treat
train
retain

HIV/AIDS

Task Shifting

Global Recommendations and Guidelines

World Health Organization

treat

train

HIV/AIDS

retain

Task Shifting:

rational redistribution
of tasks among health
workforce teams

PEPFAR
U.S. President's Emergency Plan for AIDS Relief

UNAIDS
JOINT UNITED NATIONS PROGRAMME ON HIV/AIDS

UNHCR   UNODC
UNICEF   ILO
WFP   UNESCO
UNDP   WHO
UNFPA   WORLD BANK

Global
Recommendations
and Guidelines

Preface

There is international consensus that without urgent improvements in the performance of health systems, including significant strengthening of human resources for health, the world will fail to meet the Millennium Development Goals for health or to achieve universal access to HIV services by 2010. More resources are needed. But we must also seek innovative ways of harnessing and focusing both the financial and the human resources that already exist.

When I took office I announced that primary health care would be firmly at the heart of my agenda for the World Health Organization (WHO). This is nothing new. The WHO Alma Ata Declaration on Primary Health Care of 1978 promoted the decentralization of services among communities in order to achieve greater equity in access to health care.

We now have powerful new drugs and other technologies that can support the attainment of the highest possible level of health. We also now share the recognition that health and development are interlinked and enjoy an unprecedented level of political commitment in the face of global health challenges, in particular the HIV epidemic.

The task shifting approach represents a return to the core principles of health services that are accessible, equitable and of good quality. These recommendations and guidelines on task shifting provide a framework that is informed by all we now know about the ways in which access to health services can be extended to all people in a way that is effective and sustainable. It is for these reasons that I see task shifting as the vanguard for the renaissance of primary health care.

The recommendations and guidelines are fuelled with the sense of urgency that is needed to respond to the HIV epidemic and to the crippling health workforce shortages that exist in many countries. These two interlinked emergencies have provided the impetus for the formulation of this new framework for the strategic delivery of health services. But it is an approach that also offers long-term potential for all primary health-care services and for overall health systems strengthening.

Dr Margaret Chan
Director-General of the World Health Organization

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Executive summary

The global recommendations and guidelines on task shifting propose the adoption or expansion of a task shifting approach as one method of strengthening and expanding the health workforce to rapidly increase access to HIV and other health services. Task shifting involves the rational redistribution of tasks among health workforce teams. Specific tasks are moved, where appropriate, from highly qualified health workers to health workers with shorter training and fewer qualifications in order to make more efficient use of the available human resources for health.

Reorganization and decentralization of health services according to a task shifting approach can help to address the current shortages of health workers. Such shortages are particularly acute in countries that face a high HIV burden. However, task shifting alone is not expected to resolve the health workforce crisis. The recommendations and guidelines stress that task shifting should be implemented alongside other strategies that are designed to increase the total numbers of health workers in all cadres. They also stress that task shifting is proposed as an efficient approach but one that will require significant investment and that should not be seen as a substitute for other investments in human resources for health.

The recommendations and guidelines have been developed over a period of one year through a process of country consultation, extensive evidence gathering (including specially commissioned research to address knowledge gaps), and broad consultation among a wide range of experts and stakeholders. The outcome is a set of 22 recommendations that provide overall guidance to those countries that are considering adopting or extending a task shifting approach. The recommendations and guidelines identify and define the key elements that must be in place if the approach is to prove safe, efficient, effective, equitable and sustainable. They cover the need for consultation, situation analysis and national endorsement, and for an enabling regulatory framework. They specify the quality assurance mechanisms, including standardized training, supportive supervision, and certification and assessment, that will be important to ensure quality of care. They cover the elements that will need to be considered for the purpose of ensuring adequate resources for implementation and offer advice on the organization of clinical care services under a task shifting approach.

Task shifting is already being implemented as a pragmatic response to health workforce shortages to various degrees in a number of countries, and there is extensive evidence in the literature that some forms of task shifting have been adopted informally in response to human resource needs throughout history. These recommendations and guidelines aim to promote a formal framework that can support task shifting as a national strategy for organizing the health workforce.

The experience of countries that are currently implementing task shifting specifically to increase access to HIV services has been documented in a series of observational studies for the purpose of informing these recommendations and guidelines. (These country studies are available as part of the WHO-Commissioned Study on Task Shifting, which accompanies this document in electronic Annex a). While this early available evidence of the success of task shifting for the delivery of HIV services in a variety of settings is compelling, it is still preliminary. Implementation of these recommendations and guidelines must therefore be accompanied by a rigorous evaluation study that can assess various forms of task shifting.

The recommendations and guidelines on task shifting have been developed in the context of efforts to rapidly increase access to HIV services in order to progress as far as possible towards the goal of universal access to HIV services by 2010. However, the impact of task shifting would not be restricted to HIV service delivery. The implications for other essential health services, and the potential for wider health systems strengthening, are recognized throughout.

Summary of recommendations

A. Recommendations on adopting task shifting as a public health initiative

Recommendation 1:
Countries, in collaboration with relevant stakeholders, should consider implementing and/or extending and strengthening a task shifting approach where access to HIV services, and to other health services, is constrained by health workforce shortages. Task shifting should be implemented alongside other efforts to increase the numbers of skilled health workers.

Recommendation 2:
In all aspects concerning the adoption of task shifting, relevant parties should endeavour to identify the appropriate stakeholders, including people living with HIV/AIDS, who will need to be involved and/or consulted from the beginning.

Recommendation 3:
Countries deciding to adopt the task shifting approach should define a nationally endorsed framework that can ensure harmonization and provide stability for the HIV services that are provided throughout the public and non-state sectors. Countries should also explore a framework for the exploration of task shifting to meet other critical public health needs.

Recommendation 4:
Countries should undertake or update a human resource analysis that will provide information on the demography of current human resources for health in both the public and non-state sectors; the need for HIV services; the gaps in service provision; the extent to which task shifting is already taking place; and the existing human resource quality assurance mechanisms.

B. Recommendations on creating an enabling regulatory environment for implementation

Recommendation 5:
Countries should assess and then consider using existing regulatory approaches (laws and proclamations, rules and regulations, policies and guidelines) where possible, or undertake revisions as necessary, to enable cadres of health workers to practise according to an extended scope of practice and to allow the creation of new cadres within the health workforce.

Recommendation 6:
Countries should consider adopting a fast-track strategy to produce essential revisions to their regulatory approaches (laws and proclamations, rules and regulations, policies and guidelines) where necessary. Countries could also simultaneously pursue long-term reform that can support task shifting on a sustainable basis within a comprehensive and nationally endorsed regulatory framework.

C. Recommendations on ensuring quality of care

Recommendation 7:
Countries should either adapt existing or create new human resource quality assurance mechanisms to support the task shifting approach. These should include processes and activities that define, monitor and improve the quality of services provided by all cadres of health workers.

Recommendation 8:
Countries should define the roles and the associated competency levels required both for existing cadres that are extending their scope of practice, and for those cadres that are being newly created under the task shifting approach. These standards should be the basis for establishing recruitment, training and evaluation criteria.

Recommendation 9:
Countries should adopt a systematic approach to harmonized, standardized and competency-based training that is needs-driven and accredited so that all health workers are equipped with the appropriate competencies to undertake the tasks they are to perform.

Recommendation 10:
Training programmes and continuing educational support for health workers should be tied to certification, registration and career progression mechanisms that are standardized and nationally endorsed.

Recommendation 11:
Supportive supervision and clinical mentoring should be regularly provided to all health workers within the structure and functions of health teams. Individuals who are tasked with providing supportive supervision or clinical mentoring to health workers to whom tasks are being shifted should themselves be competent and have appropriate supervisory skills.

Recommendation 12:
Countries should ensure that the performance of all cadres of health workers can be assessed against clearly defined roles, competency levels and standards.

D. Recommendations on ensuring sustainability

Recommendation 13:
Countries should consider measures such as financial and/or non-financial incentives, performance-based incentives or other methods as means by which to retain and enhance the performance of health workers with new or increased responsibilities, commensurate with available resources in a sustainable manner.

Recommendation 14:
Countries should recognize that essential health services cannot be provided by people working on a voluntary basis if they are to be sustainable. While volunteers can make a valuable contribution on a short term or part time basis, trained health workers who are providing essential health services, including community health workers, should receive adequate wages and/or other appropriate and commensurate incentives.

Recommendation 15:
Countries and donors should ensure that task shifting plans are appropriately costed and adequately financed so that the services are sustainable.

E. Recommendations on the organization of clinical care services

Recommendation 16:

Countries should consider the different types of task shifting practice and elect to adopt, adapt, or to extend, those models that are best suited to the specific country situation (taking into account health workforce demography, disease burden, and analysis of existing gaps in service delivery).

Recommendation 17:

Countries should ensure that efficient referral systems are in place to support the decentralization of service delivery in the context of a task shifting approach. Health workers should be knowledgeable about available referral systems and trained to use them.

Recommendation 18:

Non-physician clinicians can safely and effectively undertake a majority of clinical tasks (as outlined in Annex 1) in the context of service delivery according to the task shifting approach.

Recommendation 19:

Nurses and midwives can safely and effectively undertake a range of HIV clinical services (as outlined in Annex 1) in the context of service delivery according to a task shifting approach.

Recommendation 20:

Community health workers, including people living with HIV/AIDS, can safely and effectively provide specific HIV services (as outlined in Annex 1), both in a health facility and in the community in the context of service delivery according to the task shifting approach.

Recommendation 21:

People living with HIV/AIDS who are not trained health workers can be empowered to take responsibility for certain aspects of their own care. People living with HIV/AIDS can also provide specific services that make a distinct contribution to the care and support of others, particularly in relation to self-care and to overcoming stigma and discrimination.

Recommendation 22:

Cadres, such as pharmacists, pharmacy technicians or technologists, laboratory technicians, records managers and administrators, could be included in a task shifting approach that involves the full spectrum of health services.

Background

A global health workforce crisis

The world is now facing a chronic shortage of trained health workers. According to the World Health Organization (WHO), there is a global health workforce deficit of more than four million, and in many of the countries of sub-Saharan Africa, and in parts of Asia and the Americas, the shortages are critical [1]. In Malawi, the shortage of health workers is so extreme that there is only around one doctor for every 100,000 people [1].

At the same time, the demand for health care is rising. In high- and middle-income countries, large populations of ageing people and changing patterns of disease mean a steady growth in the demands on health services. Low-income countries continue to deal with an unfinished agenda of infectious diseases and emerging chronic illness [1]. Meeting the commitments to combat disease, reduce child mortality and improve maternal health, as enshrined in the Millennium Development Goals, will involve strengthening health systems so that they are capable of delivering a wide range of health services on a scale much larger than at present.

There are compelling data to show a direct correlation between the numbers of people with access to health services and the numbers of health-service providers [1]. Clearly, strong and effective health systems depend on having enough people, with the right skills, in the right place.

The health workforce crisis is further exacerbated by the HIV epidemic. Low- and middle-income countries feel the health workforce crisis most acutely and these are also the countries where HIV is taking the greatest toll. About 95% of people with HIV/AIDS live in developing countries and nearly two thirds of them are in sub-Saharan Africa [2]. Yet sub-Saharan Africa has only 3% of the world's health workers and commands less than 1% of world health expenditure.

Not only does HIV drive up demand for health services but the disease also has a direct impact on the health workforce. Poor working conditions and low pay conspire with the risks of occupational transmission and stress to increase rates of attrition. Many health workers resign while others contract HIV and fall sick and die. In a vicious circle, the epidemic fuels the health workforce crisis while the shortage of health workers represents a major barrier to preventing and treating the disease.

In June 2006, at the United Nations Special Session on HIV/AIDS, United Nations Member States agreed to work towards the broad goal of "universal access to comprehensive prevention programmes, treatment, care and support" by 2010. This ambition has galvanized governments and international agencies into action and is already bearing fruit in terms of increased resources and political commitment. But universal access to HIV services will not be possible without strengthened health systems, including a significant expansion of the health workforce. Against this background, the need for a plan to strengthen and expand the health workforce in the context of AIDS – and one that is aligned with broader health systems strengthening – became clear.

A tailored WHO response: the TTR plan

Three months after the United Nations Special Session on HIV/AIDS, WHO launched the Treat, Train, Retain (TTR) plan.

The TTR plan aims to address the three dimensions of the human resources for health crisis, in the context of HIV/AIDS, by preventing and treating HIV infection among health workers, by training and expanding the workforce and by developing retention strategies to reduce exit rates from the health service [3].

The plan is an important component of WHO's overall efforts to strengthen human resources for health and to promote comprehensive national strategies for developing human resources across different disease programmes. It is also part of WHO's efforts to promote universal access to HIV services.

"Treat" includes a package of HIV treatment, prevention, care and support services for health workers who may be infected or affected by HIV and AIDS. "Retain" involves strategies to enable health systems to retain workers, including through financial and other incentives, occupational health and safety and other measures to improve the workplace, as well as initiatives to reduce the migration of health workers.

"Train" includes exploring measures to raise recruitment rates and expand pre-service and in-service training. However, it takes six years to train a new doctor and three or four to train a nurse. Waiting for enough new health workers to graduate through the conventional systems will mean lengthy delays in the provision of urgently needed HIV services. Alongside strategies to increase the numbers of well-qualified health workers in the system, countries also need to make more efficient use of the human resources currently available and find ways to expand the total health workforce fast enough to respond to the HIV epidemic. Therefore, "Train" also explores the potential for increases in efficiency and a rapid expansion of the pool of human resources for health through task shifting.

