A national survey of the impact of rapid scale-up of antiretroviral therapy on health-care workers in Malawi: effects on human resources and survival

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Objective To assess the human resources impact of Malawi's rapidly growing antiretroviral therapy (ART) programme and balance this against the survival benefit of health-care workers who have accessed ART themselves.

Methods We conducted a national cross-sectional survey of the human resource allocation in all public-sector health facilities providing ART in mid-2006. We also undertook a survival analysis of health-care workers who had accessed ART in public and private facilities by 30 June 2006, using data from the national ART monitoring and evaluation system.

Findings By 30 June 2006, 59 581 patients had accessed ART from 95 public and 28 private facilities. The public sites provided ART services on 2.4 days per week on average, requiring 7% of the clinician workforce, 3% of the nursing workforce and 24% of the ward clerk workforce available at the facilities. We identified 1024 health-care workers in the national ART-patient cohort (2% of all ART patients). The probabilities for survival on ART at 6 months, 12 months and 18 months were 85%, 81% and 78%, respectively. An estimated 250 health-care workers' lives were saved 12 months after ART initiation. Their combined work-time of more than 1000 staff-days per week was equivalent to the human resources required to provide ART at the national level.

Conclusion A large number of ART patients in Malawi are managed by a small proportion of the health-care workforce. Many health-care workers have accessed ART with good treatment outcomes. Currently, staffing required for ART balances against health-care workers' lives saved through treatment, although this may change in the future.

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Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

The world has a massive shortage of health-care workers, currently estimated at over 4 million.[1] Sub-Saharan Africa, the worst-affected region, has 25% of the world's disease burden, yet 1.3% of the world's health-care workers.[2] With an estimated 600 000 health-care workers to serve a population of 682 million,[3] sub-Saharan Africa has one tenth of the doctors and nurses for its population that Europe does.[1] An assessment of health-care worker availability against health system needs reveals stark gaps, with an estimated 720 000 physicians and 670 000 nurses needed in Africa to bridge the void.[4] There are various contributory causes to the health-care worker crisis in Africa, but low training capacity, poor working conditions, attrition and migration out of the health sector or out of the country are the most important factors.[4]

Sub-Saharan Africa is the epicentre of the HIV/AIDS epidemic, with 26 million people (65% of the global total) infected with the virus.[5] In severely affected countries, death is the major contributor to health-care worker shortages.[6] Malawi, a small country in southern Africa, faces a severe HIV/AIDS epidemic. By 1997, it was estimated that over 10% of health-care workers had died from AIDS.[7] A formal study in 1999 in all district and main mission hospitals in the country found a 2% annual death rate in key health-care workers, with AIDS and tuberculosis being the most common causes.[8]

In the last few years, many African countries have been scaling up antiretroviral therapy (ART) for HIV-infected patients, and by December 2005, 840 000 patients in Africa had started treatment.[9] Scaling-up of ART affects the health-care workforce in two ways. First, health-care workers are needed to run ART clinics, and as the case burden grows, this may be to the detriment of other health services. Second, if HIV-infected health-care workers access ART before they have severe immune suppression, this should keep the workforce alive and serving in public-sector institutions. To date, we have seen no national published data on: a) the proportion of health-care workers used to deliver ART, and b) the uptake of ART by health-care workers and their outcomes while on

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treatment. We therefore carried out a national operational study to investigate these issues.

Methods

Background

The process of ART scale-up in Malawi in the public sector has already been described,[10] and only the main elements will be presented. By June 2004, only a few sites were delivering ART, and in the central hospitals patients had to pay for treatment. From June 2004 onwards, delivery of ART free of charge was rolled out to all public-sector facilities. A standardized approach is used: the use of one generic, fixed-dose combination first-line treatment with stavudine, lamivudine and nevirapine; a system of registration, monitoring and reporting of cases and outcomes; and quarterly supervision and evaluation of all ART sites.[11] HIV-positive patients are eligible for ART if they are in WHO clinical stage 3 or 4, or if their CD4-lymphocyte count is 250/mm^3 or less.[12] ART is only provided at Ministry of Health-accredited facilities according to national guidelines. Patients have appointments for clinical checkups and ARV dispensing at monthly intervals for the first six months, and thereafter follow-up visits are scheduled every two months for stable patients. If patients develop toxic side effects, there is a referral system for alternative first-line therapy. The process of ART scale-up in the private sector has followed a similar approach. The private sector provides ART at subsidized cost (US$ 3.50 per course of treatment per month), and also uses Malawi's national ART monitoring and evaluation system.

