



REVIEW

Task shifting in HIV/AIDS: opportunities, challenges and proposed actions for sub-Saharan Africa

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Summary Sub-Saharan Africa is facing a crisis in human health resources due to a critical shortage of health workers. The shortage is compounded by a high burden of infectious diseases; emigration of trained professionals; difficult working conditions and low motivation. In particular, the burden of HIV/AIDS has led to the concept of task shifting being increasingly promoted as a way of rapidly expanding human resource capacity. This refers to the delegation of medical and health service responsibilities from higher to lower cadres of health staff, in some cases non-professionals. This paper, drawing on Médecins Sans Frontières' experience of scaling-up antiretroviral treatment in three sub-Saharan African countries (Malawi, South Africa and Lesotho) and supplemented by a review of the literature, highlights the main opportunities and challenges posed by task shifting and proposes specific actions to tackle the challenges. The opportunities include: increasing access to life-saving treatment; improving the workforce skills mix and health-system efficiency; enhancing the role of the community; cost advantages and reducing attrition and international 'brain drain'. The challenges include: maintaining quality and safety; addressing professional and institutional resistance; sustaining motivation and performance and preventing deaths of health workers from HIV/AIDS. Task shifting should not undermine the primary objective of improving patient benefits and public health outcomes.

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1. Introduction

“I have been working as a nurse since 1971 and what we are seeing is an emergency. There are too many patients for too few clinicians and nurses, and the pressure is too much. Look at this overcrowded ward, look at all these patients! Tonight there will be one nurse to look after all of them. What kind of nursing is this? How can we ever give patients the care they need? If we are to solve this problem we will need to have many more health workers, better conditions of service, better training and incentives. Otherwise nothing will change!” (Christian Chingi, Nurse Coordinator, Thyolo District, MSF Malawi).

At the end of 2006 the WHO estimated that there are 57 countries facing critical shortages of health workers. Over half of them (36) are in Africa and an additional 2.4 million doctors and nurses are needed to meet the Millennium Development Goals.¹ In sub-Saharan Africa the situation constitutes a human resource crisis due to significant emigration of trained professionals; difficult working conditions; poor salaries; low motivation and a high burden of infectious diseases, particularly HIV/AIDS, among the workforce.^{1–3} Sub-Saharan African countries are hardest hit in terms of emigration of trained health staff, both to South Africa as well as to countries in the West. Malawi, for example, has two doctors per 100 000 population, which is 10 times below the WHO minimum standard, while South Africa has 77 doctors per 100 000 population. In Western countries that attract health workers from countries such as Malawi the availability of doctors is even higher at 256 per 100 000 in the USA, 214 in Canada and 230 in the United Kingdom. Similarly, the number of nurses per 100 000 population is 59 in Malawi compared with 937 in the USA, 995 in Canada and 1212 in the United Kingdom.^{4,5}

The scale-up of antiretroviral treatment (ART) in sub-Saharan Africa has highlighted the human resource challenge of delivering and sustaining this life-saving intervention.^{6–8} Consequently, the delegation of medical and health service duties from higher to lower cadres or new cadres, known as task shifting, is increasingly promoted as a coping mechanism for general and specific human resource shortages. [Table 1](#) classifies different types of task shifting commonly seen in Africa.

The concept is not new and has been employed in the past to support a range of health service demands. Examples include surgical technicians in Mozambique;⁹ nurse-anaesthetists and clinical officers in Malawi, Ghana, Tanzania and Zambia;^{2,10} and the deployment of community health workers in multiple countries.¹¹ Over half the countries in sub-Saharan Africa have recourse to non-physician clinicians.¹² Recently, task shifting has gained considerable momentum, with the WHO releasing specific guidelines and recommendations on task shifting.¹³ In as much as task shifting raises many potential opportunities for the health system, there are associated challenges which need to be addressed in order to ensure that this mechanism does not undermine the primary goal of improving patient benefits and public health outcomes.

This paper, drawing on Médecins sans Frontières’ (MSF’s) experience of scaling up ART in three sub-Saharan African

countries (Malawi, South Africa and Lesotho), and supplemented by a review of the literature, highlights the main opportunities and challenges posed by task shifting and proposes specific actions to tackle the challenges.