Task shifting: the rational redistribution of tasks among health workforce teams

Task shifting is the name now given to a process whereby specific tasks are moved, where appropriate, to health workers with shorter training and fewer qualifications. By reorganizing the workforce in this way, task shifting can make more efficient use of existing human resources and ease bottlenecks in service delivery. Where further additional human resources are needed, task shifting may also involve the delegation of some clearly delineated tasks to newly created cadres of health workers who receive specific, competency-based training.

Task shifting is not new. There are many examples of this type of delegation for delivering a range of health services, including those for HIV [4]. In a number of high-income countries, such as Australia, the United Kingdom of Great Britain and Northern Ireland and the United States of America, the role of nurses has been extended in some settings to include the prescription of routine medication, and people living with HIV/AIDS have been empowered to participate in the management of their own chronic condition and to support others as part of expert patient programmes [4-9]. Task shifting of various kinds is also currently being implemented in some resource-constrained countries as a response to acute shortages of human resources for health and particularly amid generalized HIV epidemics. In Malawi and Uganda, the basic care package for people living with HIV/AIDS has been designed to be delivered by non-specialist doctors or nurses supported by community health workers and people living with HIV/AIDS. Similarly, Ethiopia has implemented a plan to hire community health workers to expand the current workforce delivering HIV services. In other countries, there are examples of task shifting being implemented in pilot projects, often with the involvement of nongovernmental organizations [Annex a].

The WHO global recommendations and guidelines

The WHO global recommendations and guidelines on task shifting have been developed to provide an authoritative framework that can help support and guide widespread implementation in those countries that choose to adopt the approach as a national strategy for organizing the health workforce. They aim to bring clarity to the task shifting experience and to identify and

define the conditions and systems that must be in place if the approach is to prove safe, efficient, effective, equitable and sustainable.

Action is imperative

Task shifting alone will not put an end to the shortage of health workers but it may offer the only realistic possibility of expanding health workforce capacity fast enough to meet the urgent need for HIV services. However, it must not be seen as merely a quick-fix solution to the human resource crisis. Task shifting for delivering HIV services could also make a positive contribution to overall health systems strengthening. The HIV epidemic provides the rationale for rapid and urgent action. But task shifting involves rationalizing and decentralizing the way in which health services are delivered and this could have a lasting impact on other health indicators, including maternal and infant mortality, and hospitalizations and deaths from other infectious diseases, such as tuberculosis, malaria and respiratory infections.

As one part of the range of strategies under the WHO Treat, Train, Retain plan, and alongside other interventions to increase human resources for health, task shifting is intended to help produce a strengthened and flexible health workforce that can respond to the changing landscape of public health needs.

Scope

These recommendations and guidelines are primarily intended for countries that are considering adopting or extending a task shifting approach to strengthen and expand the health workforce for the delivery of HIV services. Countries that are considering adopting or extending a task shifting approach are likely to be, but need not be limited to, those that are experiencing a serious shortage of human resources for health alongside a high HIV burden.

The target audiences of the recommendations and guidelines are health-care policy-makers and public health planners who are managing human resources for health and those who are managing the delivery of HIV prevention, care and treatment services; health workforce representatives, including professional associations and unions; state and non-state sector health-service providers; and donors.

The aim of these recommendations and guidelines is to bring clarity to the task shifting practices that already exist and to provide an authoritative framework that can guide and support the implementation of task shifting on a wide scale to facilitate increased access to HIV services. No other international agency guidelines on task shifting currently exist.

It is intended that the national adaptation and implementation of these guidelines at the country level should achieve the following key outcomes:

- Strengthened and expanded human capacity among health-care workers;

- Sustainable increases in the number of people with access to HIV prevention, care, and treatment services;

- Enhanced capacity to implement HIV programmes;

- Strengthened health systems to provide a wide range of quality health-care interventions.

The issues addressed by this document were defined over a period of one year in consultation with a wide range of stakeholders including government representatives from HIV programmes and human resources for health departments from health ministries (including from countries that have experience of implementing a task shifting approach); United Nations agencies; donors; health workforce representatives including professional associations and unions; academic institutions; civil society organizations and representatives of people living with HIV/AIDS.

These issues can be summarized briefly as follows:

- Should task shifting be adopted as one of a range of strategies to increase access to HIV and other key health services?

- What are the country-specific factors that will guide decision-making in the implementation of task shifting?

- What preconditions must be met for the safe, efficient and effective implementation of task shifting?

- How can countries create enabling conditions for task shifting through an appropriate regulatory framework?

- What measures must be taken to ensure quality of care under the task shifting approach?

- How can task shifting be implemented in a way that is sustainable?

- How can clinical care services be organized to maximize the potential of the task shifting approach while ensuring safety, efficiency and effectiveness?

These issues have been considered in the context of the current situation in which action to increase access to HIV services in countries with a severe shortage of human resources for health and a high HIV burden is both urgent and imperative. However, the recommendations and guidelines that have emerged emphasize the potential for the task shifting approach to extend beyond the specific context of the HIV epidemic and to make a significant contribution to other health services and to overall health systems strengthening.

These recommendations and guidelines are designed to provide overall guidance. Therefore they are global in scope and the recommendations that are contained in the guidelines are generic in tone. The specifics of country implementation will be dependent on a wide range of variables that exist at the country level. Therefore, countries are encouraged to use this document as the basis for the development of locally adapted guidelines.

The recommendations and guidelines are supplemented by specially commissioned research, which includes a range of country-specific examples. This information is available in the accompanying electronic annex.

Summary of methods

The recommendations and guidelines on task shifting were developed based on the existing evidence that is available in both published literature and in "grey" literature such as policy documents and reports. These sources were complemented by evidence gathered through specifically commissioned studies in seven selected countries that had different degrees of experience in task shifting. The evidence gathering was informed and guided by a wide range of experts and stakeholders. The evidence was reviewed by a panel of experts over a period of one year at a total of nine international consultations. The final text of each of the recommendations is based on the consensus that was reached.

At the outset, the themes that needed to be addressed by the guidelines were defined in consultation with a selected number of technical experts on HIV and on human resources for health and with other stakeholders, including government representatives from HIV programmes and human resources for health departments from health ministries; United Nations agencies; donors; health workforce representatives, including professional associations and unions; academic institutions; civil society organizations; and representatives of people living with HIV/AIDS. These technical experts and stakeholders identified the issues that countries would need to consider if they wished to adopt a task shifting approach for the delivery of HIV services on a wide scale. They also identified the areas where sufficient evidence and experience existed and those where further investigation was needed to bring clarity.

There was agreement that five key areas required further research. These areas can be summarized as follows:

- The organization of clinical care services under a task shifting approach;
- The quality assurance mechanisms for task shifting, including the standardization of training and assessment;
- The definition of the regulatory framework needed to support task shifting;
- The opinions and involvement of people living with HIV/AIDS;
- The costing implications of a task shifting approach.

To address these knowledge gaps, WHO commissioned independent bodies to analyse existing evidence and to undertake specific additional studies. A total of 13 independent institutions participated in the research process. These were the Association of Nurses in AIDS Care, United States; Centers for Disease Control and Prevention, United States; Global Network of People Living with HIV/AIDS, the Netherlands; George Washington University, United States; Partners In Health, Harvard Medical School, United States; Health GAP, United States; Institut de Recherche et Documentation en Economie de la Santé (IRDES), France; Institut National de la Santé et de la Recherche Médicale (INSERM), France; Institute of Tropical Medicine, Belgium; International Association of Physicians in AIDS Care, United States; International Council of Nurses, Switzerland; Makerere University, Uganda; Université Cheikh Anta Diop, Senegal; University of Addis Ababa, Ethiopia.

In each of the areas of investigation, the method of work included a review of published and grey literature; the development of survey and data gathering tools; country visits or country consultations; analysis of the findings; peer review of the results; feedback to countries; and report writing. In addition, a parallel literature review was undertaken by WHO using PubMed and Cochrane. Database searches used combinations of relevant terms, for example: task shifting, skill mix, integration of tasks, service delivery, regulation, clinical outcomes, quality

assurance, HIV, financing and cost. The search was complemented by an ad hoc review that covered a wide range of publications and reports from research and development agencies or institutions.

Specific country studies focused on seven countries: Ethiopia, Haiti, Malawi, Namibia, Rwanda, Uganda and Zambia. These were selected because they share a critical shortage of human resources for health and a high HIV burden, and because they have different degrees of experience in task shifting. A desk review and analysis of the human resources plans and HIV services scale-up plans in each of these countries was undertaken and included interviews with key informants.

Research on the organization of clinical care included direct observation at selected facilities during country visits to Ethiopia, Haiti, Malawi, Namibia, Rwanda and Uganda. The facilities were selected to provide a cross-sectional view of the existing task shifting approaches. Information was collected on staff inventory; clinical tasks by cadres; workload; and community services in the vicinity of the facility. Data on health outcomes were also collected where possible. Semi-structured interviews were conducted with different cadres of health workers and service users. Observations of client-provider encounters were carried out using observational checklists.

Research on quality assurance mechanisms for a task shifting approach included a desk review of quality assurance mechanisms in high-income and resource-constrained countries. The results of the review were the basis for in-depth international consultations involving technical experts and stakeholders, including representatives from HIV programmes and human resources for health departments from health ministries; United Nations agencies; donors; professional associations and unions; academic institutions; civil society organizations; and people living with HIV/AIDS.

Research on the development of a regulatory framework for task shifting included country visits to Ethiopia, Malawi, Namibia and Uganda. Mapping of the policy, legal and regulatory landscape within each country was conducted and was supported by extensive key informant interviews. A review and synthesis of the information served as the basis for categorization of the types of regulatory activities present in the countries and for the identification of the elements of an appropriate regulatory framework.

Research on the involvement of people living with HIV/AIDS aimed to elicit their perspectives as consumers of, and providers of, health care. Data were gathered in Kenya, Lesotho, South Africa, Uganda and Zambia, primarily through standard interviews with key informants and focus group discussions.

Research on costing of the task shifting approach was conducted by means of a desk audit of the global data available in WHO and a review of specific data from Ethiopia, Haiti, Malawi, Namibia, Rwanda, Uganda and Zambia. These data were analysed with the objective of providing a price tag for the task shifting approach and a costing tool that could help countries in their planning.

A total of 168 experts and stakeholders participated in the development, review and amendment of the recommendations and guidelines (see Annex 7 for a full list of participating technical experts and stakeholders).

A declaration of conflicts of interest was completed and signed by all participants.

Guidelines are living documents. To remain useful, they need to be updated as new information becomes available. The recommendations and guidelines on task shifting will be reviewed, and updated as necessary, no later than January 2011.

A detailed description of the methodology for preparation of the recommendations and guidelines is available in Annex 3.

Additional information

The work commissioned by WHO and prepared by independent bodies has been compiled and collated in the WHO-Commissioned Study on Task Shifting, which is available in electronic form (Annex a).

The evidence gathered through systematic literature reviews is summarized in a table of evidence that is available in electronic form (Annex b).

A report of any declarations of potential conflicts of interest is available in electronic form (Annex c).

Meeting reports from the international expert consultations will be available in electronic form.

Recommendation 1

Countries, in collaboration with relevant stakeholders, should consider implementing and/or extending and strengthening a task shifting approach where access to HIV services, and to other health services, is constrained by health workforce shortages. Task shifting should be implemented alongside other efforts to increase the numbers of skilled health workers.

Comment: This recommendation places a high value on the urgent need to address the global shortage of human resources for health in order to save lives. By maximizing the scope of practice of existing cadres, and supplementing the workforce through the addition of new cadres if necessary, task shifting represents a rational redistribution of tasks among teams of health-care workers. This can increase patient access to HIV and other health services and provide good care.

The recommendation endorses task shifting as one method by which to scale up HIV services, especially in communities that are experiencing a high HIV-related disease burden alongside severe shortages in human resources for health. However, task shifting must be understood as one of a range of strategies to strengthen human resources for health and should be implemented as part of, not instead of, other efforts to increase the numbers of trained health workers.

Summary of findings

At the heart of every health system is the health workforce [1 10 11]. Yet the world is experiencing a chronic shortage of trained health workers [12-17]. The problem has proved to be most acute in resource-constrained countries badly affected by HIV [18-19]. Various estimates of the availability of health workers required to achieve a package of essential health interventions and to reach the Millennium Development Goals (including the scaling up of interventions for HIV/AIDS) have resulted in the identification of workforce shortfalls within and across most resource-constrained countries [11 16 20].

The HIV epidemic has drastically increased the demand for health services. Yet a growing number of health workers in high prevalence regions are themselves dying or unable to work as a result of HIV/AIDS [1 16 19 21 22]. According to the WHO estimated threshold in workforce density (below which high coverage of essential interventions is very unlikely) 57 countries are currently faced with critical shortages [1 23 24]. Globally no less than an additional 2.4 million doctors, nurses and midwives are needed in order to meet national and global health development goals [1].

