *partnership with national experts* (academics, experienced physicians and pharmacists).

Regular support for actors in their work-place is also essential in order to ensure that theoretical training is adapted to their actual work situation since it is not always conducive

<sup>2</sup>Nurses, obstetric nurses, midwives, traditional village midwives, medical assistants, laboratory technical staff, medication managers, social workers.

to a comprehensive view of patient management in a *multidisciplinary health-care team*. This is very important in terms of organizing an efficient patient referral system within a particular structure or between different sites. It also allows complex treatment cases to be discussed efficiently in staff meetings.

*Laboratory and pharmaceutical staff* training is in line with the specificities of the health pyramid since technical requirements at central level are greater than those of more remote centers. Similarly, qualifications for people in charge of the corresponding duties are different the further from the city of Ségou they are. Training dispensed by Solthis is therefore adapted to those specificities with an attempt to make HIV-specific tests accessible (screening tests, CD4 lymphocyte counts and viral load measurement) by improving the implementation of standard biological tests (haematology, biochemistry, bacteriology and parasitology). Solthis hired a biologist for one year to provide this kind of continuous technical support in the region for all the staff concerned.

Finally, regarding *data collection and follow-up*, the Solthis Medical Coordinator and his team helped the Regional Health Directorate units to include these activities in their standard work package. Initially, Solthis hired and trained the data entry operator. His transfer to the RHD is planned shortly.

### 3.3 Impact of support on patient health

An analysis of the epidemiological course in the active group of the Ségou region shows a constant increase in enrolment since the start of the programme (Fig. 3).

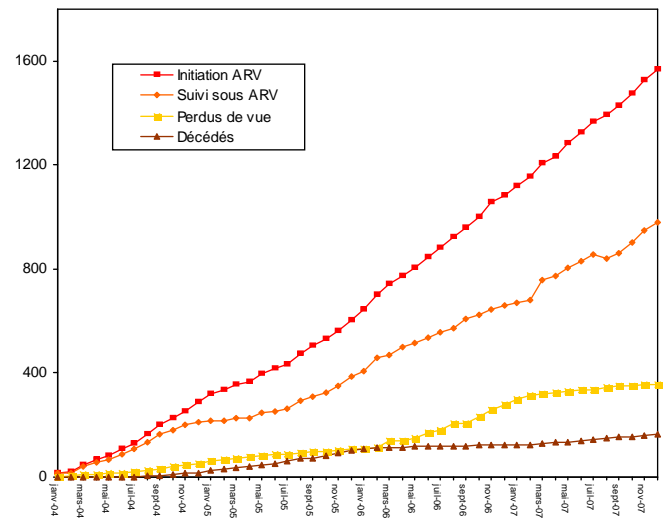
From January 1st 2004 to *end December 2007*, 1568 patients in all had begun ART in the Ségou region. Of these 1568 patients, 982 are currently followed up with ART, 165 have died and 358 have dropped out (patients who did not return for medical consultation). 50 were transferred to another prescribing site and 13 discontinued treatment.

Patients' main features at start of treatment:

- Sex ratio (M/F) = 0.6
- Median age = 34 [IQR: 28-41]
- Body mass index = 18.4 [IQR: 16.4-20.7]
- WHO stage III = 59% and stage IV = 27%

In most cases, 85%, first line treatment was D4T-3TC-NVP. Only 3% were administered a treatment based on protease inhibitors (PI).

Of the *patients who died*, 80–90% were screened belatedly and were therefore prescribed ART at a late infection phase, stages III and IV of the WHO classification (WHO, 2006, 2007). These patients also suffered from severe immunodeficiency ( $CD4 < 200$  cells/mm<sup>3</sup>) and numerous opportunistic infections, including tuberculosis which is the primary cause of mortality in developing countries.



**Figure 3.** Epidemiological evolution of the active group in Ségou, January 2004–December 2007.

- Initiation ARV = Start of ART
- Suivi sous ARV = ART follow-up
- Perdus de vue = Lost to follow-up
- Décédés = Deaths

In 2007, a system to improve available information on *drop-out* patients was created. Its aim was to determine the extent of the problem so as to try and prevent it effectively. An analytical approach of the active group information system using the Fuchia follow-up software was carried out and an active search system for drop-outs was developed. This highlighted the extent of patient mobility as a cause of drop-out.