When patients visit ART clinics each month, vital data are recorded using standardized monitoring tools. There is one ART patient treatment master card for each patient and one ART register per facility.[10] Patients are registered with their demographic details, occupation, initial clinical staging and ART initiation date on master cards and in the register. Standardized outcomes and follow-up details are recorded monthly on master cards, then the latest follow-up status for each patient is updated to the ART register. Due to constrained resources, active follow-up of patients who fail to return to the clinic is not always possible. Despite this, more than half of the facilities regularly attempt to trace defaulters through community visits.

The health ministry's HIV unit and its partners conduct quarterly supervisory and monitoring visits to all ART sites in the country. The monitoring teams check the registers' accuracy and completeness and compare treatment master card details with entries to the register. Every three months, a quarterly cohort analysis is performed on the most recent three-month cohort of patients started on ART and the cumulative cohort of patients ever started on therapy, with outcomes censored at the end of the respective quarter.[11]

Data collection and analysis

All 95 ART facilities in the public sector and all 28 ART facilities in the private sector were visited between July and September 2006. Data for the April to June 2006 quarter and for all patients ever started on ART were collected, with treatment outcomes censored on 30 June 2006. Data were then entered into a Microsoft Excel spreadsheet for collation.

At each ART facility in the public sector, a standard form was used to collect information on the work time of clinicians, nurses and clerks allocated to the ART clinic. The total current contingent of health staff was obtained from the facility's administration. For the analysis, staff cadres were categorized into clinicians (doctors, clinical officers and medical assistants), trained nurses and ward clerks. In each facility clinic, the number of days or half-days allocated per week to ART service delivery, and the number of clinicians, nurses and clerks at the clinic on those days were documented. From this information, the staffing impact of ART clinics on the general health services was estimated at the national level as the proportion of clinician, nurse and clerk days used to run ART services.

From ART registers in the public and private sector, data were collected from the occupation column on the number of health-care workers who had ever accessed ART from the start of the service up to 30 June 2006. When a health-care worker was identified, the following information was obtained: health-care worker cadre (information provided by ART clinic staff), age, sex, date and reason for starting ART, including whether tuberculosis (TB) was a cause. The date and reason for termination of observation were recorded (retained alive on ART at closure of the cohort on 30 June 2006, transferred out to another facility, stopped treatment, lost to follow-up for more than three months, death). Data were entered and cleaned in Microsoft Access and analysed using STATA version 9.2. Persons were considered to come under observation on the date of starting ART if they started during the free period or at the commencement of the national monitoring system in June 2004 if they had previously received ART. In this case, accumulated time on ART was considered in the survival analysis. Due to incomplete active ascertainment of deaths in the national monitoring and evaluation system, deaths, losses to follow-up and patients stopping ART were combined as the failure event. Observations were censored if the patient was alive and on ART by 30 June 2006 or if they were transferred to another facility before this time. The probability of survival on ART was estimated using the Kaplan–Meier method. Hazard ratios for survival were calculated after adjusting for background characteristics and Poisson regression was used for multivariate analyses. The impact of ART on health-care worker survival was analysed by comparing their observed survival to their projected survival based on mortality rates in Malawian patients from a natural history cohort assessed in the era before free ART.[13]

General measures are provided in all ART facilities to ensure confidentiality, consent for HIV testing, and counselling and support for those who receive a positive HIV test result. Specific data collected for this study did not include personal identifiers. The Malawi National Health Science Research Committee provides general oversight and approval for the collection and use of routine programmatic data for monitoring and evaluation. The United States of America (US) Centres for Disease Control and Prevention considered this study programme evaluation, which does not constitute human-subjects research.

Results

By 30 June 2006, 57 366 patients (53 853 adults and 3513 children aged 14 years or less) had accessed ART in the 95 public-sector facilities in Malawi. At ART initiation, 5552 (9.7%) were in WHO clinical stage 1 or 2 with a low CD4 count, 38 122 (66.5%) were in stage 3 and 13 692 (23.9%) in stage 4.

