Malawi’s contribution to “3 by 5”: achievements and challenges


Problem Many resource-poor countries have started scaling up antiretroviral therapy (ART). While reports from individual clinics point to successful implementation, there is limited information about progress in government institutions at a national level.

Approach Malawi started national ART scale-up in 2004 using a structured approach. There is a focus on one generic, fixed-dose combination treatment with stavudine, lamivudine and nevirapine. Treatment is delivered free of charge to eligible patients with HIV and there is a standardized system for recruiting patients, monthly follow-up, registration, monitoring and reporting of cases and outcomes. All treatment sites receive quarterly supervision and evaluation.

Local setting In January 2004, there were nine public sector facilities delivering ART to an estimated 4 000 patients. By December 2005, there were 60 public sector facilities providing free ART to 37 840 patients using national standardized systems. Analysis of quarterly cohort treatment outcomes at 12 months showed 80% of patients were alive, 10% dead, 9% lost to follow-up and 1% had stopped treatment.

Lessons learned Achievements were the result of clear national ART guidelines, implementing partners working together, an intensive training schedule focused on clinical officers and nurses, a structured system of accrediting facilities for ART delivery, quarterly supervision and monitoring, and no stock-outs of antiretroviral drugs. The main challenges are to increase the numbers of children, pregnant women and patients with tuberculosis being started on ART, and to avert high early mortality and losses to follow-up. The capacity of the health sector to cope with escalating case loads and to scale up prevention alongside treatment will determine the future success of ART delivery in Malawi.

Background

In December 2003, the World Health Organization (WHO) and the joint United Nations Programme on HIV and AIDS (UNAIDS) launched the “3 by 5” initiative, with the goal of having 3 million people on antiretroviral therapy (ART) in developing countries by the end of 2005. By December 2005, an estimated 1.3 million people from low- and middle-income countries had started treatment, with 810 000 of these living in sub-Saharan Africa.

Although the 3 by 5 target was not reached, it has been a remarkable effort, particularly in the challenging working arena of sub-Saharan Africa. Reports from clinics in Botswana, Kenya, Uganda and other African countries have shown that ART can be delivered successfully to HIV-infected eligible patients with excellent clinical and immunological benefit. However, despite these encouraging successes, there is limited information about how ART delivery has fared in the routine government health services of resource-poor African countries.

In Malawi, we embarked on national scale-up of ART through government and mission health facilities in early 2004. With 170 000 HIV-infected patients thought to be in need of ART, the country set a target to have 80 000 patients on treatment by the end of 2005. This goal was in line with the WHO initiative to place half the patients in need of ART in developing countries on treatment by 2005. We have previously reported on progress made during 2004, and here we report on Malawi’s achievements and the technical challenges faced during the “3 by 5” campaign up to December 2005.

Scale-up methods

Details of ART delivery in Malawi between 2004 and 2005 have been described elsewhere. A standardized structured approach was used for treatment, details of which are shown in Box 1.

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1 Clinical HIV Unit, Ministry of Health, PO Box 30377, Lilongwe, Malawi. Correspondence to Dr Harries (email: adharries@malawi.net).
2 HIV Coordinator, Ministry of Health, Lilongwe, Malawi.
3 Taiwan Medical Mission, Mzuzu Central Hospital, Mzuzu, Malawi.
4 Médecins sans Frontières Belgique, Thyolo District Hospital, Malawi.
5 Lighthouse Clinic, Lilongwe, Malawi.
6 WHO country office, Lilongwe, Malawi.
7 Department of Clinical Services, Ministry of Health, Lilongwe, Malawi.
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With the shortage of doctors in Malawi, paramedical clinical officers and medical assistants and nurses were trained to manage and deliver ART. The HIV Unit of the Ministry of Health and selected partners developed a 5-day training module and a certification of competence linked to a formal examination, and successful participants then undertook a 2-week practical clinical attachment at one of the experienced ART sites. The HIV Unit and the same selected partners implemented the training by mid-2004. By the end of 2005, 1138 health care workers in the public sector including 118 doctors, 384 clinical officers, 23 medical assistants and 613 nurses had been trained and certified in ART management.