2. Opportunities presented by task shifting

2.1. Improves access to life-saving treatment and improves survival

The task-shifting process requires the development of standardized protocols, including simplified clinical guidelines, simplified recording and reporting systems and simplified monitoring and evaluation. These measures facilitate the decentralisation of interventions to lower levels of the health system, and are associated with improved access, increased national coverage and better geographical equity, the latter parameters being of key importance in ART scale-up efforts.

This is illustrated in Malawi, where the national ART scale-up plan launched in 2004 involved non-physician clinicians providing ART.^{7,14} By September 2007, 130 488 patients had been started on ART at 154 health facilities (Ministry of Health ART Quarterly Report: Results up to 30 September, 2007). Task shifting, coupled with a simplified and standardized public health approach and strong supervision, made it possible to scale up ART with acceptable quality standards resulting in many lives saved.⁷

In Malawi, Lesotho and in Lusikisiki, South Africa, nurses initiated and managed ART at rural primary health clinics with support from mobile medical teams who provided clinical mentoring. This enabled access for patients who otherwise might not have received the treatment they needed. When task shifting from doctors to nurses was reversed in Lusikisiki patient enrolment rates dropped precipitously ([Figure 1](#)).¹⁵

2.2. Optimizes skills of the health worker team to cope with growing patient loads

Task shifting stimulates the creation of multidisciplinary teams with a better strategic skills mix.¹⁶ For example, a model of HIV care in which nurses initiate ART and doctors supervise and manage complex cases is being promoted by

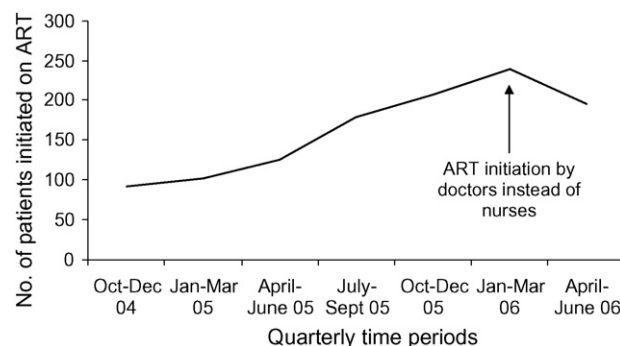


Figure 1 Quarterly initiation of antiretroviral treatment (ART) at clinics in Lusikisiki, South Africa, October 2004–June 2006.

Table 1 Types of task shifting commonly seen in Africa¹³.

Type of task shifting	Definition	Example
Type I	The extension of the scope of practice of <i>non-physician clinicians</i> in order to enable them to assume some tasks previously undertaken by more senior cadres, e.g. doctors	Clinical officers deciding eligibility and prescribing ART (Malawi)
Type II	The extension of the scope of practice of <i>nurses</i> and <i>midwives</i> in order to enable them to assume some tasks previously undertaken by senior cadres	Nurses treating opportunistic infections and prescribing ART (Botswana, Ethiopia, Uganda, Malawi)
Type III	The extension of the scope of practice of <i>community health workers</i> or <i>lay providers</i> in order to enable them to assume some tasks previously undertaken by more senior cadres, e.g. nurses and midwives, non-physician clinicians or doctors	Community health workers providing ART counseling and HIV testing (Uganda, Rwanda, Malawi)
Type IV	<i>People living with HIV/AIDS</i> , trained in self-management to assume some tasks related to their own care that would previously have been undertaken by health workers	Provision of basic HIV support, treatment adherence and psychosocial support (Botswana, Kenya, Nigeria, South Africa)
Type V	The extension of the scope of practice of other cadres that do not traditionally have a clinical function, e.g. <i>pharmacists</i> , <i>laboratory technicians</i> , <i>administrators</i> , <i>record clerks</i>	Record clerks filling in basic patient information and measuring body weight at HIV clinics (Malawi)

ART: antiretroviral treatment.

the WHO.¹³ In Botswana,¹⁷ Mozambique,¹⁸ Malawi (A.D. Harries, unpublished observations), Lesotho and the Democratic Republic of Congo (N. Ford, unpublished observations), this strategy has met with success: nurses have reduced the dependence on doctors by taking on clinical tasks such as determining ART eligibility; prescribing first-line regimens; and managing follow-up and common side-effects of medication, while senior clinicians manage complicated cases. An overview of how a team of health staff, community workers and people living with HIV/AIDS either changed their roles or took up new roles within a multidisciplinary team is given by the HIV/AIDS programme in Lusikisiki, South Africa (Table 2).¹⁹