Table 1. **National health-care worker allocation to ART clinic services in the public sector**

	Clinician days/week	Nurse days/week	Clerk days/week	Total health-care worker days/week
A. Number of staff workdays per week available for all health service delivery at the public hospitals and health centres providing ART services[a]	4 131	10 454	1 104	15 689
B. Number (%) of staff workdays per week required for ART services	300 (7.2%)	355 (3.4%)	261 (23.6%)	916 (5.8%)

ART, antiretroviral therapy.
[a] Assumption: 230 days worked by each staff member per year.

By 30 June 2006, 41 549 (72.4%) patients were alive and on ART at the facility where they had first registered. A cohort analysis showed that 70.2% of 7647 patients were alive and on ART at 6 months, and 62.5% of 5316 were alive and on ART at 12 months. By 30 June 2006, there were 2215 patients (2125 adults and 90 children) in the private sector who had ever started on ART from 28 facilities. Of these, 1931 (87.2%) were alive and on ART at the facility where they had first registered.

A total of 939 clinicians (187 doctors, 550 clinical officers and 202 medical assistants), 2376 nurses and 251 ward clerks were working at the 95 public-sector facilities that provided ART. Assuming an annual average of 230 days worked (4.4 days/week) by each staff member, the total staff workdays per week available for health service delivery for clinicians, nurses and clerks are shown in Table 1. ART services were provided on a total of 224 clinic-days per week, equivalent to an average of 2.4 days per facility. The number of clinician-, nurse- and clerk-staff workdays required for ART services are also shown in Table 1.

Health-care workers and ART

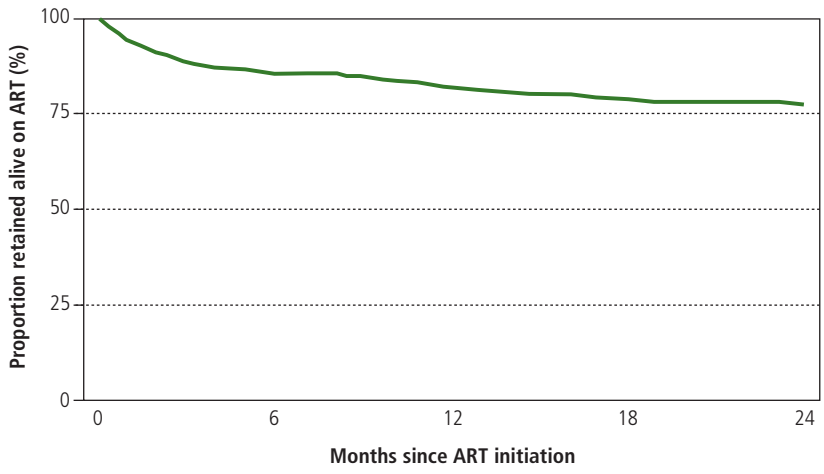
Occupation was known for 56 630 (95.0%) of the total national ART-patient cohort (59 581). Of these, 1024 (1.8%) were health-care workers; two had unknown outcome data and were excluded from further analysis. There were 363 men and 659 women, whose mean age was 39.7 years (range 19–65 years). The public sector had registered 973 and the private sector 49 (4.8%) health-care workers. There were 73 clinicians (7 doctors, 44 clinical officers and 22 medical assistants), 225 nurses, 232 ward support staff, 387 ancillary staff (e.g. hospital technicians, health surveillance assistants) and 105 of unknown cadre. Clinical stage at ART initiation was documented in 916 cases: 148 (16.2%) started in WHO clinical stage 1 or 2 with a low CD4 count, 529 (57.8%) in stage 3 and 239 (26.1%) in stage 4. Tuberculosis was a common stage-defining condition in 192 (18.8%) health-care workers, and was significantly more common in ward support staff (23.3%) compared with all other cadres (13.3%; $P < 0.001$).

Of health-care workers started on ART, more nurses (24.0%) and clinicians (16.4%) had accessed therapy at the time when this treatment had to be paid for compared with other cadres (7.5%), and had therefore a longer average exposure to ART. The median observation time for patients on free ART was 8.4 months.

