

About the possibility of controlling an HIV epidemic hotspot

Pierre Mendiharat • Directeur adjoint des opérations de Médecins Sans Frontières,
Centre opérationnel de Paris

Elba Rahmouni • Chargée de diffusion au Centre de réflexion sur l'action
et les savoirs humanitaires (CRASH)

Léon Salumu Luzinga • Responsable des programmes à Médecins Sans Frontières,
Centre opérationnel de Paris

Designed to reduce the incidence of HIV/AIDS in a Kenyan district, a *Médecins Sans Frontières* project successfully exceeded the “90-90-90” target set by UNAIDS. A look back on the results that the authors of this article believe are encouraging but by no means a guarantee that the epidemic will be over by 2030.

Despite strong international mobilisation over the last decades that has enabled significant advances in the fight against the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), the disease continues to kill on a massive scale, as is the case in Kenya, in the rural district of Ndhiwa in the county of Homa Bay¹. Although there is still no definite treatment or vaccine, the Joint United Nations Programme on HIV/AIDS (UNAIDS) has set itself the ambitious goal of ending the HIV/AIDS epidemic by 2030, in particular through the implementation of the strategy known as the “90-90-90” target (or “treatment cascade”): 90% of all people living with HIV should know their HIV status, 90% of all people with diagnosed HIV infection should receive sustained antiretroviral therapy (ART) and 90% of all people receiving ART should have viral suppression. These bold claims were put to the test in a five-year programme launched in 2014 by Doctors Without Borders (*Médecins sans frontières* – MSF) and Kenya’s Ministry of Health in the district of Ndhiwa. Previously, the Ndhiwa HIV Impact in Population Survey 1 (NHIPS 1) conducted by *Épicentre* (MSF’s epidemiology centre) in 2012 had brought to light HIV incidence and prevalence figures amongst the highest in the world. Six years later, a new *Épicentre* study, NHIPS 2², demonstrated that the “90-90-90” target had been exceeded. With incidence in significant decline, yet still elevated, can this truly be considered a success?

The Ndhiwa project: simplifying the treatment model

The Ndhiwa project was designed with the objective of reducing HIV incidence³ in the district by implementing every known biomedical method, *i.e.* mass testing, medical male circumcision⁴, early

¹ Kenya has been composed of forty-seven counties, each divided into districts, since the decentralisation of power introduced by the new constitution adopted in 2010. The ancient province of Nyanza, situated on the shore of Lake Victoria in the southwest of Kenya, includes the county of Homa Bay, itself divided into eight districts, including the district of Ndhiwa.

² Médecins Sans Frontières, *VIH : l’amélioration de la prise en charge a fait chuter la proportion des personnes infectées dans l’un des foyers les plus touchés au monde*, 24 novembre 2020, <https://www.msf.fr/communiqués-presse/vih-l-amélioration-de-la-prise-en-charge-a-fait-chuter-la-proportion-des-personnes-infectées-dans-l-un-des-foyers-les-plus>

³ The incidence of a disease is the number of new cases occurring in a population during a specified period.

treatment initiation of HIV-positive persons and proper care and medical monitoring of patients to ensure that their viral load remains undetectable. The population-based approach involved working with Ndhiwa's entire population, not simply with a cohort of patients. During the first two years (2014 and 2015), MSF deployed significant resources in Ndhiwa's villages, conducting awareness-raising and testing campaigns outside of health facilities as well as increasing the capacities of health facilities. Awareness-raising and testing campaigns enabled hard-to-reach populations to be accessed, in particular men who did not regularly attend health facilities. Then, from 2016, the team worked on decentralising delivery of care and laboratory practices in the district as well as simplifying the care pathway. In 2018, after testing the population of the entire district, the team pursued testing activities within the health facilities, saving home-based testing for the contacts (family and friends) of all persons tested positive in health care facilities.

In conjunction, a care delivery simplification process was launched, for example spacing out consultations to reduce the overall number of appointments. In a country in which the health care system faces staff shortages, it was important to reduce the workload of the teams monitoring cohorts of thousands of patients so that they could focus on the quality of consultations. From the patient's point of view, travelling to health facilities less frequently can be advantageous as it lessens the burden of time and money. MSF thus proposed clinical consultations once every six months and introduced the option of collecting medication refills once every three months. MSF teams also set up Community ART Groups (CAGs) in remote villages whereby patients form a group and each group member travels to a consultation once a year and brings home medication for the other patients in their group. In the last few years, MSF has been implementing the Differentiated Service Delivery Model (DSDM) where, rather than imposing a model of care to all patients, patients can choose their care pathway from a number of different options.