2.3. Engages the community to address health needs

Communities are increasingly recognized as an underexploited resource in the delivery of ART. Community health workers have had a significant positive impact, particularly on reducing mortality linked to childhood pneumonia,²⁰ malaria²¹ and tuberculosis (TB).²² In HIV care the deployment of lay counsellors has resulted in a dramatic uptake of HIV testing services in Thyolo, Malawi (Figure 2),²³ Lusikisiki, South Africa,¹⁹ and Lesotho.⁸ Communities can also contribute in a comprehensive manner to ART delivery as seen in Malawi (Table 3).^{23,24} Community workers also have a positive influence on health-seeking behaviour among people with HIV/AIDS, help to reduce stigma and discrimination^{24,25} and often play a critical role in adherence support.²⁶ People with HIV/AIDS have also been effectively mobilized as partners in the provision of care. One pro-

gramme that trained people with HIV/AIDS to screen for signs and symptoms of immune deficiency and to refer people to hospital if they were not on prophylaxis resulted in a 40% increase in those receiving co-trimoxazole and fluconazole prophylaxis.²⁷

2.4. May provide cost benefits for patients and health systems

Both the cost of initial training and the remuneration of medical assistants and clinical officers are lower than for doctors, especially as the education and pre-service training periods are shorter. Data from five sub-Saharan African countries show that training time and costs for non-physician clinicians are lower than for doctors¹² and they can be as

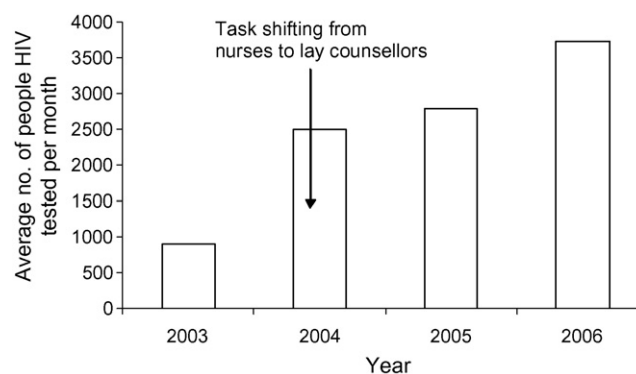


Figure 2 Impact of task shifting from nurses to lay counsellors on the coverage of HIV testing services, Thyolo District, Malawi, 2003–2006.

Table 2 Traditional roles of health staff in HIV/AIDS care compared with roles of health staff in the Lusikisiki program¹⁹.

Category	Traditional role	Role in Lusikisiki
Doctors	Patient consultations Management of opportunistic infections Clinical staging ART initiation Do not interact with clinic staff	Mobile visits: see only problem cases Clinic supervision and mentoring of nurses Part of multidisciplinary team
Nurses	Support doctor Conduct VCT Prepare individuals for ART Monitor ART recipients Collect data Manage drug supply Supervise community caregivers	Manage opportunistic infections Perform clinical staging Initiate and monitor ART Manage drug supply Supervise adherence counsellors
Adherence counsellors	Not utilized	Prepare individuals for ART Empower ART recipients Run ART support groups Collect data (ART registers) Mentor community caregivers Trace individuals who default Provide mentoring to pharmacist's assistants
Pharmacists	Manage drug supply Oversee prescriptions	Manage drug supply Dispense drugs Adherence checks Identify individuals who default Run HIV support groups
Pharmacist's assistants	Not utilized or play a limited role (dispense drugs only under strict pharmacist supervision at the hospital)	Manage drug supply Dispense drugs Adherence checks Identify individuals who default Run HIV support groups
Community caregivers	Health promotion DOT (recall of individuals who default)	Run HIV support groups
Support groups; community committees; activists; people with HIV/AIDS	Not utilized	Prepare individuals for and monitor adherence to ART Health promotion in the community Recall individuals who default React to bottlenecks Advocate for better service delivery

ART: antiretroviral treatment; DOT: directly observed therapy; VCT: voluntary counselling and HIV testing.

much as 10 times less expensive, with comparable performance, as seen in Mozambique.⁹ A simplified approach might also rationalise the use of diagnostic tests and sophisticated equipment,²⁸ although this potential advantage might be negated by individuals with weaker clinical acumen who would have an increased reliance on such tests and equipment. While these costs do not include the cost of systems adaptations to support task shifting, such as supervision and a strong referral system, the overall costs are likely to remain lower, particularly at the lower end of the health cadre spectrum.