By 30 June 2006, 793 (77.6%) health-care workers were alive and on ART at their registration facility, 119 (11.6%) had died, 5 (0.5%) had stopped treatment, 65 (6.4%) had transferred to another facility and 40 (3.9%) were lost to follow-up. The probability of being alive and on ART at 6, 12 and 18 months was 85.1%, 81.3% and 78.2% respectively (see Fig. 1). Univariate analysis showed that the probability of staying alive and on ART was higher in women (hazard ratio, HR 1.61), in nurses (HR 1.89) and in patients starting ART in WHO stage 1 or 2 with a low CD4 count (HR 2.44); see Table 2. After adjusting for gender, health-care worker cadre and WHO stage, only patients with stage 1 or 2 with a low CD4 count had a significantly higher probability of staying alive and on ART (HR 3.05).

Table 3 shows the impact of ART on survival of the health-care worker cohort by using data from the natural history cohort, as described above.[13] Health-care workers in stages 3 and 4 experienced a 70% reduction in mortality at 12 months. There was no

Fig. 1. **Survival probability in health-care workers starting ART[a]**



ARV, antiretroviral therapy.
[a] $N = 1\,022$; 875 life-years of observation.

Table 2. **Factors in health-care workers associated with an increased probability of staying alive and on ART**

	n	% of *N*	Crude 1/HR (95% CI)		Adjusted 1/HR (95% CI)[a]	
Sex						
Men	**363**	35.5%	**1**	–	**1**	–
Women	**659**	64.5%	**1.61**	(1.18–2.17)	**1.37**	(0.92–2.03)
Age starting ART						
19–34 years	**263**	25.7%	**1**	–	**1**	–
35–44 years	**465**	45.5%	**0.90**	(0.61–1.30)	**0.95**	(0.63–1.42)
45–65 years	**283**	27.7%	**1.16**	(0.76–1.79)	**1.07**	(0.67–1.71)
Unknown	**11**	1.1%	–	–	–	–
WHO clinical stage at start of ART						
1 or 2, CD4 < 250	**176**	17.2%	**2.44**	(1.37–4.27)	**3.05**	(1.53–6.10)
3	**580**	56.8%	**1**	–	**1**	–
4	**265**	25.9%	**0.73**	(0.52–1.01)	**0.72**	(0.51–1.02)
Unknown	**1**	0.1%	–	–	–	–
Heath-care worker cadre						
MO, CO, MA	**73**	7.1%	**0.83**	(0.48–1.43)	**0.87**	(0.49–1.54)
Nurses	**225**	22.0%	**1.89**	(1.23–2.94)	**1.57**	(0.96–2.57)
Ward support staff	**232**	22.7%	**1.23**	(0.81–1.85)	**1.14**	(0.74–1.74)
Ancillary staff	**387**	37.9%	**1**	–	**1**	–
Unknown	**105**	10.3%	–	–	–	–
Total	**1 022**	–	–	–	–	–

ART, antiretroviral therapy; CI, confidence interval; CO, clinical officer; HR, hazard ratio; MA, medical assistant; MO, medical officer.
[a] HR adjusted for gender, WHO clinical stage and health-care worker cadre.

significant 12-month survival benefit in health-care workers in stage 1 or 2, although these patients may have been more immunosuppressed than those in the natural history cohort by virtue of all having a CD4 count of less than 250/mm³. Based on the distribution of clinical stages in the health-care worker cohort, 257 health-care workers were projected to survive at 12 months after treatment initiation who would otherwise have died without ART.

Discussion

This is the first report from sub-Saharan Africa examining the important interaction between ART scale-up and health-care workers at a national level. In the public-sector ART facilities, 7% of clinician time and 3% of nursing time was allocated for delivering ART services. This allocation had allowed over 57 000 patients to access ART, with over 40 000 being followed up on a monthly basis. The small proportion of health-care workers' time spent on delivering ART to large numbers of patients reflects the simple, standardized approach to ART care that Malawi has developed.[10]

The official 2006 statistics of health-care workers in government and mission sectors of Malawi[14] enumerated 1278 clinicians (doctors, clinical officers and medical assistants) and 2720 nurses. 73 clinicians and 225 nurses were on ART. If they were all from the government and mission sectors, this would constitute 5.7% of clinicians and 8.3% of nursing the workforces respectively. An unknown proportion of clinicians and nurses in our health-care workers cohort were likely to have been from private or nongovernmental facilities, and the preservation of their work capacity through ART would therefore not directly benefit the public health sector. However, Malawi's private and nongovernmental health sector is small and the estimation of the positive impact of ART on human resources in the public sector is still likely to be valid. The uptake of ART among health-care workers contrasts with that of the adult general population of Malawi (estimated at 5.5-6 million),[15] where about 1% of people so far have started on ART. The reasons are speculative, but would include health-care workers' better and easier access to hospital laboratories and ART clinics, and a better understanding of the life-saving effects of medication.