While the health workforce crisis has no single cause, the crisis can be identified along three lines: public health systems are not training and recruiting enough people; the global health workforce is unevenly distributed; and too many people are leaving the health systems due to poor health, high pressure and poor working conditions, or through migration abroad or to urban areas, the private sector or nongovernmental organizations [1 10 13 16 20 25-27].

At the June 2006 United Nations Special Session on HIV/AIDS, United Nations Member States agreed to work towards the goal of "universal access to comprehensive HIV prevention programmes, treatment, care and support" by 2010. Significant progress has been made on increasing access to HIV services but still only 28% of the 7.1 million people in need of treatment in low and middle- income countries in 2006 were actually receiving it [29].

There are convincing data that demonstrate a correlation between the density of health workers (medical doctors and nurses per 1000 population) and the coverage of a range of health services and health outcomes (e.g. immunization coverage and infant, child and maternal survival) [1 21 31-35].

Furthermore, a 2006 report from WHO on antiretroviral therapy coverage and a subsequent report released by the Joint United Nations Programme on HIV/AIDS (UNAIDS) on the barriers to scaling up HIV services both show that shortages of human resources for health represent a key bottleneck [2 17 36].

It follows, therefore, that rapid strengthening of human resources for health is a vital part of any effort to increase access to health services, including HIV services [1 15 23 28 29 37-43]. Clearly, the goal of universal access cannot be reached without health systems strengthening, including a significant expansion of the health workforce [1 4 25 37 44].

The necessity for a rapid response has given rise to the practice of task shifting. Task shifting involves extending the scope of practice of existing cadres of health workers to allow for the rational redistribution of tasks among the health workforce in order to make better use of the health workforce and ease bottlenecks in the service delivery system [1 4 6 25 37 44]. Where necessary, task shifting can also involve the creation of new cadres to extend the workforce capacity by performing clearly delineated tasks. Adding to the skill set of existing cadres can be done in a matter of months rather than the many years it takes for new doctors and nurses to complete their professional training. Training new cadres to perform clearly delineated tasks can also be achieved relatively quickly.

The WHO-Commissioned Study on Task Shifting finds that task shifting is currently being implemented in a number of countries that are facing acute health workforce shortages alongside a high burden of HIV. The study reports good health outcomes, rapid increases in access to HIV services and high levels of patient satisfaction [45 Annex a]. These findings are consistent with those of other studies into the effectiveness of task shifting for the delivery of health services, including HIV services, in both high-income and resource-constrained countries [1 4 25 37 39,46 47].

The evidence shows that task shifting should not be seen as low-quality care for resource-constrained countries but rather as an approach that is being implemented both in high-income and resource-constrained countries and that can contribute to health services that are accessible, equitable and of good quality [4].

However, task shifting will not remove the need to increase the overall numbers of health workers being recruited, trained and retained at all levels including among senior cadres such as medical doctors and nurses. In fact, successful task shifting should increase access to health services and increase utilization of the health system generally [48]. Task shifting will therefore increase the need for additional health workers at all levels, even while tasks are more rationally distributed among existing health workers. Task shifting should be adopted as one element among a range of other strategies to address shortages of human resources for health in the context of the HIV epidemic.

Advantages:

- Task shifting offers a realistic opportunity for increasing health workforce capacity at the speed necessary to respond to the HIV epidemic.

- Task shifting is already being implemented in a number of countries that are facing acute health workforce shortages alongside a high HIV-related disease burden. The experience of existing practices can be used to inform efforts to scale up services.

- Task shifting offers opportunities for increasing access to HIV services while maintaining good quality of care.

- Task shifting can make a positive contribution to other disease programmes and to overall health systems strengthening

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting identified various country experiences where task shifting is already showing good outcomes in terms of significant increases in the number of service users receiving treatment with antiretroviral therapy and high levels of service-user satisfaction.

For example, in Malawi, a critical shortage of human resources, particularly medical doctors, and a high burden of HIV have made task shifting essential for scale-up of HIV services [47]. Non-physician clinicians and nurses prescribe antiretroviral therapy among other services and the scope of practice of some cadres of community health workers has been extended to allow them to perform HIV counselling and testing.

Recommendation 2

In all aspects concerning the adoption of task shifting, relevant parties should endeavour to identify the appropriate stakeholders, including people living with HIV/AIDS, who will need to be involved and/or consulted from the beginning.

Comment: This recommendation places high value on the importance of consultation, active engagement, partnership building and shared responsibility in the task shifting approach. Community sensitization and education of service users will also be needed to help task shifting find acceptance among people living with HIV/AIDS and others with common unmet health-care needs, the health workforce and the general public.

Summary of findings

Task shifting represents a major change to the way in which health services are delivered by the workforce and in which service users will experience their health-care provision. Experience has shown that major change demands broad consultation if it is to be accepted and to succeed [49][50]. Certainly there are numerous examples of systems failures that can be tracked back to poor consultation [49].

The efforts to expand primary health care following the International Conference on Primary Health Care held in Alma Ata in 1978 were characterized by a lack of proper consultation and coordination. Analysis of these programmes indicates that their failure to meet expectations was, in part, the result of a failure to fully engage stakeholders from the outset [51].

Analysis undertaken as part of the WHO-Commissioned Study on Task Shifting identified the full range of major stakeholders that may need to be engaged at the country level for the successful implementation of task shifting. In most cases these can be summarized as bodies that exist to represent the interests of health professionals; service providers, including both public and non-state sector organizations; health workers who may or may not be represented by unions; service

users including people living with HIV/AIDS; and relevant government and administrative departments.

Task shifting must also win acceptance among the general public, who will need reassurance that changes to their health services will bring benefits for individuals and communities. Furthermore, service users need information about how to engage with new service delivery models. Full and open consultation that engages stakeholders at all levels as advocates for change forms the bedrock upon which public education campaigns can be built.

Advantages:

- Consultation enhances ownership.

- Consultation contributes to harmonization, alignment and sustainability.

- Consultation contributes to wider advocacy and facilitates communication with the general population.

Uncertainties:

- Consultation can be resource intensive and time consuming.

Selected examples of experience/additional resources:

Evidence from the WHO-Commissioned Study on Task Shifting identified the importance of consultation for the effective implementation of task shifting [Annex a].

In Malawi, a lack of adequate consultation with the regulatory bodies when the government created a new cadre of community health workers in the 1970s resulted in a refusal by the Medical and Nursing Council to recognize their functions. On the other hand, proper consultation with the regulatory bodies on plans to delegate the prescription of antiretroviral therapy to non-physician clinicians and nurses created the right environment. The Medical Council approved the extension of the scope of practice of non-physician clinicians accordingly.

In Ethiopia, the creation of a new cadre was preceded by consultation with all stakeholders involved in regulating health workers. The positive outcome was the establishment of the new cadre within the civil service.

Recommendation 3

Countries deciding to adopt the task shifting approach should define a nationally endorsed framework that can ensure harmonization and provide stability for the HIV services that are provided throughout the public and non-state sectors. Countries should also explore a framework for the exploration of task shifting to meet other critical public health needs.

Comment: This recommendation recognizes the valuable contribution that can be made by a variety of health-care providers in both the public and non-state sectors, but also stresses the unique position of government to oversee the country's public health.

Summary of Findings

Task shifting for the delivery of HIV services envisages providing access for everyone, including poor and hard-to-reach communities. Documented experience shows that a task shifting approach can increase access and equity while also maintaining the quality of care. However, programmes that have been successful are those that have adopted the key elements of a public health approach [12 52-57]. A public health approach involves, among other things, the use of standardized, decentralized delivery models that include simplified treatment protocols and simplified clinical monitoring [42 58-59]. Accompanied by standardized training, supportive supervision and well-functioning referral systems, these models can maximize the role of health workers with shorter training and fewer qualifications [12 60-62].

Health services based on this model can be delivered by a range of different providers and can involve both the public and non-state sectors. Indeed, experience indicates that scaling up HIV services is best achieved through collaboration and coordination between a mix of providers, including the public sector, private medical providers, private companies and nongovernmental organizations [12]. However, if the three objectives of access, equity and quality are to be met and sustained, there must be harmonization and alignment of all the HIV services that are being delivered across the country [63].

Studies have described some of the problems that can arise, such as inconsistency in wages for health workers, when HIV services that are being delivered by different service providers are not properly integrated with the existing health system and wider health sector plans [12 24].

Some of the earliest examples of task shifting in the 1970s and 1980s faltered when a lack of government commitment allowed programmes of varying types, qualities, aims and standards to proliferate independently of the public sector [12 21 51 57 64-67].

Efforts to increase access to HIV services at a countrywide level using a task shifting approach must learn from these lessons. Ensuring that standards are adhered to is a challenge in some settings, especially where there is a range of service providers [12]. A nationally endorsed framework will define the organization of service delivery, will support task shifting through an appropriate regulatory framework and will generate accountability that can help improve quality through the application of a variety of quality assurance mechanisms. By virtue of a framework, government can then help ensure that these standards remain constant throughout the health-care system regardless of any local-level differences that may exist between service providers.

Advantages:

- A nationally endorsed framework can help ensure harmonization and provide the needed stability for the delivery of countrywide HIV services that use the task shifting approach.

- Public-private partnerships for the delivery of services can contribute to countrywide HIV services that are sustainable if they are integrated as part of a nationally endorsed framework.

Uncertainties:

- The application of a nationally endorsed framework will require some standardization of any already existing task shifting practices that are being implemented by non-state sector providers.

- Nongovernmental organizations may resist standardization if they feel that their autonomy will be undermined.

Selected examples of experience/additional resources:

Malawi faces a high HIV burden and has a very serious shortage of human resources for health. The country has adopted a public health approach that has been well documented. For example, the country has adopted one national treatment protocol and one monitoring system for the delivery of antiretroviral therapy. This is currently being implemented throughout the country by both the public and non-state sectors [47 68-72].

Recommendation 4

Countries should undertake or update a human resource analysis that will provide information on the demography of current human resources for health in both the public and non-state sectors; the need for HIV services; the gaps in service provision; the extent to which task shifting is already taking place; and the existing human resource quality assurance mechanisms.

Comment: This recommendation places a high value on the need for task shifting to be country led and country specific in the details of implementation. Establishing the details of the country context will allow governments to properly assess the potential for implementing the task shifting approach as one of a range of strategies to strengthen human resources for health. Particular attention should be paid to identifying the bottlenecks in the delivery system and the human resources that will be required to rapidly increase access to HIV services.

Many countries have already undertaken a recent human resource analysis and this may provide the information needed. In other cases, new and additional information may be required.

Summary of findings

A wide range of factors can influence the way in which a government may wish to implement the task shifting approach. The key variables can be summarized as follows: the extent of human resources for health crisis including the demography of current human resources for health; the HIV burden and the burden of other diseases in the health sector; the bottlenecks and gaps that exist in the system that are limiting the extent to which services are accessible and equitable; the nationally endorsed service delivery model; the extent to which task shifting is already taking place; and progress towards the goal of universal access to HIV services.

Depending on these variables, countries may face a wide range of choices concerning which types of task shifting practices they wish to adopt and at what scale, and the speed at which they wish to proceed with implementation.

Although a shortage of human resources for health exists in many countries, the specific nature of the shortfall and its implications vary widely. For example, Malawi has an overall shortage affecting every cadre of health worker with an extremely severe shortage of doctors [1 72-74]. Ethiopia is experiencing a particular shortage of doctors but has a larger number of nurses [1,75].

In some countries there is an uneven geographical distribution that gives rise to acute shortages of health workers in some areas, while in others the distribution of the existing human resources for health between the public and non-state sectors is problematic. The particular composition of the health workforce in terms of cadres and their scope of practice and the current organization of the workforce are also relevant. For example, in some countries mid-level cadres of non-physician clinicians already exist, while in others they do not [1 13 76-80].

The nature of the HIV epidemic is another factor that can vary. There are notable differences in the maturity of the epidemic, and in the characteristics of the communities that are most affected, both within and between countries [81 82].

Next, the extent to which task shifting practices are already taking place will have a bearing on the approaches used and the pace at which countries elect to proceed in the implementation of task shifting as a nationally endorsed strategy to increase access to HIV services.

A wide range of studies indicate that a number of countries already reassign tasks as a result of shortages in specific cadres of health workers [37]. A recent review confirms that, although current activities to combat HIV are heavily dependent on physicians, other provider types are already playing a significant role in various tasks, such as assessing eligibility and initiating antiretroviral therapy, assessing toxicity and failure, and adherence support [24]. In some countries it is already standard in antiretroviral therapy, as in other health-service delivery, for non-physician clinicians to perform the bulk of tasks. For example, Ethiopia, Kenya and Malawi now allow non-physician clinicians to prescribe antiretroviral therapy [12].

The WHO-Commissioned Study on Task Shifting finds that task shifting is already nationally endorsed in Ethiopia and Malawi and is taking place in the non-state sectors with the agreement of the government in Haiti, Rwanda and Uganda [Annex a]. However, there are other countries, for example those in West Africa, that still maintain an entirely medical doctor-based approach.

Countries undertaking a human resource analysis should also seek to identify the quality assurance mechanisms that are already in place and where these may need adapting or strengthening for the successful implementation of the task shifting approach. There is evidence that there are already quality assurance systems in many countries [50]. However, the nature and extent of investment in quality assurance will vary from country to country depending on the specific requirements of each health-care system [66 83].