From a patient perspective, travel and indirect costs are also expected to be lower since people generally live a shorter distance from a nurse- or medical assistant-run facility than a doctor-based facility.² Travel costs have been associated with a high rate of defaulting from HIV care.²⁹ It should be recognized, however, that cost saving alone is not a valid reason for task shifting, as in-service training and supervision may negate much of the saving made by

switching to lower cadres. Above all, compromising on quality of care should not be tolerated at any cost.

2.5. Increases retention and reduces the risk of international 'brain drain'

Task shifting can meet specific needs by establishing new cadres that are better retained in rural and hardship areas because their qualifications are generally not recognized internationally. The 'brain drain' of health staff from Africa to developed countries is a major factor contributing to the current human resource crisis, and this local specificity supports staff retention.³ A follow-up study of a task-shifting programme to engage non-physician clinicians in obstetric care in Mozambique found that after 7 years around 90% of non-physicians were still working in the district hospital while almost all of the doctors had left.³⁰ Finally, task shifting can be expected to support the retention of existing

Table 3 Community support for antiretroviral treatment (ART) delivery in Thyolo District, Malawi²⁴.

Component	Specific activities
Management of opportunistic infections	Home-based diagnosis and management supervised by community nurses Symptomatic treatment for diarrhoea, fever, oral candida and common skin conditions Monthly supply of CTX prophylaxis for individuals too ill to travel to health facilities
Recognition and referral of individuals with risk signs to community nurse or hospital	Referral of patients with worsening signs of dehydration despite oral rehydration, persistent difficulty in swallowing despite medication for oral thrush, reduced level of consciousness, progressive worsening of headache, increased breathlessness despite CTX prophylaxis, cough >3 weeks, focal palsies, violet discoloration of palate or skin
Adherence counselling Counselling on drug reactions and early referral	One-to-one supportive counselling for CTX and ART Early recognition and referral of individuals having possible drug reactions to ART, CTX or anti-TB treatment
Defaulter tracing	Active tracing of individuals who do not attend scheduled follow-up visits or drug collection appointments
Nutritional support	Distribution and monitoring of supplementary dry rations to malnourished patients
Support to family caregivers	FCG's provide HIV education; counselling on ART, CTX and anti-TB treatment; early recognition of possible drug reactions; nutritional supplementation and palliative care
Community mobilization and awareness	Various forms of information, education and communication as well as vocational and income-generating activities

CTX: co-trimoxazole prophylaxis; FCG: family caregivers.

cadres by reducing burnout and increasing morale through more efficient team management of patient case-loads.

3. Challenges and proposed actions

3.1. Quality of care and safety

Evidence from Lusisiki in South Africa and Thyolo in Malawi showed that the use of nurses (Type II task shifting)¹⁹ and community cadres (Type IV task shifting)²⁴ in the delivery of ART significantly improved overall ART outcomes (Table 4). Thus, from a public health perspective, the use of task shifting for HIV/AIDS care at two relatively new levels of the health system (health centres and the community) did not compromise quality but, on the contrary, was associated with significantly better ART outcomes.

There is a wealth of supportive evidence from outside HIV care. In a study comparing medical assistants with doctors and looking at the quality of child care in Malawi, doctors, medical assistants and nurses were found to have a similar level of diagnostic ability when examining children under 5 years of age.³¹ One study looking specifically at the delivery of HIV services found that the quality of HIV care provided by non-physician clinicians was similar to that provided by medical doctors who were HIV experts, and better than that provided by medical doctors who were not HIV experts.³² In Mozambique a detailed assessment of over 10 000 surgical interventions by medical assistants showed that quality (measured in terms of complication rates) was effectively identical to interventions by doctors.⁹ A study in

Benin showed that higher percentages of children with diarrhoea received oral rehydration therapy and more children with fever were appropriately treated with a recommended antimalarial drug by nursing aides than by nurses (intermediate) or physicians (worst performance).^{33,34}

These findings show the important contribution of non-professional health workers (Type IV task shifting) to achieving child survival goals, not because they can perform clinical tasks better than professionals (they almost certainly cannot) but because they may adhere more strictly to simple clinical practice guidelines.