Partnering with Kenya's Ministry of Health and local populations

MSF was determined from the outset that its action would be both long-term (since HIV treatment and care is lifelong) and replicable. From working with the Kenyan Ministry of Health, the team revised its standards to adapt to on-the-ground realities, particularly regarding the number of healthcare workers, protocols and remuneration. By demonstrating that HIV transmission could be impacted at a population level, the organisation hoped that health authorities would do the same in other districts. In addition, this project was very ambitious in terms of community mobilisation, as the entire adult population had to be tested every year⁵. There was therefore a need for concerted action with the authorities, including the Ministry of Health, traditional chiefs and local notables. The participation of these influential figures was a key criterion of the project's success.

While MSF claims to work with ministries of Health, in practice MSF teams often seek to create positions for themselves within health systems so that they can work as autonomously as possible. The organisation has historically managed to remain as independent as possible – above all financially –, which has been instrumental to its success. However, the downside of this approach is that it has turned MSF staff into notorious isolationists, with a limited ability to work successfully in partnership.

⁴ MSF abandoned male circumcision campaigns as participation levels were too low. Other organisations were conducting circumcision campaigns with better results.

⁵ When encouraging people to be tested, the devastation caused by discovering one's seropositivity must never be underestimated. Consequences upon emotional, family and sexual life inevitably add to the fear of illness and death. Yet the organisation has no doubt benefited from a significant development: the HIV epidemic had become so widespread in this region that stigmatisation had become inverted. One quarter of adults are HIV-positive, and, amongst the three quarters of HIV-negative adults, everybody has personally known – or still knows – more than one HIV-positive individual.

HUMANITARIAN ALTERNATIVES

Yet nowadays there are so many contexts in which MSF would benefit from operational partnerships, certainly more so than thirty years ago. Indeed, in the last three decades, the capacities of countries of intervention and of other humanitarian aid stakeholders have increased significantly. Consequently, the organisation is trying to tackle its isolationism. For the Ndhiwa project, MSF teams therefore sought to work in a participatory fashion from the outset, forming technical committees and steering committees within which the Ministry of Health, MSF and other district HIV stakeholders had to make concerted decisions. However, the MSF head of mission present at the beginning of the project explained that he continually struggled with his MSF colleagues to bring the decision-making process timeframes in line with the consultation time required with other stakeholders.

Community mobilisation and the health care worker/patient relationship

For many years, international programmes to fight HIV have been shaped by attempts to change population behaviour, with strategies ranging from directives to encourage abstinence (in particular in all the programmes funded by the President's Emergency Plan for AIDS Relief⁶) to those promoting the reduction of the number of sexual partners and the systematic use of condoms. Even after the patent failure of such policies, these directives were overwhelmingly continued. This is particularly true in this part of Kenya where an anthropological literature established a link between the explosion of the HIV epidemic and traditional rites involving sexual acts within the Luo community. A study conducted by Xavier Plaisancie⁷ among Homa Bay County's male population, clearly demonstrates a contradiction between the social expectations of normality and virility and public health messages, and showed how difficult it is for any individual to resolve these contradictions. MSF made it very clear that in Ndhiwa it wished to rely upon biomedical methods rather than venture onto this anthropological terrain.

Relationships between healthcare workers and patients are by nature unbalanced, with healthcare workers frequently finding themselves delivering directives. To some extent, the activities conducted in Ndhiwa's villages caused a rupture from these habitual dynamics and patterns. Indeed, this strategy contributed to the project's success, as measured by the remarkable testing results. During the home-based visits, medical teams had to introduce themselves and then explain and justify what they were doing. As patients were welcoming healthcare workers into their own homes, they were empowered to ask all the questions they needed to understand while the healthcare workers took the time to provide answers, enabling patients to make informed choices. In health facilities, healthcare workers presume that if patients come to the facility they accept the various medical procedures, including testing.

MSF has not yet sufficiently improved the health care worker/patient relationship in health facilities. Yet various recommendations and trainings systematically emphasise the importance of empathy, the act of listening, respect and non-judgement. The organisation may therefore reasonably hope that these trainings and recommendations will soon bear fruit. Nonetheless, evaluating healthcare

⁶ President's Emergency Plan for AIDS Relief (PEPFAR): an emergency aid plan for combatting AIDS launched by the American president George W. Bush in 2003 [Editor's note].