Advantages:

- Information obtained through a human resource analysis will aid decision-making for the adoption of task shifting.

- Undertaking or supplementing the country's human resource analysis provides an opportunity to identify and involve appropriate stakeholders from the start of the process.

Uncertainties:

- Accurate data on the demography of human resources for health can be difficult to obtain.

Selected examples of experience/additional resources:

In Ethiopia and Malawi, where task shifting has been implemented successfully by national authorities, the first phase involved the completion by the Ministry of Education and the Ministry of Health of an analysis of the current human resources for health.

Recommendation 5

Countries should assess and then consider using existing regulatory approaches (laws and proclamations, rules and regulations, policies and guidelines) where possible, or undertake revisions as necessary, to enable cadres of health workers to practise according to an extended scope of practice and to allow the creation of new cadres within the health workforce.

Comment: This recommendation places high value on the need for governments to assess and identify the extent to which any existing mechanisms designed to guide and regulate the delivery of health services will, or will not, support the implementation of task shifting. Any changes must be in accordance with broader national policies, such as decentralization, labour, human resource management and financing and should include the active participation of people living with HIV/AIDS.

Summary of findings

The main objective of health-care regulation is to ensure a degree of accountability that will provide safety for service users and protection of health workers. Through regulatory approaches such as laws and proclamations, rules and regulations or policies and guidelines, countries are able to protect service users from malpractice and to foster conditions of trust between health workers and those they serve [84] [85].

Task shifting involves organizing health-service delivery in new ways, which include changes to scopes of practice and the creation of cadres of health workers. These new ways of working may, or may not, be consistent with existing national regulations that pertain to the provision of health care.

The steps that are required to ensure that task shifting can be properly accommodated and supported within an appropriate regulatory framework will vary depending on the details of the existing regulatory approaches in any given country.

Regulatory approaches may range in level of government versus non-government involvement [86]. At one end of this spectrum professional associations operate as primary regulatory institutions. They control the scope of practice, determine standards for good practice and oversee the conduct of members. They also provide expert guidance for legislators and administrators. At the other end of the spectrum is an institutional model of regulation that gives the lead role to the state to regulate health-care professionals.

The differences between these two main types of regulation of health workers will have significant implications for countries seeking to change or adapt regulatory frameworks to support task shifting.

However, adapting the regulatory framework to accommodate task shifting need not necessarily involve extensive changes in policy and legislation. Indeed, some countries may find that they have sufficient scope to implement task shifting within their existing laws and proclamations, rules and regulations, policies and guidelines. The degree of regulation required will also vary considerably depending on the types of task shifting that a country wishes to adopt or that are already taking place.

There is considerable evidence in the literature of the ways in which certain high-income countries, such as Canada, Sweden and the United Kingdom, have adapted their regulatory frameworks to allow nurses to prescribe medication, a task that has traditionally been the responsibility of medical doctors [87-89]. There are also studies from resource-constrained countries on the extension of the role of nurses to include prescription privileges [62] [90] [91] [92] [93].

However, the use of mid-level cadres has proliferated, particularly in Africa, and appropriate adjustments to the regulatory framework have not always accompanied these changes to methods of service delivery [24] [51] [94] [95]. Studies of community health worker programmes also note frequent failure to provide adequate systems support, including an appropriate regulatory framework [62] [90] [91] [93].

The WHO-Commissioned Study on Task Shifting sought to assess and analyse the regulatory approaches used by a number of countries that are implementing task shifting in various forms [Annex a].

The research conducted in Ethiopia, Malawi, Namibia and Uganda found that all four countries had conducted some type of regulatory assessment and analysis to determine the adequacy of the existing regulations to support task shifting. The assessments were primarily guided by the unit in charge of HIV/AIDS in the Ministry of Health. The assessments had commonly focused on areas such as scope of practice; standards of care; pre-service and in-service training; credentialing (including types of degrees and certification); labour issues such as salaries and working conditions and career development; and supervision and mentoring.

The research found that the countries studied had modified certain regulatory elements to a varying degree depending on the type of task shifting and the specific services to be provided via new or existing health-care providers. The approaches also varied based on the extent to which the government guided and controlled the processes.

All the countries that were documented stressed the importance of ensuring that regulatory changes were undertaken in accordance with other national policies that effect the development of new roles for health workers, or the establishment of new cadres, for example, policies around labour, financing and decentralization.

Advantages:

● By assessing the current regulatory elements in relation to expanding the role of current providers or establishing a new cadre, countries may find that they have sufficient scope to implement task shifting within their existing laws and proclamations, rules and regulations, policies and guidelines.

● If revision is needed, assessment can ensure focus on exactly what regulatory elements need to be adjusted.

Uncertainties:

● Limited information is available on the association between regulation and the quality and safety of health-care services.

Identified examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting defines a regulatory framework to support task shifting, which has been developed based on the mapping of country experience that was undertaken as part of the study.

In Malawi, government officials identified the laws and the regulations that made task shifting from medical doctors and non-physician clinicians to nurses problematic in the country and proceeded to make changes to the Ministry of Health's antiretroviral therapy implementation guidelines. Later, the country amended the regulations implementing the Nurses and Midwives Practice Act and the Pharmacy, Medicines, and Poisons Act to allow for nurses to initiate antiretroviral therapy via prescription.

In Ethiopia, the government held a series of meetings for government staff, including the external stakeholders within other line ministries, and nongovernmental stakeholders to discuss the creation of a new cadre called Health Extension Workers. A primary goal was to establish an appropriate legal basis for this new cadre so that it could successfully be integrated into the civil service system and the existing delivery and regulatory system.

Recommendation 6

Countries should consider adopting a fast-track strategy to produce essential revisions to their regulatory approaches (laws and proclamations, rules and regulations, policies and guidelines) where necessary. Countries could also simultaneously pursue long-term reform that can support task shifting on a sustainable basis within a comprehensive and nationally endorsed regulatory framework.

Comment: This recommendation places high value on balancing the need for quality, protection and accountability with the urgency of the need to increase access to health services, including HIV services. Countries can use an incremental approach to produce rapid revision to the regulatory framework where necessary. Simultaneously, countries can pursue a full and thorough approach to regulatory reform which can be undertaken at a slower pace.

Summary of findings

Countries that chose to adopt the task shifting approach as a response to severe shortages of human resources for health alongside a high HIV burden will want to move fast with implementation. From a pragmatic point of view, the objective is to expand the pool of human resources for health in order to increase access to a range of health services including those for HIV. To achieve this aim, while also ensuring the necessary levels of quality, protection and accountability, appropriate regulation must be put in place at a pace that does not delay the expansion of service provision any longer than is necessary.

Changes in scope of practice can take place quickly in some cases . However, they may also be slow because of the policy and legislative processes involved [86]. In such situations there may be alternative strategies, such as the use of existing public health emergency responses, that take less time and that countries could use to facilitate the rapid implementation of task shifting.

In some countries, task shifting may already be taking place in an informal capacity as an emergency response to health workforce shortages [55 56 94 95]. In such cases, countries will need to consider fast-track strategies which can quickly formalize the evolutions of roles and scopes of practice that have already been achieved. These strategies could involve relatively small revisions to policies and guidelines or could call upon regulatory approaches that already exist and are permissive.

However, more comprehensive reform of a country's regulatory framework could also have advantages. Many countries retain models of health-care regulation that no longer provide the coherence or flexibility required to fully meet the needs of current health-service delivery systems. The adoption of the task shifting approach could provide an opportunity to adapt regulations in a way that would help to strengthen not only HIV services but also the wider health-care system. If task shifting is to be sustained in the long term, comprehensive reform of the regulatory framework may well be needed.

It is interesting to note that a study undertaken in high-income countries concluded that task shifting can be developed to the greatest extent if systems have permissive frameworks wherein the law allows for broad definitions of scopes of practice [98]. For example, the roles and range of activities of nurses are more extensive in health systems such as that in the United Kingdom where their scope of practice is defined by law in a broad sense rather than by a list of tasks.

The WHO-Commissioned Study on Task Shifting found that several countries had chosen to apply a fast-track strategy to regulate task shifting. The approaches they used varied according to the extent to which the structure of government allowed a rapid response during periods of emerging public health problems. For example, a country's previous experience with other emerging public health needs, such as tuberculosis and malaria, may have set precedence for current and future procedures. In addition, the availability of national emergency response procedures within a country, for example Ministry of Health authority to establish new cadres during periods of national emergency, were often cited as important factors that made a fast-track approach feasible [Annex a].

Certain countries have initiated mid-term to long-term strategies in tandem with a fast-track strategy. These efforts were generally guided by the need to assure sustainability of providers and services as well as to assure quality and safety. As part of the process for longer-term reform, governments were engaged in identifying, assessing and analysing regulations and mapping the existing regulatory system to identify gaps and areas in need of development, revision or clarification. Several countries had established new cadres to deliver necessary HIV services based on a prior analysis of the regulatory system and had introduced modifications to accommodate these new cadres within the existing health-care system.

Advantages:

- Countries adopting a fast-track solution will have additional time to plan and implement a longer-term solution to refine health-care regulation.

- Most countries have used some type of fast-track approach for other public health emergencies and may be able to draw on those experiences to guide the initial stages of task shifting.

- Existing government policies may be sufficient to mobilize the public or non-state sector to deliver necessary services based on nationally accepted standard practice guidelines and procedures.

Uncertainties:

- Fast-track solutions to the regulation of task shifting may create unintended consequences if maintained for extended periods.

- Longer-term approaches to achieve comprehensive regulatory reform may take considerable time and investment.

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting has documented the regulatory approaches used by selected countries, including both fast-track and comprehensive reform, to accommodate task shifting. The study also presents a model that describes various levels of a regulatory framework for task shifting [Annex a].

Recommendation 7

Countries should either adapt existing or create new human resource quality assurance mechanisms to support the task shifting approach. These should include processes and activities that define, monitor and improve the quality of services provided by all cadres of health workers.

Comment: This recommendation places high value on the need for quality assurance mechanisms that are sufficient to earn the confidence of service users, providers and governing bodies. It acknowledges that most governments already have quality assurance mechanisms in place and these should be built upon, rather than creating parallel processes.

Summary of findings

Although task shifting has been born out of the need to address a chronic shortage of health workers, the approach could, and should, be a means of improving the overall quality of health services. To achieve this, task shifting must be implemented within systems that contain adequate checks and balances to protect both health workers and service users and that can earn the confidence of all stakeholders [92]. Quality assurance mechanisms have three key purposes: to improve performance and quality; to provide assurance that acceptable standards are achieved; and to improve accountability. The first steps are to set agreed standards governing the roles and associated competencies, recruitment, training and supervision of all cadres of health workers. Then, the use of appropriate quality assurance mechanisms can ensure that these standards are delivered and can allow for monitoring and evaluation of performance. These measures form the basis for providing appropriate levels of protection for both service users and health workers and for improving the overall quality of services [50] [85].

Many studies reviewing the effectiveness of programmes that have aimed to increase access to health care through the involvement of community health workers report variations in quality and sustainability [66] [85] [96-101]. There is consensus in this literature that disappointing results have, in significant part, been the result of a lack of support for human resource quality assurance mechanisms.

The research evidence about the impact of quality assurance interventions on the quality of health care is drawn primarily from observational studies. However, these do show that appropriate quality assurance mechanisms have a positive impact on quality. For example, there are studies that show an association between standard setting and improvements in quality [85].

WHO has conducted a global review of quality assurance mechanisms in health-care services [50]. The review highlights that quality assurance systems are in widespread use. The most sophisticated systems are in place in Australia, Canada, the United Kingdom and the United States of America where Continuous Quality Improvement measures are used. Other reports also show that there is consensus on the need for quality assurance mechanisms but that considerable variation exists between and within countries in the approaches being taken [83].

The WHO-Commissioned Study on Task Shifting shows that the need for quality assurance mechanisms is sometimes overlooked in countries that are implementing task shifting. The available evidence indicates that investment in a range of quality assurance mechanisms including the definition of roles and competencies, recruitment, training, continuing education, supervision and evaluation, is essential to the success of the task shifting approach. The nature and amount of investment in these areas will vary from country to country depending on the work to be done and on the country's health-care system [66] [85]. However, there is general need to strengthen and systematize the quality assurance process.

Advantages:

- Quality assurance mechanisms provide the necessary checks and balances to protect both service users and health workers.

- Quality assurance supports ongoing improvements in the quality of services.

- Quality assurance can contribute to ensuring that task shifting makes a sustainable contribution to overall health systems strengthening.

Uncertainties:

- Most of the robust studies of quality assurance mechanisms have not been conducted with a specific HIV focus.

- The majority of studies of quality assurance mechanisms, including Continuous Quality Improvement, have been conducted in the United States of America and other high-resource countries.

Selected examples of experience/additional resources:

The WHO global review of quality assurance in health-care services gives examples from around the world of quality structures and processes that might inform local improvement of health services, especially in resource-constrained countries [85].

A range of summary reports on how countries have implemented quality assurance programmes is contained in the January 1999 edition of the QA Briefing [83]. The Center for Human Services has also produced a summary document that highlights the key elements of a comprehensive quality assurance programme [102].

Rwanda has published a list of case study examples of broader-based quality improvement initiatives [103].