3.1.1. Proposed actions

Patients, health staff and policymakers should be involved in setting measurable targets and indicators for an acceptable level of quality for a given intervention. Such targets and indicators can serve as benchmarks for supervision, monitoring and evaluation of specific interventions, which in turn serve to protect patients and providers. Evidence and experience suggest that inappropriate curricula, poor supervision and weak regulatory mechanisms affect the quality of care provided by any cadre. Examples include the poor ability of medical and nursing graduates in Ghana and Tanzania to deliver quality family practice² and medical assistants persisting with unconventional treatment patterns after in-service training.³⁵

Strong supportive supervision and continuous education are proven strategies to improve patient outcomes.³⁶ In Malawi, Lesotho and Lusikisiki MSF provided theoretical and practical training for nurses, introduced tools adapted for nurses and provided on-site clinical mentoring, with good

Table 4 Antiretroviral treatment (ART) outcomes involving task shifting at community and health centre levels.

	Thyolo district, Malawi ^{a,24}		P-value ^c	Lusisiki, South Africa ^{b,19}		P-value ^c
	With community health workers n (%)	Without community health workers n (%)		Health centres n (%)	Hospital n (%)	
Placed on ART	895	739		595	430	
Alive and on ART	856 (95.6)	560 (75.8)	<0.001	482 (81)	289 (67.2)	<0.01
Died	31 (3.5)	115 (15.6)	<0.001	100 (16.8)	58 (13.5)	0.15
Lost to follow-up (defaulted)	1 (0.1)	39 (5.3)	<0.001	13 (2.2)	83 (19.3)	<0.01
Stopped	7 (0.8)	25 (3.4)	<0.001	—	—	
CD4 count at 12 months						
Determined	NA	NA		348 (58.5)	81 (18.8)	<0.01
≥200 cells/mm ³	NA	NA		303 (87.1)	61 (75.3)	0.08
Viral load at 12 months						
Determined	NA	NA		296 (49.7)	41 (9.5)	<0.01
<400 copies/ml	NA	NA		265 (89.5)	32 (78)	0.33

NA: not available.

^a Thyolo district: patients registered between April 2003 and December 2004.

^b Lusisiki district: patients registered between January 2004 and June 2005.

^c χ^2 test.

associated patient outcomes.^{8,19,24} Accreditation of individuals and sites is one way to ensure that health workers have the necessary skills and capacity for specific interventions and that these are maintained over time. If standards are not met accreditation should be suspended or removed, as is practiced in Malawi for the delivery of ART.¹⁴ Registration of health workers by a licensing or regulatory authority legitimizes a cadre and ensures institutional responsibility for the performance of that particular cadre.

3.2. Resistance to task shifting

Experience shows that task shifting may not be readily accepted by various professions. Doctors and pharmacists have objected to the delegation of their tasks to what they perceive as 'half-baked doctors';¹² nurses have resisted taking on doctors' roles without commensurate salary increases;² professional groups have objected to a potential loss of earnings where remuneration includes a fee-for-services component;³⁷ professional councils and associations have in some instances resisted delegation of tasks to lower cadres^{8,38} and finally, the additional supervisory responsibilities that come with shifting tasks from higher to lower cadres have also met with resistance.

Informal task shifting, as an ad hoc response to need rather than as an explicit policy, may result in the proliferation of new cadres with vague or overlapping responsibilities, which are then questioned by existing staff, policy-makers and the patients themselves, as seen in Tanzania.²

3.2.1. Proposed actions

Key questions relating to task shifting include: what tasks are needed to deliver a particular intervention; which personnel currently undertake these tasks; what are their annual

productivity and attrition rates and who could safely do these tasks instead?

Once tasks have been defined, appropriate training (pre- or in-service), clear job descriptions and remuneration packages need to be established.³⁸ Inter-cadre relationships can be improved by consulting with existing cadres prior to and during the process of task shifting. Clear delineation of professional boundaries and responsibilities are needed to foster teamwork.