Initial clinical data for patients under ART confirm the significant effects of the HIV infection with a clear dominance of the general signs typical of WHO stage III and of the cachectic syndrome (WHO stage IV). Minor skin and mucosal symptoms, localized and visceral candidiasis as well as bacterial and tubercular pulmonary infections were also found. Over the years, improvements in technical capacities have influenced the *diagnosis of opportunistic infections (OI)*. Patients benefit from an increasingly precise diagnosis, for instance regarding meningeal cryptococcosis, oesophageal candidiasis or cryptosporidiosis/isosporidiosis.

Special emphasis was placed on *TB/HIV coinfection*. First, Solthis brought together the two national field programmes. Next, training was dispensed to improve TB diagnosis, treatment and follow-up for people with HIV (particularly extra pulmonary TB). Finally, the procedure for, and organization of follow-up for patients under treatment for TB and/or ART was clarified. Today HIV screening is proposed systematically to TB carriers and HIV patients are actively screened for TB (smear-negative pulmonary TB or extra pulmonary TB), thanks to the presence of advisers.

The improvement in technical facilities is of special interest for *immunological and virological follow-up* of seropositive patients under ART. Severe immunodeficiency (median CD4 112/mm<sup>3</sup>) is observed on enrolment in most of these patients. A noticeable clinical improvement and a significant immune response were observed in patients assessed 6 months after onset of treatment: the *median CD4 gain in patients under ART was +133 cells/mm<sup>3</sup>*. An initial analysis of the viral load is very encouraging since it shows a *non-detectability rate of over 74%*, a result which is comparable to those of cohorts in countries of the North.

Thanks to data collected from midwives' registers (consultations and deliveries) and the Fuchia data base, it was possible to carry out an initial evaluation of the results of the *PMTCT programme* from

December 2004 to December 2007 for mothers found to be HIV-positive and their children. Preliminary results 36 months after PMTCT programmes were introduced show a high rate of screening acceptance: out of 43 269 new antenatal consultations, HIV screening was proposed to 77% of pregnant women with an acceptance rate of over 92%. 536 HIV-positive cases were found, i.e. 1.73% of the women screened. *Since 2007 almost all HIV-positive pregnant women are put under a tri-therapy regimen and children can benefit from an early diagnosis using the PCR technique carried out in Bamako.*

*In a study carried out from January 2006 to March 2008 involving 8 PMTCT sites in the Ségou region, 436 women were found to be HIV-positive. In March 2008, 252 of them had given birth (245 live babies). Treatment had been administered to 144 women, 46 receiving tri-therapy. Incomplete treatment had been administered to 10% and none to 19%. At the end of the study, 48 children were still being followed up and 44 of them had a negative PCR diagnosis. Median age for diagnosis was 106 days. All the children were symptom-free and were receiving cotrimoxazole. Breast milk substitute was used by 56% of women and 27% nursed while under tri-therapy. The high percentage of female drop-outs after screening or delivery as well as the low follow-up rate for children after delivery underline the need for increased efforts in comprehensive care for HIV-positive women and their children.*

#### 4 Discussion: main obstacles encountered four years on

The main objective of the project has been reached after four years with over 1500 patients initiating antiretroviral treatment. In addition, almost all PMTCT sites have the necessary tools to screen and follow up HIV-positive pregnant women and their children.

In spite of such fundamental progress, difficulties persist.

With various public information campaigns, Solthis has contributed to *raise awareness* of the existence of efficient

HIV treatment in the Ségou region. These initiatives have led to an increase in the number of screenings and therefore to improved antiretroviral coverage. However, people living with AIDS are still severely stigmatized, especially in rural areas, and this has an impact on the quality of care as demonstrated by the low percentage of HIV-positive pregnant women receiving full treatment.

Solthis does not provide *psychological and social support* to patients. Some national NGOs have specialised in this kind of work for AIDS patients and now provide services (compliance, food aid, etc.) which are more effective than those available in public structures. The public health system needs to address this challenge. Synergies within health-care teams and with NGOs should be sought so as to be able to provide comprehensive quality care to all patients. Solthis may have to consider specific activities along those lines.

*Overall indicators for medical follow-up* of patients (number of patients under treatment, number of deaths and drop-outs) are comparable to those of other countries in the region (Toure et al., 2008; ART-LINC, 2008). The main characteristic of these cohorts is the high number of early deaths among people screened late (Stringer et al., 2006). However, these results should be compared to those obtained by public health structures in a "real life" environment and not to closely controlled cohorts (Palombi et al., 2007).