Sixty facilities in the public health sector were selected for ART scale-up between 2004 and 2005, with each site being accredited by the HIV Unit of the Ministry of Health before being allowed to deliver ART. At the beginning of 2004, nine public health facilities were delivering ART using their own systems and treatments. By July 2005, there were 60 facilities, all of which were delivering ART using national standardized systems.

Results
In early 2004, an estimated 4000 patients had started on ART in the public health sector. By the end of 2005, the number of patients cumulatively started on ART was 37,840, which was 47% of the national target. Characteristics and outcomes of patients started on ART are shown in Table 1. ART was given to 6680 patients with active or previous tuberculosis, who as a result were staged in WHO clinical stage III or stage IV (18% of those placed on ART), and 336 HIV-positive pregnant women through Prevention of Mother to Child Transmission programmes (1% of those placed on ART).

For reporting purposes, cohorts of patients are grouped by quarters of the calendar year, allowing 6-month and 12-month cohort outcome analyses to be performed. For example, all patients registered in a cohort from January to March 2005 could have their outcomes assessed on 30 September 2005, and these data were included in the 6-month outcome analysis (although we do recognize that this method includes patient outcomes 6–9 months after starting ART). This same cohort at a later time could also have their outcomes assessed on 31 March 2006, with these data being included in the 12-month outcome analysis.

During each of the supervisory and monitoring visits in 2005 and 2006, data from all cohorts of patients at the ART facilities were included in 6-month and 12-month outcome analyses: these were combined to give results which are shown in Fig.1. Outcomes at 6 months and 12 months were similar, indicating that most deaths in a young programme such as Malawi’s occur in the early months of ART.

Discussion
Achievements
The Malawian example that we describe shows that using a simple, structured approach to ART delivery, government health sectors can deliver treatment to large numbers of patients fairly quickly with good outcomes. A few facilities in Malawi are supported by international organizations, such as Médecins sans Frontières, but in most facilities local health care workers are the sole providers of ART. Although the national target for numbers of people on ART...
was not reached, there has been general satisfaction to date with the achievement in ART scale-up, especially given that trained health care personnel, monitoring tools and systems of drug procurement and distribution were not in place at the beginning of 2004.

There have been several factors responsible for the successes in ART delivery in Malawi. The most important are: clear national ART guidelines, with an emphasis on the system of registration, monitoring and recording of results; agreement by all implementing partners to work with the Ministry of Health and use national standardized systems; an intensive training schedule focused on clinical officers and nurses learning the ART guidelines; a structured system of accrediting ART sites before they are permitted to deliver treatment to patients; quarterly supervision and monitoring of all ART delivery sites by the HIV Unit of the Ministry of Health and its partners; and an ART procurement and distribution system that was associated with no stock-outs of antiretroviral drugs. ART facilities vary in their quality and some do not perform as well as they should. However, regular and structured supervision ensures that a basic standard is always maintained and that data are always collected.

**Challenges**

There have been several challenges in the scaling-up of ART delivery. Children, HIV-positive pregnant women and patients with tuberculosis were, and still are, under-represented in treatment populations. The new revised 2006 WHO Paediatric Guidelines, and Malawi’s revised ART Guidelines, which emphasize the importance of ART for children and recommend prioritizing CD4-lymphocyte counts in HIV-infected pregnant women, should increase the number of children and pregnant women accessing ART. Tuberculosis remains a difficult problem as a result of drug-drug interactions between rifampicin and non-nucleoside reverse transcriptase inhibitors and the fact that in Malawi ART is usually distributed from hospital clinics, whereas delivery of anti-tuberculosis treatment is decentralized and is done from health centres.

There is a high early death rate in patients starting ART, similar to that reported from other low-income countries. This finding is related to patients presenting with advanced HIV disease, tuberculosis, bacterial infections, malignancy and immune reconstitution syndrome. An aggressive approach to the diagnosis of tuberculosis before initiating ART and concomitant broad-spectrum antibiotic prophylaxis targeted at common serious bacterial infections may be two ways to reduce this problem of early deaths. The number of cases lost to follow-up is also of concern, and operational research is needed to identify the true outcomes of these patients to establish a more complete data set for analysis.

Other challenges to ART scale-up include equitable access to ART sites especially for patients in rural areas, the capacity of the health sector to absorb the extra demands of ART delivery without compromising other aspects of general health care, and the scaling-up of prevention efforts alongside treatment.