The Ministry of Health in Ethiopia has put in place a range of quality assurance measures in relation to the delivery of antiretroviral therapy and has produced a succinct document that highlights these [104].

Recommendation 8

Countries should define the roles and the associated competency levels required both for existing cadres that are extending their scope of practice, and for those cadres that are being newly created under the task shifting approach. These standards should be the basis for establishing recruitment, training and evaluation criteria.

Comment: This recommendation indicates the importance of defining what tasks can be performed by each cadre of health worker under a task shifting approach and what competencies each health worker will need to undertake those tasks safely, efficiently and effectively. Clear criteria and recognized standards provide a basis against which job descriptions can be developed, potential applicants can be judged, appropriate training can be developed and evaluation can take place. Specific measures should be developed for the recruitment and rapid assimilation of health workers with relevant practical experience.

Summary of findings

Task shifting may involve revisions to the scope of practice of existing cadres of health workers and the development of new scopes of practice for any new cadres that may be established under the task shifting approach. The clear definition of roles is the basis for organizing the redistribution of tasks and is essential if services are to function in a coherent and effective way. Equally important is the identification of exactly what skills and experience are required in health

workers to ensure that they are adequately equipped to perform their designated tasks safely and effectively. This can facilitate setting training and evaluation criteria.

Analyses of literature related to human resource management and empirical evidence gleaned from public health interventions in which human resource management processes are fully integrated, reveal that role definition represents the basic organizing element in any organization. Role definition provides shared understanding of tasks and responsibilities, levels of authority to make decisions within the health team (including when to refer patients to a more appropriate cadre) and what skills and qualifications are necessary to carry out the responsibilities that are assigned [66] [101].

Defining competencies helps ascertain both the behavioural and technical skills that are needed to meet the requirements of the job [92]. This improves recruitment procedures by making it easier to identify the desired qualities in candidates. The setting of clear recruitment criteria provides the basis for developing induction and training programmes to equip the practitioner with the necessary competencies.

The definition of required competencies also makes it possible to evaluate and credit the experience-based competencies of community members who have already been providing services [66].

Studies of community health worker programmes have identified a number of factors that are associated with improving the success of implementation and these include the need for effective selection and recruitment processes [66] [96] [97] [99] [100].

A number of publications have looked specifically at how employers can create the right conditions to support recruitment, training and the retention of employees. These documents have distilled evidence from a range of projects and offer guidance on what factors to address and how to address them [105-107].

Evaluation of a number of HIV/AIDS projects in Africa have identified the same factors that are seen as important to address in the general literature as discussed above. In addition the WHO publication offering guidance on the implementation of community-based HIV care in resource-constrained settings offers comprehensive suggestions across the continuum of care delivery [110].

Advantages:

- Well-defined scopes of practice and the clear identification of associated competency levels support efficient and coherent human resource management.

- Clear recruitment criteria ensure that tasks are only undertaken by those with the appropriate behavioral and technical skills.

- Clear recruitment criteria support the development of appropriate training.

Uncertainties:

- Not all employers have well-developed and resourced human resource processes capable of supporting standardized and systematic approaches to recruitment and training.

- Not all staff who are involved in the processes have the necessary competencies to undertake efficient, effective and equitable human resource processes.

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting documents the work undertaken in Ethiopia to define the roles of new cadres of community health workers (called Health Extension Workers) and the identification of related training and recruitment criteria and job descriptions [Annex a].

Generic guidance on defining core competences for HIV service delivery is also available from a prior WHO consultation [92].

Recommendation 9

Countries should adopt a systematic approach to harmonized, standardized and competency-based training that is needs-driven and accredited so that all health workers are equipped with the appropriate competencies to undertake the tasks they are to perform.

Comment: This recommendation places high value on appropriate training as an essential precondition for task shifting of any kind. In-service training is needed to enable the existing health workforce to undertake new tasks; pre-service training must be revised to cover new skills; and new training curricula must be developed to match the competencies that will be required for newly created cadres. Training programmes should be accredited to ensure consistency of quality and curricula. Training programmes should also be harmonized to indicate possibilities for ongoing skills development and career progression.

Summary of findings

One of the rationales behind the adoption of task shifting in countries that are experiencing a severe shortage of human resources for health amid a high HIV burden is that adding to the skills of existing cadres and training newly created cadres to undertake clearly delineated tasks can be completed more quickly than conventional pre-service training for additional health professionals. Nevertheless, proper investment in systematized pre-service and in-service training for all cadres of health workers is important to achieving good outcomes under the task shifting approach. In particular, there is consensus in the literature that large-scale community health worker programmes require substantial increases in support for ongoing training that is adaptive to emerging health needs if they are to be successful [66] [96] [97].

The Douala Plan of Action, which was adopted at the Conference on Human Resources for Health in Africa in June 2007, articulated the critical need to strengthen and accredit training institutions (and by extension their training offerings), revise and harmonize training curricula, and train health workers according to country needs [111].

Studies examining health worker training and experience for patient outcomes in the delivery of HIV/AIDS services in resource-constrained settings indicate that appropriately trained, mentored and supervised non-physician clinicians and nurses can produce as high quality care as medical doctors and that appropriately trained community health workers can deliver quality health support services [112-114].

To achieve the best results, training should use competency-based curricula that are designed to meet the roles, competency levels and standards for performance that will be expected of the trainees [112-116]. Training should be delivered by a variety of methodologies contingent upon the cadre of the health worker. Options could include institution-based training including written exams, involve practical training and direct observation of health worker performance or clinical mentoring or a combination of these approaches [116-120].

Accreditation of training programmes serves as an effective means of ensuring that the level of training provided to health workers is measured against defined standards and offers the knowledge and skills required [115-120].

Ongoing training allows for improvement of the skills necessary for health workers to perform their assigned tasks and therefore facilitates continuous improvement in the quality of services they deliver. The possibilities for ongoing skills development and for career progression are important factors in the retention of skilled health workers [46][85][120].

All health workers, including community health workers, should also be trained on governing ethical standards including confidentiality, non-discrimination, stigma and other patient rights.

Advantages:

- Standardized and accredited pre-service and in-service training of all health workers will establish appropriate standards for service delivery and will instil confidence among stakeholders in the task shifting approach.

- Preparing upcoming cohorts of health workers to take on newly extended roles under the task shifting approach can be done in a cost-effective and efficient way by regularly revising pre-service training curricula as developments take place.

- In-service training to add to the competencies of experienced health workers is quicker and more cost-effective than recruiting and training new cohorts.

- Harmonized training programmes that provide opportunities for career progression contribute to health worker retention and further skills development.

- Training health workers in human rights and ethical standards should improve health service utilization by people who might otherwise encounter stigma and discrimination.

Uncertainties:

- Existing training programmes in support of task shifting have not been sufficiently analysed to understand the underlying factors resulting in the success or failure of the methodologies employed.

- Many countries have limited training capacity.

Selected examples of experience/additional resources:

Key lessons on developing health worker training and education programmes have been distilled into a number of guidance documents [121-125][207].

In Namibia, community counsellors undergo a six-month training programme at the conclusion of which a skills-based assessment is required to receive a certificate allowing them to conduct counselling and administer rapid HIV tests [Annex a].

The HIV/ART Nurse Specialist (H/ANS) curriculum was created by the International Training and Education Center, and is being implemented in various clinical settings in Ethiopia as a means of producing a cadre of nurses who, after a four-week advanced training, are able to take on a more active and central role in antiretroviral therapy scale-up efforts, including refilling antiretroviral therapy prescriptions, and, at many sites, shouldering the majority of clinic responsibilities for antiretroviral therapy [Annex a].

Recommendation 10

Training programmes and continuing educational support for health workers should be tied to certification, registration and career progression mechanisms that are standardized and nationally endorsed.

Comment: This recommendation places high value on the need for mechanisms that can establish the ability of health workers to safely and effectively perform the tasks for which they have been trained and for mechanisms that can maintain overall responsibility for their conduct. In combination with career pathways, all of these can contribute to health workforce motivation and retention.

Summary of findings

A health worker who participates in training or continuing education programmes cannot automatically be assumed to have mastered the skills that the programme was intended to impart. Some form of standardized and structured evaluation is needed to establish and recognize the ability of health workers to perform against competency-based standards [125] [126] [127]. This can be achieved through certification, which can include direct observation of health worker performance by mentors or supervisors at the facility where they work, as well as skills-based assessments or examinations.

Equally important is the regulation of health workers by means of a registry, overseen by licensing or regulatory bodies. Registration legitimizes qualified health workers and gives them formal permission to practise. It also allows for tracking the training that each health worker has completed and any certification that they have attained. This provides a means by which to maintain overall responsibility for the conduct of practising health workers and can help determine the need for additional recruitment to meet service delivery bottlenecks [126].

There are various studies that examine quality-monitoring mechanisms within the context of healthcare delivery, as well as some data related to their use in support of measuring health worker proficiency to deliver HIV services [50] [120] [127]. These show that certification is one pathway to improve the quality of the training and continuing professional development that health workers receive, and to improve their overall effectiveness. Certification has also been used to assess the gaps in knowledge and skills that are necessary for the delivery of quality HIV services, and to orient continuing professional development activities to address those gaps [128] [129].

Finally, certification is a means of heightening recognition of health workers. This has proved to bring considerable benefits in the case of community health workers that are being newly integrated into health systems. Certification in these cases has resulted in improved support for community health workers by established cadres of health professionals and has won confidence among the communities they serve [114] [130] [131] [132].

Relevant stakeholders (e.g. governments, medical or nursing boards, professional associations and academic institutions) are generally tasked with establishing certification mechanisms, which include developing, preparing, administering and evaluating certification examinations or practical skills assessments that evaluate whether trainees have mastered the core knowledge and skills relevant to perform their assigned tasks [133-136].

Various studies have shown that the opportunity for career progression is important for retaining health workers as it offers both a professional and a financial incentive. Ensuring that the successful completion of training and continuing education are tied to career paths can help to

retain skilled workers in the health system and contribute to recruitment among the more highly qualified cadres as health workers add to their skill set and seek promotion.

Advantages:

- The use of certification mechanisms, such as practical skills-based assessments or exams, provides a means of identifying gaps in the knowledge and skills of health workers.

- Registration of health workers, and especially non-professional health workers, legitimizes a cadre and allows for a licensing and/or regulatory body to maintain institutional responsibility for the cadre.

- Career frameworks can assist in workforce planning.

Uncertainties:

- While there are abundant data reflecting the positive impact of certification of professional health workers in high-income countries as a means of continuing professional development and quality assurance, there is a general dearth of such data from resource-constrained countries, and far fewer related to the field of HIV medicine.

Selected examples of experience/additional resources:

Malawi links specific in-service training for the delivery of HIV services to a standardized and nationally endorsed process for certification. Non-physician clinicians and nurses undergo a five-day training in the initiation of antiretroviral therapy, which is followed by a certification exam. The Medical Council or Nursing Council then approves the extension of the scope of practice of each non-physician clinician or nurse who successfully completes the exam so that they can prescribe antiretroviral therapy.

Recommendation 11

Supportive supervision and clinical mentoring should be regularly provided to all health workers within the structure and functions of health teams. Individuals who are tasked with providing supportive supervision or clinical mentoring to health workers to whom tasks are being shifted should themselves be competent and have appropriate supervisory skills.

Comment: This recommendation gives high value to the importance of having a structured support system in place for the successful implementation of task shifting, specifically supportive supervision. This recommendation recognizes that task shifting will create new and additional responsibilities for supervision. These additional responsibilities should be reflected in job descriptions and scopes of work. The need for supportive supervision may require the deployment of additional health workers. Concerted efforts will be needed to provide on-site or technology-facilitated supportive supervision for health workers in rural areas.

Summary of findings

It is widely recognized that support for health workers through supervision, mentoring and teamwork improves the quality of care across the spectrum of health services [65 66 96 97 99 100 138].

Conversely, there are many documented examples of poor outcomes where health programmes have failed to invest in adequate supervision and support for health workers.

Over the past few years, the term "supportive supervision" has become well recognized in the health-care community. Various studies suggest that supportive supervision is conducive to improvements in health worker performance and to a more general strengthening of health systems [139-142]. In particular, research has found that the integration of supportive supervision into primary health-care models in developing countries can lead to improvements in the delivery of health care by most levels of health-care worker [139].

The WHO-Commissioned Study on Task Shifting also observed that task shifting yields better outcomes where health workers are offered sustained and supportive supervision within the structure and functions of the health team [Annex a].

Occurring continuously, this type of supervision becomes a routine part of a health worker's job. Such supervision can have a motivating effect on health workers and is an opportune time to provide follow-up training, improve performance and solve other systemic problems [139-143].

Supportive supervision requires motivation on the part of supervisors and staff to adopt new behaviour, locally appropriate tools and invest time and resources. Also of importance is the commitment of the top management and the integration of the programme into existing human resource management systems [139].

As supportive supervision requires a new model of supervisory skills and the adoption of new behaviours, it is important that those tasked with performing the supervision are properly prepared. There is evidence that working with newly trained supervisors to assess their competence and performance, and helping them create a plan for self-improvement, allows for the successful implementation of supervisory programmes [144]. Internationally reviewed guidelines for supportive supervision encourage the training of new supervisors on management skills as well as communication and mentoring skills [142].