The majority of health-care workers had accessed free ART in the public sector, while 4% opted for service at subsidized cost in the private sector, possibly for reasons of confidentiality. Treatment outcomes were good. Although direct comparisons with the general patient cohort analysis are not valid due to differences in data ascertainment and analysis, health-care workers had a considerably better survival probability at 6 and 12 months. One of the likely reasons is that more health-care workers started ART in earlier disease stages, as those in stages 1 and 2 had improved outcomes relative to patients who started in stages 3 and 4. Strategies to further increase the access of individuals, including health-care workers, to CD4 testing and ART are important, as this may increase longer-term survival and reduce morbidity to decrease the HIV-related burden on the health-care system.

Access to ART had saved the lives of at least 250 out of 1022 health-care workers after 12 months of treatment. This is a conservative estimate, because deaths as well as treatment stops and clinic defaults were interpreted as "failure to survive on ART" in the survival analysis. It is known from the national cohort reports that 85–95% of patients alive and on ART are ambulatory and able to work.[11] Assuming similar rates for the health-care-worker cohort, the

Table 3. **Mortality rates and cumulative 12-month survival probabilities for health-care workers on ART and projected survival based on mortality rates from a natural history cohort in Malawi from the era before free ART[13]**

WHO clinical stage	Health-care worker cohort on ART					Malawi natural history cohort				
	n	MR/100 pyrs[a] (95% CI)		12-month survival		MR/100 pyrs[a] (95% CI)		MRR[d]	12-month survival	
				Survival probability[b]	No. alive[c]				Survival probability[b]	No. alive[c]
1 or 2	176	8	(5–13)	92%	162	5	(2–12)	1.6	95%	167
3	580	19	(15–23)	83%	480	62	(42–86)	0.3	54%	312
4	265	26	(20–34)	77%	204	88	(35–180)	0.3	41%	110
Total	1 021	–	–	–	846	–	–	–	–	589

ART, antiretroviral therapy; CI, confidence interval; MR, mortality rate; MRR, mortality rate ratio; pyrs, person-years.

[a] Failure events (deaths, treatment stops and clinic defaults) per 100 person-years of observation. Follow-up studies in Malawi have shown that the majority of ART clinic defaulters are unrecognized deaths (unpublished data). In the natural history cohort, failure events are actual deaths only.

[b] Cumulative probability of survival at 12 months after ART initiation. For the natural history cohort, the estimate is based on $e^{(-MR*1)}$ of the 1-year mortality rates quoted in the study, assuming an approximately constant mortality rate over the first 12 months. To improve comparability, the same method was used for the health-care worker cohort (the actual cumulative survival probabilities based on the Kaplan–Meier method were 89%, 82% and 77%, respectively).

[c] Projection of the number of health-care workers alive by 12 months after ART initiation, estimated as the number of individuals in each clinical stage category multiplied by the respective survival probability.

[d] MRR = MR of health-care worker on ART / MR of natural history cohort.

250 who survived due to ART would account for a gain of 1000 health-care worker days per week at the national level. This balances favourably against the approximately 1000 health-care worker days per week that are required for ART service provision at the national level.

This operational study used data from the routine national monitoring system and therefore has some limitations. The actual work hours of clinicians, nurses and clerks on ART clinic days were unknown, and we have not accounted for the time managing ART patients who require hospital admission. For the calculation of the total work time denominator, we have assumed that health-care workers provide 230 full days annually, which is likely to be an overestimate as staff absenteeism may be high in government health services. Occupation was unknown for some patients, and clinic staff members indicated that some health-care workers had registered under different names and occupations to avoid identification. Thus, we have probably underestimated the number of health-care workers who were treated with ART. The transfer of patients between sites leads to a duplication of observation time, and this will have led to an overestimation of survival probabilities. However, since only about 7% of ART patients in the national cohort are transfers, the effect is likely to be small.