⁷ Xavier Plaisancie's medical thesis on "Representations of HIV and impact on care seeking among the men of Homa Bay, Kenya" was presented in a *Cahier du CRASH*, 9 June 2020, <https://msf-crash.org/fr/publications/medecine-et-sante-publique/les-representations-du-vih-et-leur-impact-sur-le-recours>. Xavier Plaisancie's research drew upon regular conversations with Jean-Hervé Bradol and Marc Le Pape, both members of MSF's *Centre de réflexion sur l'action et les savoirs humanitaires* (CRASH). In particular, the study describes the diverse institutional stakeholders (medical, political, religious, etc.) responsible for directives encouraging abstinence. Please see the interview given by Xavier Plaisancie to *Humanitarian Alternatives*, available on our website (in French): <https://alternatives-humanitaires.org/fr/2019/01/22/xavier-plaisancie-medecin> [Editor's note].

worker/patient relationship quality in the field remains challenging. Rose Burns's study⁸ conducted with a cohort of Ndhiwa patients having encountered periods of treatment failure demonstrated the programme's poor economic and social support as well as the inadequate personalisation of messaging and care to individual patients. Finally, it is regrettable that no robust mechanism was implemented for preventing and detecting patient abuse.

Highly encouraging results

This project was assessed by comparing the two previously cited studies (NHIPS 1 and 2). Results exceeded all expectations, demonstrating an improvement of the treatment cascade as well as a decrease in HIV incidence and prevalence. The 90-90-90 target was even exceeded as results of 93-97-95 were achieved respectively. This means that fewer than 12% of HIV-positive individuals have a detectable viral load and are potentially contagious, representing 16,000 people with access to effective treatment.

Due to a statistical problem caused by overlapping confidence intervals⁹, the question of whether the incidence of new infections had fallen was more challenging to answer. A much larger sample would have been required to guarantee the robustness of such a comparison. However, other factors did corroborate a reduction of HIV transmission. In 2018, 88% of HIV-positive individuals had an undetectable viral load and were therefore non contagious, compared to only 40% in 2012. Amongst young people between the ages of 15 and 24, prevalence fell in comparison to 2012. This is consistent with low HIV incidence within this age group. The project's managers agreed on the likelihood that HIV incidence had declined in the years running up to 2018 and that the previously unseen and highly ambitious target of significantly reducing HIV transmission in the very place on the planet where the epidemic was most devastating had been reached. In the Ndhiwa district, MSF decided to tackle a very large endemic hotspot by deploying significant resources for a relatively small population (in 2015, the district counted 242,726 inhabitants). In light of the prevalence observed at Homa Bay, the organisation considered that such a mobilisation of resources, sometimes at the cost of other diseases, was justified.

MSF's departure and the project today

Since the launch of the project in 2014, ensuring its continuity was considered a priority. Project coordinators therefore adopted Ministry of Health standards. All additional staff were recruited based upon Ministry standards, especially in relation to remuneration. MSF teams were responsible for mentoring, meaning providing long-term one-to-one coaching to healthcare workers. The team was convinced that the Kenyan healthcare system could maintain the treatment cascade without external partners. MSF's concern is how to safeguard positive results in the context of the current Covid-19 pandemic and its associated restrictive measures. Vigilance is required, in particular for countries – such as Kenya – considered by the Global Fund to Fight AIDS, Tuberculosis and Malaria as

⁸ Rose Burns *et al.*, "I saw it as a second chance': A qualitative exploration of experiences of treatment failure and regimen change among people living with HIV on second- and third-line antiretroviral therapy in Kenya, Malawi and Mozambique", *Global Public Health*, vol.14, no.8, 2019, p.1112-1124, <https://www.tandfonline.com/doi/full/10.1080/17441692.2018.1561921>

⁹ In 2012, 95% probability of incidence between 1.1 and 2.5% per year. In 2018, 95% probability of incidence between 0.4 and 1.2% per year. Therefore there is an admittedly extremely low probability that – in both 2012 and 2018 – incidence fell somewhere between 1.1 and 1.2%.

having slightly higher economic capacities and therefore been identified for receiving reduced allocated funds.

Furthermore, MSF continues to collaborate with other stakeholders to respond to the shortcomings and challenges identified: improving the treatment and care of adolescents (for whom the treatment failure rate is still around 20%) and patients with a failure treatment or patients requiring a third-line treatment regimen¹⁰. These patients are currently having to wait six to eight months before their treatment is modified. To reduce this delay, MSF favours a local decision-making process that does not go through a national committee (as recommended by the central level).