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La contribución de Malawi a la iniciativa «tres millones d’ici 2005»: resultados obtenidos y desafíos a relevar

Problematique Muchos países con escasos recursos han iniciado una expansión del tratamiento antirretroviral (TAR). Aunque los informes de algunas clínicas señalan el éxito de la iniciativa, hay escasa información sobre los progresos realizados en las instituciones gubernamentales a nivel nacional.

Estrategia Malawi comenzó en 2004 la expansión nacional del TAR con una estrategia estructurada, centrada en el tratamiento con un genérico consistente en la combinación de estavudina, lamivudina y nevirapina. El tratamiento es ofrecido gratuitamente a los pacientes infectados por VIH que cumplen los criterios, y hay un sistema normalizado de reclutamiento de los pacientes, seguimiento mensual, registro, y monitorización de los casos y los resultados. Todos los lugares donde se dispensa el tratamiento son supervisados y evaluados trimestralmente.

Entorno local En enero de 2004, un tratamiento antirretroviral estaba disponible en alrededor de 4000 malas en neuf centros relevantes del sector public. En diciembre 2005, 60 de estos centros habían aumentado su capacidad para ofrecer el tratamiento gratuitamente a 37 840 pacientes por el intermedio de sistemas nacionales normalizados. L'analyse des résultats trimestriels du traitement pour les cohortes a montré qu’au bout de 12 mois 80 % des sujets étaient en vie, 10 % étaient décédés, alors qu’on avait perdu la trace de 9 % d’entre eux et qu’on enregistrait 1 % d’abandons du traitement.

Enseñanzas Los logros se debieron a la existencia de directrices nacionales claras sobre el TAR, al trabajo en colaboración con los asociados, a un plan intensivo de formación centrado en los ayudantes clínicos y las enfermeras, a un sistema estructurado de acreditación de los centros dispensadores de TAR, a la supervisión y monitorización trimestrales, y al hecho de que nunca se agotaran las existencias de antirretrovirales. Los principales desafíos consisten en aumentar el número de niños, embarazadas y pacientes tuberculosisos que reciben TAR, y evitar la elevada mortalidad inicial y las interrupciones del seguimiento. La capacidad del sector de la salud para hacer frente al aumento del número de casos y la ampliación de la prevención a la par del tratamiento serán determinantes del éxito futuro del TAR en Malawi.

Resumen

La contribución de Malawi a la iniciativa «tres millones para 2005»: logros y retos

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Lessons from the field
3 by 5 in Malawi

Edwin Libamba et al.

References

Corrigenda
In Vol. 84, issue number 12, 2006, page 980, the first sentence in the second paragraph under “Overweight and obesity” should read as follows:
“We calculated the percentage of males and females who were overweight and obese in each quintile over time [data not shown].”

In Vol. 84, issue number 8, 2006, page 615, Figure 3 should be:

Fig. 3. Impact of 7 years of the SAFE strategy on prevalence of grade TF* trachoma in children aged 1-9 years in five endemic provinces in Morocco

Source: National coordinator of the Moroccan National Tchoma Programme.
* Prevalence of >5% traumatic inflammation, follicular.

المراجع
1. من المراعى على تلك المرافق كل ثلاثة أشهر، وإلى عدم فقدان مخزون أدوية المعالجة. وتمتدّل التحديات الرئيسية في زيادة عدد الأطفال والحوامل، ومدى السلسلة الذين يحصلون على المعالجة، وارتفاع معدلات الوفيات المبكرة، وعدم التثبيت. وفي تحسيس قدرة القطاع الصحي على التنقل على الأعباء المرضية المتصاعدة، وكيفية النهج بأنشطة الوقاية إلى جانب المعالجة. إن قدرنا على مواجهة هذه التحديات سوف تقرر مدى النجاح المستقبلي لتقديم المعالجة مضادات الفيروسات القهرية في ملاوي. والدروس المستفادة: تعرّض الإنجازات التي حققت إلى وجود دليل إرشاديّ وظيفي واضح للمعالجة مضادات الفيروسات القهرية، وإلى تعاون الشركاء، وإلى وجود برنامج مكثّف لتدرّب يركز على الأطباء والممرضات. وإلى وجود نظام منهجي لاعتماد مراكز الواقع الأمناذ للمعالجة المضادات الفيروسات القهرية.