Conversely, scaling up in a country like Mali *should not be compared to what happens in Southern or Eastern African countries* which have a high prevalence of the epidemic. Most of them also experience considerable human resources problems (Jahn et al., 2008; Van Damme et al., 2008). The main obstacles in the case of Mali are distance and inadequate health infrastructures. With a seroprevalence of 1 to 2%, decentralising HIV/AIDS treatment services should be carried out in the context of an overall improvement in health-care supply for the population at large. An HIV-specific vertical plan would be difficult to understand for health-care workers and people faced with other severe pathologies.

Issues such as "*task shifting*" are relevant in that context when it involves allowing pregnant women to benefit from comprehensive care within a single antenatal structure, thanks to midwife-prescribed tri-therapy, without having to travel dozens of miles to visit a prescribing centre with a physician in attendance.

Regarding patient care, there is at present considerable *heterogeneity between centres*. It is manifest between Ségou city and the districts, and also between districts and between care structures within Ségou city itself. It is due to various aspects relating to both the inadequacy of the regional health system and health-care team motivation. Medical technical support as provided by Solthis can only offer a very partial answer to these kinds of difficulties.

Mention should also be made of difficulties linked to the *supply of pharmaceuticals*. Although the regional system is making optimal progress, it remains dependent on various

disruptions and anomalies at central level. Mali benefits from aid provided by two of the major international donors (the Global Fund and the World Bank), but drug shortages are still common, in particular because of poor management of quantities and orders. Solthis experienced difficulties in intervening at central level and therefore did not have a major impact.

In addition, the official decision in 2004 to make care free of charge applies mainly today to ARV drugs. Solthis has therefore decided to contribute financially to a large number of supplementary tests and anti-OI drugs. Sustainability remains a challenge.

Another weak point relates to *data collection and monitoring*. The first difficulty observed, indeed the most serious one, is the fact that record-keeping by staff is haphazard. There is no culture of “patient records” as a standard practice and including the tool in a decentralisation project raises difficulties. Of course, staff must be involved in the establishment of records, and documents need to be simplified as much as possible and must present a genuine advantage for daily medical practice. Unfortunately, the project has only partly achieved this aim.

On this aspect, it was difficult not to take the place of nationals to access quality data indicating the advancement of the programme. Also, making physicians aware of the issues related to the assessment of their cohort and operational research proved difficult. This is particularly evident for those with long years of practice behind them and entrenched habits. Maybe the new generations of physicians will prove to be the solution to the problem.

The Mali programme was the first one to be implemented by Solthis and logically, *Solthis adjusted its operating methods* over the four years. This was made possible to a large extent thanks to the flexibility of the main donor (the Bettencourt-Schuller Foundation) who allowed Solthis to adapt continually in response to the changing context and the analysis of the results obtained. The main changes in the Solthis approach concern its position in relation to the various Malian health system public structures. The technical support provided by Solthis initially focused on health-care centres and their staff. It was gradually extended to the Ségou Regional Health Directorate which is the real care supply coordinator. Less regularly but just as importantly, support was also extended to national technical authorities. This aimed essentially at allowing local and national levels to gain ownership of decentralisation mechanisms.

## 5 Conclusions

Organising the fight against HIV/AIDS raises new issues in terms of humanitarian medical assistance and development aid. *The objective for Solthis is to provide technical support to Malian health-care workers in the Ségou area, not to care itself for HIV-infected patients.*

It is a bold challenge which involves a degree of risk. Capacity-building for local personnel is part of a process which necessarily takes time. Introducing new laboratory techniques is not easy, the supply chain is complex and its efficient working depends on numerous factors. We also have to learn to work with medical data that are not always available – and when they are, are often of poor quality. Ultimately, although there is political will and commitment, the national authorities do not always have the resources needed to cope with the seriousness of the epidemic.

However, in spite of all the constraints, we can conclude that the strategy chosen by Solthis has proved effective. Not only has the initial objective (number of patients in care) been reached, but the health-care system in the Ségou region now seems to be in a position to include HIV care in its daily operations.

We hope these results will have an impact on future decentralisation exercises. Above all, we hope development actors working in the HIV/AIDS field will redouble their efforts to strengthen health systems in Africa, the only solution for quality HIV care to be universally accessible. For Solthis, working by the side of African actors today means highlighting the huge challenge in terms of long-term quality care, and having faith in the excellence of African scientific and academic standards.

AIDS is many-faceted, its reality is always complex, but patients expect only one response: guaranteed and lasting quality access to care so as to live with HIV as long as possible, as well as possible, wherever they live.

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