Given that supportive supervision will place additional demands on supervisors' time, task shifting strategies should consider how to ensure that supervisors can effectively perform both their new and current responsibilities. Along with the overarching need to increase the numbers of trained health workers, this may entail a specific need to increase the numbers of health workers who will assume supervisory responsibilities. Along with adequate numbers of appropriately trained health workers, including in hard-to-reach areas, supportive supervision will require logistical support, such as adequate transportation and telecommunication systems.

Advantages:

- Supportive supervision generates sustained performance improvement.
- Mentoring is a means of identifying and addressing deficiencies, gaps and weaknesses in clinical practice [25 125].

Uncertainties:

- Supervision is time consuming. This will need to be accommodated in job descriptions and resources allocated to supervisors.
- Supportive supervision may be difficult to sustain in the event of inadequate management capacity, staff turnover, loss of funding or loss of system support.

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting documents the ways in which supervision has been integrated as a key element of task shifting programmes in Haiti, Malawi and Uganda [Annex a].

Recommendation 12

Countries should ensure that the performance of all cadres of health workers can be assessed against clearly defined roles, competency levels and standards.

Comment: Assessment provides the means to ensure that agreed standards for quality of care and for the recruitment, training and retention of health workers are met. Roles, competency levels and standards must be clearly defined and communicated so that the performance of health workers under the task shifting approach can be properly evaluated. However, achieving health outcomes is dependent on the contribution of many workers and therefore any assessment process should be undertaken within the context of health-care teams.

Summary of Findings

Setting standards against which desired outcomes can be assessed is essential to the success of the task shifting approach. If quality of care is to be ensured, health workers must perform their tasks in a way that meets agreed standards or technical expectations. The assessment process provides the means by which to verify that standards are being delivered and maintained [145].

Performance standards have been shown to provide a way to monitor the quality and the effectiveness of care. Studies have also found that performance standards can help to create an environment supportive of continuous quality improvement [146] [147].

Competency-based standards serve a different purpose. These provide health workers and their supervisors with a clear understanding of what indicators will be used to measure their job performance. Competency-based standards can also contribute to improving the technical quality of care delivery by individual health workers, health-care teams and health facilities. However, if such standards are to be effective, they must be fully communicated and promoted so that all parties know what is expected of them [148-150].

In general, assessment makes it possible to collect and compare data that will help to identify and then apply "best practices" in the delivery of health services [150] [151]. Assessment also has the potential to create a work climate that motivates health workers and improves their performance. However, these outcomes are only likely to be achieved if assessment processes are constructive and are linked to recognition and career progression [152].

Advantages:

- Assessment supports the delivery of agreed standards and highlights the need to take corrective action if necessary. This may involve the redefinition of roles, competency levels and standards.

- Well-defined roles, competency levels and standards that are fully communicated make assessment an effective continuing quality improvement mechanism.

Uncertainties:

- Existing data collection and monitoring systems in resource-constrained countries are, in many cases, not geared toward tracking quality assurance indicators.

Selected examples of experience/additional resources:

Ecuador's Ministry of Health tested a number of quality improvement interventions, including job clarification, standards communication and monthly monitoring of compliance indicators in secondary care facilities to increase health worker compliance with maternal and child care quality standards. After 12 months, these interventions produced rapid increases in compliance with clinical standards in the intervention hospitals versus the control group [148].

Recommendation 13

Countries should consider measures such as financial and/or non-financial incentives, performance-based incentives or other methods as means by which to retain and enhance the performance of health workers with new or increased responsibilities, commensurate with available resources in a sustainable manner.

Comment: This recommendation places high value on retention and performance throughout the health workforce. Incentives systems should be harmonized across the health sector so that different scopes of practice and levels of responsibility are recognized within a relative framework. Incentives must be decided on a country by country basis and cannot be generalized across countries.

Summary of findings

Many studies note that monetary and non-monetary incentives have a definitive impact on the behaviour and motivation of health workers and that such incentives are a major factor in health workforce migration [153-156]. Most importantly in relation to the task shifting approach, extending the scope of practice and increasing the burden of responsibility of health workers without commensurate incentives is likely to have a demotivating effect.

To compensate for low salaries, poor working conditions and other factors, health workers rely on individual coping strategies. These are very well documented in a large number of studies [157-186]. Many health workers resort to dual or multiple employment. For example, many clinicians combine salaries from public sector clinical work with a fee-paying private clientele. Some health workers take on additional work outside the health sector, which can lead to absenteeism.

There is evidence that a variety of different incentives systems can improve retention and performance [6 187-193]. However, further research is needed to understand the effects of different incentive systems from a broader health systems perspective that looks at how incentives impact individual health worker performance and how they affects the ways different providers interact with each other and the community [63].

Increasing incentives for health workers is highly complex in terms of fiscal impact and sustainability. Several countries, including some with severe human resources for health crises and high HIV burdens, have opted to control their wage bill because of concerns about potential macroeconomic problems that could result from entering into long-term expenditure commitments without the certainty of long-term income [63 194-196].

A range of strategies are also needed to improve the retention of health workers in the public health sector, especially in the delivery of HIV services. These include improvements to workplace

conditions and occupational safety as well as HIV prevention and treatment services. Retention strategies are primarily the focus of the Retain element of the Treat, Train, Retain plan (see Background on page 6) [1].

Advantages:

● Appropriate incentives contribute to the retention of skilled health workers.

● Appropriate incentives for health workers contribute to building a stronger health workforce and to health systems strengthening.

Uncertainties:

● Stronger evidence is needed to inform what levels and types of incentives translate into improved retention and productivity.

● Since improvements in remuneration may not be enough to attract health workers to jobs in remote areas, supplementary strategies will often be needed such as improving working conditions and occupational safety.

● Fiscal constraints and sustainability may present a challenge for countries coping with the HIV/ AIDS epidemic.

Selected examples of experience/additional resources:

Malawi overcame fiscal constraints for the implementation of its Emergency Human Resource Plan to address the acute human resources for health crisis in the face of the HIV epidemic. Salary top-ups were devised to be fully funded by donors, but with an agreement that the government of Malawi would increase the proportion of the national budget spent on health over the course of the six years. To persuade the government to undertake the risk of higher public sector salaries, the United Kingdom Department for International Development agreed to give two years' notice of any withdrawal of the salary component of its aid. In July 2005, the International Monetary Fund accepted that the ceiling "will be adjusted upward (or downward) by the full amount of donor-funded supplementary wages and salaries for the health sector that is greater (or less) than the programme baseline" [73].

Recommendation 14

Countries should recognize that essential health services cannot be provided by people working on a voluntary basis if they are to be sustainable. While volunteers can make a valuable contribution on a short term or part time basis, trained health workers who are providing essential health services, including community health workers, should receive adequate wages and/or other appropriate and commensurate incentives.

Comment: Lack of payment, or of adequate payment, is a significant cause of attrition among health workers. This recommendation places high value on the need for task shifting to contribute to an increase in the numbers of trained, qualified and motivated health workers at all levels and for these improvements to be sustainable. This will require adequate and appropriate incentives, including wages for community health workers.

Summary of findings

Community health workers have the potential to make a significant contribution to increasing access to HIV services under the task shifting approach. Part-time volunteers have an important role to play by offering a limited scope of supplementary support services among their local community. However, if community health workers are to be properly integrated into health systems, and are trained to provide essential services, then their commitment must be sustained through a variety of measures including adequate wages and/or other appropriate and commensurate incentives.

Early community health worker programmes assumed a pool of willing volunteers but, in time, lack of payment proved to be a major cause of workforce attrition [64 66 97]. There is virtually no evidence that volunteerism can be sustained for long periods [197]. Most of the evidence reflects low activity rates and high drop-out leading to the ultimate collapse of community health worker programmes where payment, or other appropriate and commensurate incentives, are not adequate [197 198]. For example, in South Africa the lack of payment for community health workers resulted in a high rate of attrition and threatened the effectiveness of the community-based tuberculosis programmes. [199]. One study of community health worker programmes in Sri Lanka concludes that large-scale volunteer programmes will be characterized by high attrition and low activity rates and will only be sustainable under particular enabling conditions [198].

The question of what represents adequate remuneration remains controversial and there is a paucity of evidence to indicate what combinations of incentives, including financial and non-financial incentives, are sufficient to motivate and retain community health workers. Some evidence exists to show that the relationship between community health workers and the community they serve is important and that feedback and rewards from the community have an influence on work performance [200]. Nevertheless, the burden of evidence indicates that stipends, travel allowances and other non-financial incentives are not enough to ensure the livelihood of health workers and that the absence of adequate wages will threaten the effectiveness and long-term sustainability of community health worker programmes [65 199 201].

The existing evidence, particularly for resource-constrained countries, overwhelmingly suggests that community health worker programmes are not necessarily less expensive but that they remain a good investment [197]. However, meeting the need for sustainable financing for community health worker positions is a challenge, especially for resource-constrained countries. See further discussion in Recommendation 15.

Advantages:

● Adequate wages for community health workers help retain human resources for health, especially in rural areas and among marginal communities.

● Wages for community health workers may contribute to broader human development and poverty reduction strategies.

Uncertainties:

● Securing long-term sustainable financing for the health sector is a challenge.

Selected examples of experience/additional resources:

One of the largest and most successful community health worker programmes can be found in Brazil, where the Brazilian Family Health Programme has been successful in institutionalizing and mainstreaming community participation. Community health workers have been integrated into health services and are paid wages [202 203].

In Ethiopia and Malawi community health workers have been trained and deployed to support a nationwide increase in access to HIV and other health services. These cadres have been fully integrated into the national system for service delivery as regular employees. They receive payment from the government and these costs are included in the national health budgets of both countries [Annex a].

Recommendation 15

Countries and donors should ensure that task shifting plans are appropriately costed and adequately financed so that the services are sustainable.

Comment: Budgeting and financing should take into account both one-time and recurrent costs. These should include resources for essential support services such as training, supervision, referral systems, retention measures and adequate wages for new and existing cadres and the anticipated need for essential equipment, health-care supplies and physical infrastructure. Budgeting and finance should also take into account the likely rise in demand levels for all health services that may result from increased user access through task shifting.

The Ministry of Health will need to work with appropriate partners, such as the Ministry of Finance, the Ministry of Labour and the Ministry of Education, and the civil service, donors, international financial institutions, the non-state sector and others involved in the funding and implementation of health services, to secure sustainable financing for task shifting activities.

Summary of findings

Task shifting should not be viewed as a cost-cutting strategy. In fact, a successful task shifting programme which decentralizes and expands access to HIV services at the community level is likely to increase the total number of health-service users, including increasing the demand for other health services. Therefore, task shifting plans must be financed adequately to take these considerations into account. Clearly, if the scale-up of HIV services is to be sustainable, and if task shifting is to help increase access to other health services, the plan may require new and additional resources.

Significant investment will be needed to support training and a range of supportive mechanisms including quality assurance. A variety of financial and non-financial incentives may be needed to reward and retain health workers as part of the task shifting approach. New and additional physical infrastructure may be needed to accommodate an expanded workforce and increased patient flow.

Poor working conditions lead to attrition of the health workforce. Therefore, if task shifting is to be sustained it must be accompanied by strategies for safe workplaces and adequate equipment and supplies such as gloves, soap and antiseptics. In many countries, logistical systems for supplying rural and peri-urban communities will need to be strengthened to ensure the availability of essential supplies.

Countries will still need to increase the overall numbers of specialist health workers such as doctors and nurses hand in hand with the implementation of the task shifting approach. In a small number of countries there is also a need for financing arrangements that can absorb skilled doctors and nurses who are currently unemployed or underemployed due to a combination of factors, including fiscal constraints.

An important consideration for financing a task shifting approach is related to the overall objective of moving towards universal access to HIV services. The need for treatment and its related costs will escalate for years to come as people living with HIV/AIDS become chronic patients in need of lifelong care.

Financing systems will need to be developed within the particular macroeconomic, sociocultural and political context of each country and geared towards country-specific priorities[204]. However,

funding for task shifting raises many of the broader issues around financing and development that have been discussed in recent years. The most important of these is the need for funding, including funding from donors, to be predictable, sustainable and long-term. Donors should commit to carrying out the principles of the Paris Declaration.

The need to create fiscal space for the health workforce will require relevant stakeholders to engage productively with ministries of finance, donors and international financial institutions. The AIDS emergency has brought governments to a political commitment to expanding fiscal space for public spending on health. In this context it may be possible to develop innovative financing mechanisms that can ensure sustainability and stability [205].

A model for costing a task shifting approach to service delivery has been developed by WHO as part of the Task Shifting Project (see Annex d).

Advantages:

- Appropriate costing of task shifting plans that takes account of both one-time and recurrent costs will help to ensure that increased access to HIV services can be sustained.

- Proper investment of resources in health workforce strengthening using a task shifting approach will make a significant contribution to overall health systems.

- The current global commitment to increase access to HIV services may create opportunities for sustainable financing mechanisms for task shifting.

Uncertainties:

- Task shifting is likely to fail if countries underestimate the resources and the systems needs for a sustainable programme.

- Sustaining task shifting on a countrywide scale will require resources that are directed through the public as well as the non-state sector.