Avoiding easy slogans

The Ndhiwa project coincided with a key moment in the history of HIV research. In 2008, Swiss health authorities declared – in what was to become known as the Swiss Statement – that patients who took their treatment correctly were no longer contagious. This momentous announcement, particularly for serodiscordant couples¹¹, sparked a double controversy at the International AIDS Society (IAS) conference held in Mexico City the same year. The question was raised as to whether the statement was based on sufficiently robust scientific research and, if so, whether patients should be informed. A few years later, in July 2011, the HPTN052 randomised study demonstrated that, within a cohort of serodiscordant couples, early ARV treatment initiation had led to a 96% decrease in HIV transmissions to the non-infected partners. From this corroboration of the Swiss Statement emerged the theory of the possible control of the HIV epidemic, as treatment becomes a means of prevention: if all HIV-positive persons have access to treatment, transmissions will cease¹². Concretely, this requires urging the entire population to be tested, generalising access to treatment, entering into long-term relationships with patients and then observing whether this strategy leads to a decrease in incidence at the population level. This plan was completely theoretical, as although at the level of a cohort of serodiscordant couples the halting or drastic reduction of transmission had been demonstrated, this had never been proven at the population level.

MSF endorsed the objectives summarised by the 90-90-90 slogan, which are simply a quantitative translation of good practices in fighting an epidemic: ensure access to diagnosis and treatment, provide high-quality care and achieve effective treatment. The question raised now is whether these objectives are sufficient: what about the remaining 10-10-10? Accepting these targets also means accepting that only 73% of HIV-positive people have an undetectable viral load. Indeed, UNAIDS now recommends a 95-95-95 treatment target¹³. At the outset of the Ndhiwa project in Kenya in 2014, and until the results of the NHIPS 2 epidemiological study were published, MSF was not certain that the 90-90-90 target was realistic, given the high level of individual and collective discipline required.

Furthermore, contrary to the 90-90-90 targets, the eradication of HIV in 2030 has never been a part of MSF's strategy. As a general rule, this type of objective differs from the organisation's *modus operandi*, which focuses on projects with clearly defined aims. "The end of AIDS by 2030" is a slogan that has been

¹⁰ Patients failing a second-line treatment regimen are placed on a third-line treatment regimen, based upon genotypic resistance testing results.

¹¹ In a serodiscordant couple, one partner is infected by HIV and the other is not.

¹² Prevention programmes used to recommend exclusively the use of condoms or abstinence, two behaviours that have not managed to control the epidemic. In the absence of biomedical tools, public health policies called for changes in behaviour, i.e. a high level of discipline required from populations and uncertain results.

¹³ UNAIDS, "Understanding Fast-Track, Accelerating action to end the aids epidemic by 2030", June 2015, https://www.unaids.org/sites/default/files/media_asset/201506_JC2743_Understanding_FastTrack_fr.pdf

used by UNAIDS since the IAS conference in Vienna in 2011 in order to re-engage donors in the face of what was perceived as “donor fatigue” (a fall in donations to fight the HIV epidemic). MSF should surely have distanced itself further from such a misleading slogan, as anybody studying HIV of course knows that we cannot hope to be done with HIV by 2030. MSF’s intention has always been to report on the reality of the disease, as illustrated by the lived experiences of patients, patient treatment failures, the challenges of everyday life and the still elevated death rate. This communication strategy has no doubt been implemented in an overly schematic fashion, without truly acknowledging the significant advances achieved elsewhere. The results of the NHIPS 2 study suggest that these two imperatives may be reconciled.

Translated from the French by Naomi Walker

Biographies

Pierre Mendiharat • Deputy director of operations for *Médecins Sans Frontières* at the Paris Operational Centre, Pierre Mendiharat has worked in the international solidarity sector for over twenty years. He has held the position of operations manager in Africa, Latin America and the Middle East, often in countries in conflict. He has also been project director for the ESTHER public interest grouping, specialised in hospital cooperation and supporting community structures in the fight against HIV/AIDS. His skills lie in the development and implementation of humanitarian emergency relief and medical assistance programmes.

Elba Rahmouni • In charge of dissemination at *Médecins Sans Frontières* – France’s *Centre de réflexion sur l’action et les savoirs humanitaires* (CRASH) since April 2018, Elba Rahmouni holds a research Master’s degree in the History of Classical Philosophy and a professional Master’s degree in editorial consulting and digital knowledge management. In the course of her studies, she has worked on moral philosophy issues, focusing in particular upon the practical necessity and moral, legal and political prohibition of lying in the work of Kant.

Léon Salumu Luzinga • Programme coordinator for *Médecins Sans Frontières* at the Paris Operational Centre, Léon Salumu Luzinga has worked in the humanitarian sector for over twenty years. He has been a doctor, medical assistance manager and humanitarian project manager in various countries in Africa, Europe, Latin America and Asia. He is specialised in the development, implementation and monitoring of HIV/AIDS, tuberculosis and epidemic response projects (measles, cholera, malaria, meningitis, etc.).

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