Coordination and consultation from the outset with key regulatory bodies such as medical and nursing councils, as well as with relevant government ministries (health, education, labour), are essential. Finally, as legal changes in regulatory frameworks can take years to be enacted, approaches that use other policies to create an enabling environment such as changes in strategic plans, the passing of 'executive orders' or granting 'temporary pilot status' to programmes engaged in task shifting may be more expedient, especially if the package of services to be delivered is urgent as is the case for ART. Particularly in rural areas informal task shifting occurs out of necessity among limited health staff struggling with an overwhelming burden of patients. Care must be taken not to ban such initiatives that may occur outside existing regulatory frameworks but contribute to delivering effective care.

3.3. Motivation, retention and performance

Poor salaries have been a key factor behind job dissatisfaction and the migration of nurses from sub-Saharan Africa to Western countries,^{39–41} where one in five nurses trained in sub-Saharan Africa currently work.

Low salaries also have an impact on patient care. For example in Malawi, participating in workshops is more lucrative than doing clinical work: by attending a 5 day training

course a nurse can increase her basic monthly salary by 25–40%. The plethora of workshops and per diems (which provide untaxed top-ups for low salaries) acts as a perverse incentive, encouraging absenteeism from health facilities, which increases the workload for the remaining staff. A survey in Nigeria found that 45% of staff supplemented their income privately.⁴² Poor working and living conditions of staff are also important issues, particularly in rural areas. In a report from Lusikisiki, South Africa, where a third of all nursing posts were vacant, only one-third of the 12 existing clinics had electricity, barely 8% had running water and half lacked nursing accommodation.⁸ Finally, the lack of supportive supervision and opportunities for professional and career development affect staff morale, motivation and job satisfaction.⁴³

3.3.1. Proposed actions

Health workers must receive a decent salary that constitutes a living wage and that is commensurate with their responsibilities. Although task shifting may be seen as a pragmatic method to deal with staff shortages there is a real potential for exploiting vulnerable workers who might continue to be paid only for work for which they are qualified. Payment must therefore be linked to the level of responsibility and increasing workload associated with task shifting. If this is not taken into consideration it could affect the long-term viability of task shifting. There is an urgent need to lift national spending limits imposed by finance ministries and international finance institutions such as the International Monetary Fund so that governments can increase salaries. Performance-related allowances have been shown to be both feasible and effective⁴⁴ and should be encouraged. An incentive package to attract individuals to rural areas is needed and should include good housing; better work-related infrastructure and equipment; transport (e.g. motorcycles); hardship or rural allowances and arrangements or subsidies for school and boarding.

Regular supervision visits are critical for maintaining staff motivation. The use of token benefits such as certificates of excellence in ART delivery in Malawi¹⁴ and the Yellow Star award programme in Uganda⁴⁵ that recognize performance according to set standards are highly appreciated by health staff as indicators of official recognition.

Since the qualifications of substitute health workers may not be accredited by universities, introducing mechanisms to advance professionally is essential for motivating lower cadres of health workers.

3.4. Livelihoods of lay health workers

Lay counsellors and community-based volunteers have become the backbone of many care and support activities linked to HIV/AIDS and TB in sub-Saharan Africa, but the appointment of these cadres is often considered to be a temporary measure, without any longer-term perspective.⁴⁶ Where their status remains that of an unpaid volunteer, a threshold is likely to be reached where the volunteers will have to choose between time dedicated to service support and time required to make a living. Most of the existing evidence demonstrates that lack of payment or other appropriate commensurate incentive(s) results in progres-

sive deterioration in activity rates and high dropout rates of community workers.^{47–49} There is virtually no evidence to show that volunteerism can be sustained for long periods.⁴⁷

3.4.1. Proposed actions

Community groups should not become a 'dumping ground' for responsibilities that should fall under the mandate of public services.^{24,50,51}

Some countries in sub-Saharan Africa, facing serious shortages of human resources in the health sector and high HIV prevalence, have introduced remunerated HIV-dedicated lay cadres. In Malawi the health surveillance assistant is a community cadre that has been fully integrated within the national system of service delivery and receives payment from government. Similarly, the post of paid community HIV/AIDS worker could be developed to support the work of community health workers and both cadres could work together, thus sustaining community health and HIV-specific activities without jeopardizing the livelihoods of individuals who live in communities that are living in or on the limits of poverty.