Selected examples of experience/additional resources:

There are global costing tools that are readily available and can be adapted by countries [206]. These include the WHO global cost estimate for the task shifting approach and methodology which is available in electronic form (Annex d).

Recommendation 16

Countries should consider the different types of task shifting practice and elect to adopt, adapt, or to extend, those models that are best suited to the specific country situation (taking into account health workforce demography, disease burden, and analysis of existing gaps in service delivery).

Comment: This recommendation places high value on the flexibility and variety that characterizes the task shifting approach. It recognizes that individual countries will vary in the breadth and scope of their plans according to need.

However, there are three conditions that are essential for the success of any type of task shifting. These are appropriate training; regular supportive supervision; and well-functioning referral systems. Task shifting also requires the development of standardized protocols. These should include simplified clinical guidelines; simplified recording and reporting systems; and simplified monitoring and evaluation systems.

Summary of findings

A wide range of sources, including the WHO-Commissioned Study on Task Shifting, observe that a range of different task shifting practices are currently being implemented in a variety of settings for the delivery of HIV services [12 Annex a].

The evidence supports a broad categorization of task shifting practices into four types, as follows:

Task shifting I – The extension of the scope of practice of non-physician clinicians in order to enable them to assume some tasks previously undertaken by more senior cadres (e.g. medical doctors).

Task shifting II – The extension of the scope of practice of nurses and midwives in order to enable them to assume some tasks previously undertaken by senior cadres (e.g. non-physician clinicians and medical doctors).

Task shifting III – The extension of the scope of practice of community health workers (often called non-professional health workers or lay providers), including people living with HIV/AIDS, in order to enable them to assume some tasks previously undertaken by senior cadres (e.g. nurses and midwives, non-physician clinicians and medical doctors).

Task shifting IV – People living with HIV/AIDS, trained in self-management, assume some tasks related to their own care that would previously have been undertaken by health workers.

There is also potential for task shifting that involves other cadres that do not traditionally have a clinical function, for example, pharmacists, pharmacy technicians or technologists, laboratory technicians, administrators and records managers.

The cadre that assumes the new task, not the cadre that is relieved of the task, is the defining factor for task shifting types. For example, any extension of the scope of practice of nurses and midwives is defined as task shifting type II.

See Annex 1 for a full list of identified tasks and groups of services.

The WHO-Commissioned Study on Task Shifting observed task shifting types I, II, III and IV, as well as some task shifting involving other cadres such as pharmacists and laboratory technicians, taking place in a variety of combinations in Ethiopia, Haiti, Malawi, Namibia, Rwanda and Uganda [Annex a]. The study also identified further options relating to the health-care delivery level at which the task shifting practices can take place. Task shifting involving nurses and community health workers was seen to produce good health outcomes and high levels of service-user satisfaction at the tertiary level (specialized hospital or facility), the secondary level (district hospital or district outpatient facility) and at the primary level (care being delivered at a health centre or non-facility-based care being delivered at the community level). These findings are in keeping with one of the principles of good chronic care; that the organization of service in a diverse clinical team contributes to better outcomes than service delivery by doctor only.

The experience of countries shows that task shifting can be implemented successfully in a variety of ways. Service delivery approaches need to be appropriate to the national context, the health systems and the existing mix of providers [12]. Therefore, any decision about which task shifting type to employ should be made at the country level.

Advantages:

- The task shifting approach offers a wide range of options for the delivery of HIV services, which can be refined to suit specific country situations.

- Task shifting at the tertiary, secondary and primary care levels can make efficient use of available human resources and provide good care.

● Task shifting can improve quality of care by organizing the delivery of services in multidisciplinary teams.

Uncertainties:

● Successful task shifting demands certain preconditions and an enabling environment. See other Recommendations.

Selected examples of experience/additional resources:

In Ethiopia and Malawi the scope of practice of both non-physician clinicians and of nurses has been extended to allow both these cadres to prescribe antiretroviral therapy. This represents the implementation of both task shifting type I and type II. In Haiti and in Rwanda, mid-level cadres of non-physicians do not exist. Therefore these countries have not adopted task shifting type I but are extending the scope of practice of nurses to allow prescription privileges. This represents task shifting type II.

The Integrated Management of Childhood Illness (IMCI) and Integrated Management of Adults and Adolescent Illness (IMAI) were developed by the World Health Organization to facilitate decentralized delivery of prevention, care and treatment interventions integrated within existing health systems [207] [42].

Recommendation 17

Countries should ensure that efficient referral systems are in place to support the decentralization of service delivery in the context of a task shifting approach. Health workers should be knowledgeable about available referral systems and trained to use them.

Comment: This recommendation gives high value to the importance of having a well-structured and efficient referral system to ensure the successful implementation of all types of task shifting. It recognizes that health workers will face patient needs beyond their levels of competence or responsibility, which may require consultation with or referral to appropriate service providers. Health workers should be trained in proper use of referral systems, and referral systems should be strengthened and adequately resourced.

Summary of findings

Where health services have been decentralized from tertiary care to district hospitals, primary health centres or the community level, one of the preconditions for success, and for ensuring quality of care, is an accompanying functional and reliable referral system. This permits health workers to diagnose, or triage, health-care needs and then ensures that they know who to consult, and how and where to refer patients promptly for appropriate care if necessary [208-210].

Results are less satisfactory where links between the cadres of health workers of different levels of qualification, and between facilities with different levels of expertise, have not been properly established [211] [212].

Referral systems are not only needed upward from health workers with given qualifications to others with higher qualifications, or from less equipped health facilities to more equipped ones. Once the patient is stabilized back-referral is also important, because services that are available close to home play an important role in the well-being of people who need care. Furthermore, back-referral has been documented to improve efficiency, especially in the management of chronic conditions. It can help to guarantee long-term follow-up and to ensure proper provision of health and social services by community members and community health workers [213].

In order to make referral systems efficient, there must be adequate numbers of properly resourced health workers at both ends of the system. These health workers will need to be able to rely on standardized guidelines for consultation and referral. Good and reliable communication and transport are also needed to facilitate the referral process [214].

Advantages:

- Well-functioning referral systems are essential if decentralization of health services and, more specifically, the task shifting approach are to succeed.

- Investment in referral systems will benefit overall health systems strengthening.

Uncertainties:

- In many of the countries that face severe shortages of human resources for health alongside a high HIV burden, referral systems are currently weak and will require a significant investment of resources.

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting describes the implementation of a task shifting approach in Haiti and Uganda, where well-functioning referral systems are an integral part of the model for the delivery of HIV services [Annex a].

Recommendation 18

Non-physician clinicians can safely and effectively undertake a majority of clinical tasks (as outlined in Annex 1) in the context of service delivery according to the task shifting approach.

Comment: This recommendation places high value on evidence from selected countries that most clinical tasks can be safely and efficiently moved from medical doctors to non-physician clinicians when they are appropriately trained and supervised and when they have access to well-functioning referral systems. In situations where a shortage of medical doctors creates a bottleneck in the delivery of HIV services, task shifting of this type (task shifting I) can make a significant contribution to increasing access.

Summary of findings

Many studies have reviewed the practice of employing non-physician clinicians (variously called clinical officers, medical assistants, medical officer assistants, health officers, nurse practitioners or nurse clinicians) to take on some of the functions and roles traditionally reserved for medical doctors. Non-physician clinicians receive shorter pre-service training and have lower qualifications than medical doctors.

The available evidence shows that the use of these mid-level cadres has many advantages where a shortage of human resources for health exists. Shorter training periods mean more rapid deployment and lower costs. Non-physician clinicians also prove more willing to take up rural placements and have a better retention record relative to medical doctors. This may be in part because their qualifications are not automatically recognized in other countries that attract migration[51].

There are many studies that show widespread deployment of non-physician clinicians for the delivery of health services. A study of 47 African countries found non-physician clinicians in 25 countries in sub-Saharan Africa. The numbers of non-physician clinicians equalled or outnumbered medical doctors in nine countries. Although their roles varied widely between countries, all non-physician clinicians were found to be taking on many of the diagnostic and clinical functions of medical doctors and some were trained to provide specialist services in disciplines such as surgery, ophthalmology, orthopaedics, radiology, dermatology, anaesthesiology and dentistry[80].

There is also convincing evidence that the use of non-physician clinicians can produce good health outcomes. A number of studies that compare non-physician clinicians with medical doctors show minimal differences in outcomes for service users[51 61]. A 1996 study in Mozambique, designed to compare outcomes of caesarean delivery performed by assistant medical officers and medical doctors who were specialists in obstetrics and gynaecology, concluded that training selected medical assistants to perform caesarean delivery, even on women in poor general condition, is justified in settings in which doctors are scarce[215].

Researchers have concluded that non-physician clinicians could play a substantial role in the scale-up of health workforces, including for the planned expansion of HIV services[80].

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. The preconditions for the very high level of performance observed in this particular study included high levels of experience, focus on a single condition and either participation in teams or easy access to medical doctors or clinicians with HIV expertise[216].

The WHO-Commissioned Study on Task Shifting observed safe and effective task shifting from medical doctors to non-physician clinicians in Ethiopia, Malawi and Uganda [Annex a]. This type of task shifting was observed at the primary health care level as part of the decentralization of HIV services from hospitals but also at hospital level, where non-physician clinicians were present and playing a major role in all the facilities studied.

However, non-physician clinicians were not observed undertaking certain more complex tasks. Some of the tasks that were not observed included the initiation of antiretroviral therapy in non-naive clients; the management of second-line and third-line antiretroviral therapy; the management of treatment failure; the management of complicated paediatric care; and the management of complicated HIV/tuberculosis coinfection (see Annex 1 for detailed list of tasks). Pilot studies with evaluation and outcomes research is necessary to establish whether or not these tasks could, in certain circumstances, be undertaken safely by non-physician clinicians.

The WHO-Commissioned Study on Task Shifting and other studies have observed that the delegation of tasks from medical doctors to non-physician clinicians is most effective and efficient in terms of health outcomes, patient satisfaction, and health worker confidence when a well-functioning referral system is in place. Participation in health teams, or easy access to a medical doctor or other clinicians with HIV expertise, are considered preconditions for high levels of performance by non-physician clinicians[216].

Advantages:

- Task shifting to non-physician clinicians increases access to services and makes efficient use of the available human resources by freeing some of the time of medical doctors to concentrate on complex cases.

- The deployment of non-physician clinicians can contribute to the decentralization of services to rural and marginalized communities.

- Non-physician clinicians are less likely to migrate than medical doctors.

Uncertainties:

- Non-physician clinicians may lack a clear path for career progression.

- If posted to hard-to-reach areas, structured continuous training and supportive supervision may be difficult to ensure.

Selected examples of experience/additional resources:

Mullan F. and Frehywot S. have recently undertaken an extensive study of the deployment of non-physician clinicians throughout sub-Saharan Africa [80].

The WHO-Commissioned Study on Task Shifting describes the role of non-physician clinicians in the delivery of HIV services in Ethiopia, Malawi and Uganda [Annex a].

Recommendation 19

Nurses and midwives can safely and effectively undertake a range of HIV clinical services (as outlined in Annex 1) in the context of service delivery according to a task shifting approach.

Comment: This recommendation places a high value on the evidence from selected countries that a wide range of HIV clinical services can be safely and efficiently moved from clinicians to nurses and midwives. In situations where a shortage of clinicians creates a bottleneck in the delivery of HIV services, task shifting of this type (task shifting II) can make a significant contribution to increasing access. Appropriate training, regular supportive supervision and well-functioning referral systems are essential preconditions for the success of the task shifting approach.

Summary of findings

The global deficit of doctors, nurses and midwives is at least 2.4 million [1]. According to the available data, many of those countries that are facing a generalized HIV epidemic also have acute shortages of human resources for health including shortages of nurses and midwives. However, the overall composition of a country's health workforce usually includes a larger number of nurses than of medical doctors or non-physician clinicians. For example, the ratio of nurses to doctors in South Africa and in the United States of America is approximately 5:1. In Malawi the ratio is around 25:1 [1].

Particular bottlenecks that have been identified in the efforts to expand provision of HIV services include the initiation and prescription of first-line antiretroviral therapy and other tasks that are

traditionally the responsibility of medical doctors [Annex a]. It follows, therefore, that extending the scope of practice of nurses to allow them to deliver a wider range of HIV services could increase access to services amid a shortage of more specialist health-care workers.

A number of studies have observed a successful expansion of the role of nurses in a wide range of health services, including for HIV, in both resource-constrained and non-resource-constrained settings [5-8 216].

One of the earliest examples is from Botswana, where the quest to increase access to antiretroviral therapy using the medical doctor-led model of treatment and care that has evolved in industrialized countries was to prove impossible due to a shortage of medical doctors. Two nurse-centred antiretroviral therapy delivery pilot projects started in 2004 and have shown reduced waiting lists (indicating increased access to treatment), reduced congestion at centralized antiretroviral therapy centres, reduced unnecessary travel by service users and the localized provision of support for adherence and education [217]. In Uganda many health centres are run by nurses or midwives without either a medical doctor or non-physician clinician on site.

The WHO-Commissioned Study on Task Shifting observed models of HIV care delivery that used a nurse-centred approach in combination with a significant community-based component. These models were achieving rapid scale-up in access to HIV services in, Ethiopia, Haiti, Malawi, Rwanda and Uganda [Annex a].