The strengths of the study are that it is a national, comprehensive survey, and we are not aware of facilities providing ART in Malawi that are not included in this study. The national monitoring system for ART is standardized and used by all public and private facilities. Routine validation of data is carried out during quarterly supervision of all sites through cross-checking of ART treatment master cards and ART registers, resulting in relatively high data quality.

In the future, the further gains of placing health-care workers on ART may not keep pace with increased staffing needs for ART service delivery as more Malawians access HIV treatment. The programme will then pose an increasing demand on the health-care system, and this may affect the quality of general health service delivery.[16] With Malawi having one of the world's worst ratios of doctors and nurses per capita,[17] ART delivery will have to rely on less skilled personnel if general health services are to be maintained. ■

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Competing interests: None declared.

Résumé

Enquête nationale consacrée aux effets du passage rapide à l'échelle supérieure du programme de traitement antirétroviral sur les agents de santé au Malawi : impact en termes de ressources humaines et de survie

Objectif Evaluer l'impact en termes de ressources humaines du développement rapide du programme de traitement antirétroviral (ART) au Malawi et le confronter au bénéfice lié à la survie des agents de santé ayant eu accès pour eux-mêmes au traitement ART.

Méthodes Nous avons mené une enquête transversale à l'échelle du Malawi sur la répartition des ressources humaines dans tous les établissements médicaux publics délivrant le traitement ART depuis mi-2006. Nous avons également effectué une analyse du taux de survie des agents de santé ayant, au 30 juin 2006, eu accès au traitement antirétroviral dans des établissements médicaux publics ou privés à partir des données

fournies par le système national de surveillance et d'évaluation des ART.

Résultats En juin 2006, 59 581 patients avaient eu accès au traitement ART dans le cadre d'un établissement médical public (95 établissements) ou privé (28 établissements). En moyenne, les établissements publics délivraient ce traitement sur 2,4 jours par semaine et utilisaient pour ce faire 7 % de leur personnel clinique, 3 % de leur personnel infirmier et 24 % de leur personnel administratif. Nous avons identifié 1024 agents de santé parmi la cohorte nationale de personnes ayant bénéficié d'un traitement ART (soit 2 % de l'effectif total de cette cohorte). Les probabilités de survie sous ART à 6 mois, 12 mois et 18 mois étaient respectivement de 85, 81 et 78 %. On estime à 250 le nombre d'agents de santé qui ont été maintenus en vie 12 mois après le début de leur traitement. Au total, le temps de travail préservé correspondant représente plus de 1000 personnes-jours par semaine, soit l'équivalent des ressources nécessaires pour délivrer le traitement ART à l'échelle du pays.

Conclusion Un grand nombre de patients sous ART ont été pris en charge au Malawi par une faible proportion du personnel médical. Nombre d'agents de santé ont eu accès au traitement antirétroviral avec de bons résultats thérapeutiques. Actuellement, les besoins en personnel pour la délivrance du traitement ART sont équivalents aux ressources humaines préservées par le maintien en vie, grâce au traitement, des agents de santé malades, cette situation pouvant néanmoins évoluer dans l'avenir.

Resumen

Encuesta nacional sobre el impacto de la expansión rápida de la terapia antirretroviral en los trabajadores sanitarios en Malawi: efectos en los recursos humanos y la supervivencia

Objetivo Evaluar el impacto que ha tenido en los recursos humanos el programa de terapia antirretroviral (TAR) rápidamente extendido en Malawi, contrastando ese dato con los beneficios logrados en lo relativo a la supervivencia de los trabajadores sanitarios que han accedido a la TAR.

Métodos Realizamos una encuesta transversal nacional sobre la distribución de los recursos humanos en todos los establecimientos de salud del sector público que proporcionaban TAR a mediados de 2006. Llevamos a cabo también un análisis de supervivencia de los trabajadores sanitarios que habían tenido acceso a la TAR en centros públicos y privados hasta el 30 de junio de 2006, utilizando para ello datos del sistema nacional de vigilancia y evaluación de la TAR.