3.5. Health of medical personnel

Death from HIV/AIDS is a major contributor to healthcare worker shortages in sub-Saharan Africa.⁵² In Malawi it is estimated that over 10% of all health workers had died of AIDS by 1997.⁵³ A survey carried out in all district and main mission hospitals in the same country found a 2% annual death rate among key healthcare workers, with AIDS and TB being the most common causes.⁵⁴ Death from HIV/AIDS accounted for up to 40% of all the attrition of nurses in Zambia⁵⁵ and was the main reason for the attrition of health workers in Lesotho.⁸

3.5.1. Proposed actions

Occupational health services and staff policy guidelines that cover HIV prevention and care would go a long way towards keeping staff in good health. Access to voluntary counselling and HIV testing services; isoniazid prophylaxis for nosocomial TB; co-trimoxazole prophylaxis; post-HIV exposure prophylaxis and ART and TB care should be available to all health staff and their families.

Evidence from Malawi on offering ART to health workers showed that at least 250 health workers' lives were saved due to ART, representing the equivalent of 1000 health worker days per week, the number required to implement the national ART programme.⁵⁶ An additional benefit is the reduction in absenteeism due to illness or to attend colleagues' funerals.

3.6. Operational research in task shifting

There are limited data and evidence for how task shifting influences the quality, safety, acceptability, cost, management and impact of interventions in sub-Saharan Africa. Such information is required to inform and guide policy.

3.6.1. Proposed actions

Table 5 lists some of the main operational research priorities for task shifting of HIV/AIDS care in sub-Saharan Africa.

Table 5 Operational research priorities for task shifting of HIV/AIDS care in sub-Saharan Africa.

Issue	Examples	Study approach
Quality and safety How does task shifting to different cadres influence the quality of care?	ART initiation and follow-up of adults and children on first-line regimens by nurses or nurse assistants	Cohort outcomes: enrolment rates, adherence, biological outcomes Comparative performance studies (case-control, comparative cohort, RCT)
Is task shifting safe for the patient and health worker?	WHO staging by lay and community health workers Identification and referral of complicated cases, including serious side-effects, to higher-level cadres	Clinical outcomes Comparative performance studies (case-control, comparative cohort, RCT)
Acceptability Do societal and cultural values and preferences influence the choice of cadres for task shifting and skills mix?	Community view on the role of hospital vs. the health centre and on the ability of lay workers to perform clinical tasks	Qualitative survey
How do patients and the community perceive being treated by a lower cadre and why?	Community acceptance of care managed by non-physicians	Qualitative survey
What are the perceptions of health staff, particularly in relation to confidence and satisfaction with a new skills mix?	Doctor acceptance of nurse initiation of ART Nurses accepting higher levels of responsibility in clinical care	Qualitative survey
Health system impact Is task shifting cost effective?	What is the cost benefit of moving towards nurse-initiated ART?	Comparative cost analyses
Assessment of payment and incentive structure(s) to ensure commitment and long-term sustainability	To what extent do non-remunerative incentives support staff retention?	Qualitative surveys, retention studies
Cost differences between vertical and integrated approaches to HIV management	Cost benefit of providing HIV care at primary care level	Comparative cost analyses
Public health impact Does introducing task shifting improve earlier access and overall efficiency of the health system in delivering ART at a population level?	Does the introduction of task shifting increase ART initiation rates and follow-up capacity and reduce waiting lists?	Comparative analysis of programme data over time Clinical/immunological status at enrolment
What is the overall impact of task shifting on scaling-up HIV/AIDS interventions?	How does task shifting affect ART enrolment rates at the population level?	Enrolment, retention in care, coverage

ART: Antiretroviral treatment; RCT: randomized controlled trial.

Countries, organisations and academic institutions need to make efforts towards finding answers to these pressing questions.

4. Conclusions

Task shifting must be seen as part of an overall strategy that includes tangible measures to increase, retain and sustain existing and new cadres of staff.⁵⁷ In addition to task shifting, the crumbling health systems of sub-Saharan Africa badly need an increased human resource pool that is flexi-

ble, motivated and able to respond to the increasing disease burden and the changing landscape of public health needs. What is demanded of the medical profession is flexible pragmatism to safeguard both quality and safety and to prioritize patient needs above those of the profession.

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