Resultados A 30 de junio de 2006, 59 581 pacientes habían accedido a la TAR en 95 centros públicos y 28 privados. Los centros públicos ofrecían servicios de TAR 2,4 días a la semana por término medio y absorbían un 7% del personal médico, el 3% del personal de enfermería, y un 24% de los auxiliares administrativos de los establecimientos. Identificamos a 1024 trabajadores sanitarios de la cohorte nacional de pacientes tratados con TAR (2% de todos los pacientes sometidos a TAR). Las probabilidades de supervivencia entre quienes recibían TAR a los 6 meses, 12 meses y 18 meses eran de un 85%, 81% y 78%, respectivamente. A los 12 meses de dar comienzo a la TAR, se estima que se había salvado la vida a unos 250 trabajadores sanitarios. Su tiempo de trabajo combinado, más de 1000 días-persona por semana, equivalía a los recursos humanos requeridos para proporcionar la TAR a nivel nacional.

Conclusión Un gran número de pacientes sometidos a TAR en Malawi son tratados por una pequeña proporción de la fuerza laboral sanitaria. Muchos trabajadores sanitarios han accedido a la TAR con buenos resultados terapéuticos. Actualmente el personal requerido para administrar la TAR es similar al mantenido con vida gracias al tratamiento, pero esto podría cambiar en el futuro.

ملخص

مسح وطني حول تأثير الارتقاء السريع بـبرنامج المعالجة بمضادات الفيروسات الرجوعية على موظفي الرعاية الصحية في مالاوي: تأثيراته على الموارد البشرية والبقاء على قيد الحياة

الهدف: تقييم تأثير الارتقاء السريع بـبرنامج المعالجة بمضادات الفيروسات القهقرية وموازنة ذلك بالفائدة المتحصلة من بقيا موظفي الرعاية الصحية الذين أتيحت لهم المعالجة بهذه العقاقير.

الطريقة: أجرى الباحثون مسحاً وطنياً مستعرضاً حول توزيع الموارد البشرية في جميع مرافق الرعاية الصحية التابعة للقطاع العام التي توفر المعالجة بمضادات الفيروسات الرجوعية، وذلك في منتصف 2006. كما أجرى الباحثون تحليلاً لبقيا موظفي الرعاية الصحية الذين أتيحت لهم المعالجة بهذه العقاقير في المرافق العامة والخاصة حتى 30 حزيران/يونيو 2006، مستخدمين معطيات مستمدة من النظام الوطني لرصد وتقييم المعالجة بمضادات الفيروسات الرجوعية.

الموجودات: تلقى581 59 مريضاً، حتى 30 حزيران/يونيو 2006، المعالجة بمضادات الفيروسات الرجوعية، في 95 مرفقاً صحياً عاماً، و28 مرفقاً صحياً خاصاً، وقدَّمت المرافق العامة المعالجة بهذه العقاقير بمعدل 2.4 يوماً في الأسبوع مما تطلَّب وجود 7% من القوى العاملة من الأطباء السريريين، و3% من القوى العاملة من التمريض، و24% من القوى العاملة من كتبة الأجنحة المتوفرة بهذه المرافق. ووجد الباحثون أن 1024 من موظفي الرعاية الصحية يتلقون المعالجة بمضادات الفيروسات الرجوعية ضمن مجموعة المرضى الوطنيين الذين يتلقون المعالجة بهذه العقاقير (2% من مجموع المرضى الذين يعالجون بمضادات الفيروسات الرجوعية). وبلغت نسبة احتمال البقيا مع المعالجة بمضادات الفيروسات الرجوعية بعد 6 أشهر من بدء المعالجة 85%، وبعد 12 شهرا ً81%، وبعد 18 شهراً 78%. وأمكن إنقاذ حياة نحو 250 موظف رعاية صحية بعد 12 شهرا من بدء المعالجة بهذه العقاقير ً. وكان وقت عملهم المجمّع الذي بلغ أكثر من 1000 يوم عمل في الأسبوع مساوياً للموارد البشرية المطلوبة لتوفير المعالجة بمضادات الفيروسات الرجوعية على المستوى الوطني.

الاستنتاج: هناك قسم صغير من موظفي الرعاية الصحية يتولى التدبير العلاجي لعدد ضخم من المرضى الذين يتلقون المعالجة بمضادات الفيروسات الرجوعية. وقد أتيحت المعالجة بهذه العقاقير للعديد من موظفي الرعاية الصحية والتي أسفرت عن حصائل علاجية جيدة. والآن فإن حياة موظفي الرعاية الصحية التي أمكن إنقاذها من خلال المعالجة تعادل العمالة المطلوبة لتوفير المعالجة بمضادات الفيروسات الرجوعية، رغم إمكانية تغير هذا الأمر مستقبلاً.

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