There are particularly convincing data on the safety and quality of outcomes for service users in both Haiti and Rwanda [Annex a]. The HIV treatment programmes that were using a task shifting approach showed low rates of abandonment; low rates of failure of first-line antiretroviral therapy; low rates of switch to second-line therapy; and rates of mortality at 12 months that were comparable to published studies from similar settings. Furthermore, people living with HIV/AIDS reported high levels of satisfaction with their health care.

Qualitative interviews and focus groups with staff members in sites where task shifting was occurring found that nurses and doctors agreed with the usefulness of task shifting and reported that they were willing both to take on more complicated tasks, and to shift more tasks to other cadres in the setting of appropriate training and mentorship [Annex a].

Advantages:

- Nurses are more numerous than medical doctors and non-physician clinicians in many of the countries that face shortages of human resources for health.

- Extending the scope of practice of nurses and midwives can increase access to services in the absence of medical doctors and non-physician clinicians.

- Expanding the role of nurses and midwives can help to ease bottlenecks and brings services closer to service users.

Uncertainties:

- To achieve the best outcomes, a nurse-centred service delivery model requires regular supportive supervision and immediate opportunities for referral to a medical doctor or non-physician clinician.

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting documents numerous examples of HIV service delivery where nurses are undertaking tasks formerly considered the responsibility of medical doctors or non-physician clinicians [Annex a].

In Ethiopia and Malawi the scope of practice of nurses has been formally extended to include the prescription of antiretroviral therapy in public sector health services.

In Uganda, a non-state sector programme has established a model whereby nurses take the lead and perform specific tasks such as antiretroviral therapy initiation or prescribing HIV/tuberculosis co-treatment.

In Haiti, the majority of HIV-related clinical tasks are undertaken by nurses under supervision, including prescribing antiretroviral therapy.

Recommendation 20

Community health workers, including people living with HIV/ AIDS, can safely and effectively provide specific HIV services (as outlined in Annex 1), both in a health facility and in the community in the context of service delivery according to the task shifting approach.

Comment: This recommendation places a high value on the evidence from selected countries that specific health services can be safely and efficiently moved from nurses and midwives to community health workers when they are appropriately trained, equipped and supervised and when they have access to well-functioning referral systems. In situations where a shortage of nurses and midwives creates a bottleneck in the delivery of HIV services, task shifting of this type (task shifting III) can make a significant contribution to increasing access. People living with HIV/AIDS, who are recruited and trained as community health workers, have a distinct role to play in addressing issues such as self-care, adherence, stigma and discrimination.

Summary of findings

Task shifting is firstly about the rational redistribution of tasks among existing health workforce teams in order to make the most efficient use of the health workers in the system. In addition, many countries also need to increase the total number of health workers very rapidly [218].

Community health workers, who undertake specific training to perform clearly delineated tasks, can be deployed much faster than the more highly trained cadres and can play an important role in complementing and supporting the services provided by other health workers [66].

It was the WHO Alma Ata Declaration on Primary Health Care in 1978 that established community health workers as a generic title and defined their role internationally [219]. In the context of these recommendations and guidelines on task shifting, the term is used to refer to all health workers who receive training that is outside the nursing and midwifery medical curricula but is, nevertheless, standardized and nationally endorsed. This can include health workers with a range of different roles and competencies and those that are providing essential services in a health facility, or in the community, as part of, or linked to, a health team at a facility.

Studies note that community health workers of one kind or another have been involved throughout the history of organized health services [66]. In particular, community health workers can make a significant contribution to decentralizing services to rural communities where shortages of human resources for health are felt most acutely. Their membership of the communities they serve makes them a vital link to the network of comprehensive public health services [38 220-222].

The broad consensus of the recent literature is that delegation to cadres of health workers with no formal clinical training can increase access to health care and improve quality of care. In particular there is evidence that community health workers can have a positive impact on health

outcomes in a wide variety of programmes that have addressed infant and maternal mortality, malaria, tuberculosis and other conditions [20 57 64 66 97 221 223-225].

For example, in 1983, a primary health-care programme in the Gambia trained community health workers in proper birthing techniques. Within three years, maternal mortality and neonatal mortality both fell to half the levels before the introduction of the programme [226]. An extensive field trial conducted from 1996 to 2003 in the Gadchiroli district of India trained community health workers to deliver primary neonatal care. This trial reported very significant improvements in health outcomes and showed that trained community health workers are highly effective at reducing mortality among children [227].

Malaria prevention and treatment programmes have also made effective use of community health workers. A trial of malaria prophylaxis in the Gambia provided by traditional birth attendants significantly reduced the frequency of low-weight births [228]. A controlled study in Zaire published in 1996 introduced community health workers to treat malaria in 12 villages in one area while retaining only a health centre in a nearby ecologically comparable area. After only two years, 65% of malaria cases were being treated by these community health workers in the intervention area and morbidity had fallen by 50% compared to the control area [229].

Community health workers are also playing an increasingly important role in health systems in high-income countries such as the United States of America where they have been shown to be particularly helpful in improving access to health care for vulnerable and underserved groups [230-232].

A number of studies have sought to systematically compare service delivered by community health workers with the traditional medical model. One review of 43 studies found that community health worker programmes showed greater efficiency in certain interventions, such as immunization uptake, but not in others [9]. Other studies have concluded that community health workers can achieve better patient outcomes at some cost saving in comparison with clinic-based care [223 233-235].

The success of community health workers in non-HIV programmes such as those cited above is supportive evidence that they can also be a successful component of HIV service delivery. In the context of HIV, recent studies have shown that antiretrivoral therapy programmes with community involvement, including the involvement of community health workers, have resulted in lower rates of patient loss to follow-up than programmes without community involvement [236 237].

A number of other studies conclude that community health workers can contribute to significantly better outcomes for service users on antiretroviral therapy. There is a consensus in the literature that community health workers could play an important contributory role in countries trying to increase access to HIV services and that these human resources remain underutilized [6 238-242].

Further evidence of the safety and effectiveness of task shifting to community health workers in well-designed programmes comes from rural Haiti, where community-based care of people living with HIV/AIDS has been highly effective [56 114].

However, there is consensus in the literature, and among experts, that certain preconditions must be met if community health workers are to perform to their full potential [99]. If the utilization of these cadres is to contribute to well-functioning, sustainable HIV services and to broader health systems strengthening it is vital that proper attention is given to issues around recruitment, training and continuing education, supportive supervision, referral systems, supplies of equipment and commodities and retention strategies (see other Recommendations) [40 65 66 243].

The WHO-Commissioned Study on Task Shifting observed various models of HIV care delivery that involved many community health workers – based both in the clinic and in the community – contributing significantly to the community-based approach to HIV services. Community health workers were observed undertaking a wide range of tasks, including the identification and referral of people living with HIV/AIDS; counselling; the execution and interpretation of rapid HIV testing; follow-up of stable clients on first-line antiretroviral therapy; monitoring and support of adherence;

dispensing of drugs prescribed by a qualified provider; and tasks related to the prevention of mother-to-child transmission. Community health workers are also trained to work in supportive services for HIV care, including as X-ray technicians, laboratory assistants, pharmacy assistants and data clerks.

The study findings include data to support the position that task shifting that involves community health workers as part of a team for the delivery of HIV services is both safe and effective. The involvement of community health workers also facilitates the provision of a number of services, such as adherence and psychosocial support, that are not feasible using a clinic-based approach alone.

Furthermore, people living with HIV/AIDS reported a high level of satisfaction with the health care they were receiving from community health workers. In a survey of 200 people living with HIV/AIDS, the great majority were satisfied or extremely satisfied with their assigned community health worker.

The WHO-commissioned study on task-shifting also included focus groups and qualitative interviews with over 400 community health workers in Haiti to attempt to understand their attitudes, expectations and understanding of their role in the health care of their communities. Similar research was conducted in Ethiopia and Rwanda. Community health workers expressed a willingness to assume new and extended tasks and more specialist cadres, such as nurses and doctors, generally supported the role of community health workers as integral to their own duties and recognized that the presence of community health workers allowed them to spend time on more complicated tasks.

A consultation with people living with HIV/AIDS, undertaken as part of the WHO Commissioned Study on Task Shifting, concluded that people living with HIV/AIDS have an important role to play as trained community health workers. Drawing from their own personal experience, they can make a particularly important contribution to addressing issues such as disclosure, prevention, self-care, adherence and stigma and discrimination. People living with HIV/AIDS often show a preference for community health workers who are also living with HIV/AIDS.

Advantages:

- The deployment of community health workers further extends the rational redistribution of tasks.

- Community health worker programmes make use of underutilized human resources.

- Shorter, task-specific training for community health workers facilitates rapid recruitment and deployment.

- Task shifting involving community health workers can make a major contribution to the decentralization of HIV services to rural areas and so bring health services closer to people living with HIV/AIDS and other patients.

- Community health workers can help expand human resource for health both at the facility and the community level for HIV services and other health-care services.

- The inclusion of community health workers in health teams allows frequent service-user interaction at the community level, which improves adherence, patient follow-up and psychosocial support.

Uncertainties:

- Essential support systems, including training, supervision and referral systems, may not be in place or functioning well enough.

- Strong planning and monitoring is needed to ensure an efficient system as a wide variety of cadres and roles poses challenges for coordination.

- The involvement of community health workers is unlikely to be sustainable without established remuneration mechanisms.

● Recent documentation of task shifting type III is less plentiful than that available for task shifting types I and II because there has been less reported experience of type III.

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting identifies numerous examples of the creation and effective deployment of new cadres of community health workers as part of the task shifting approach in those countries studied.

In Uganda, community health workers have been trained to fulfil a variety of roles in the delivery of HIV services. Some follow a 12-week course involving 6 weeks of classroom teaching and 6 weeks of clinical clerkship covering a range of theoretical and practical clinical skills related to HIV services. Others take a 12-day course that prepares them to offer adherence support, group education and counselling.

In Haiti and Rwanda, community health workers contribute to over half of the HIV-related tasks, including HIV testing activities, patient visits, management of patients prior to and after initiation of antiretroviral therapy, prevention of mother-to-child transmission and long-term follow-up of patients on antiretroviral therapy.

Recommendation 21

People living with HIV/AIDS who are not trained health workers can be empowered to take responsibility for certain aspects of their own care. People living with HIV/AIDS can also provide specific services that make a distinct contribution to the care and support of others, particularly in relation to self-care and to overcoming stigma and discrimination.

Comment: This recommendation places high value on the evidence that good health outcomes can be achieved when service users are empowered to participate in the management of their own condition. Self-management also contributes to the rational redistribution of tasks for HIV services (task shifting IV). The recommendation also recognizes the value of people living with HIV/AIDS as expert patients and the benefits of peer support in HIV services.

Summary of findings

Through a logical extension of the task shifting approach, people living with HIV/AIDS can be empowered to participate in a number of tasks relating to the management of their own condition and, by doing so, free more of the time of trained health workers. In addition, they have a unique contribution to make in providing care and support to others through counselling, adherence support and other services. People living with HIV/AIDS can also make a particular contribution as trained community health workers (as discussed in Recommendation 20). In these ways, people living with HIV/AIDS can contribute to the further expansion of the available human resources for delivering HIV services and to improvements in the quality of care.

There are many studies that describe the involvement of patients in chronic disease management in high-income countries [244-254]. In particular, self-management plays an important role in the

management of chronic conditions such as asthma, chronic heart disease and diabetes as well as HIV. Evaluation of self-management programmes has often shown improved health outcomes and reduced utilization of health services [244-254].

There is also evidence from many low-income countries of people living with diseases being trained to act as tutors for other patients in expert patients programmes [39].

The potential relevance of the expert patient concept for HIV/AIDS care in countries with a high HIV burden and a severe shortage of human resources for health has been variously documented [9]. According to the available evidence, people living with HIV/AIDS currently assume many different roles in HIV services. Most commonly, they are involved in the areas of health promotion and prevention, home-based care, adherence support and treatment literacy activities. In some places, associations of people living with HIV/AIDS have taken the lead in organizing such activities, while in others organizations that provide HIV services have recruited people living with HIV/AIDS as volunteers to take over specific tasks.

In Ethiopia and Uganda, people living with HIV/AIDS are contributing to HIV services in a range of roles, including being involved as expert patients in the training of health workers. In Ethiopia, focus groups were conducted with people who had used services that involved people living with HIV/AIDS. These services were well received. Service users reported that people living with HIV/AIDS had a particularly good understanding of what they needed and there was a sense that discrimination and stigma had decreased as a result of their active involvement in HIV care and support [Annex a].

Advantages:

- The involvement of people living with HIV/AIDS further expands the pool of human resources for HIV service delivery and can make a valuable contribution to the support of others.

- Empowering people living with HIV/AIDS to take responsibility for certain aspects of their own care improves quality of care and produces good health outcomes.

Uncertainties:

- The challenges related to the involvement of people living with HIV/AIDS in HIV service delivery include the need for training and coordination.

Selected examples of experience/additional resources:

Several countries including Botswana, Côte d' Ivoire, Haiti, Kenya, Nigeria, Rwanda, South Africa, Uganda and Zambia are currently training people living with HIV/AIDS as expert patients to provide basic HIV support, treatment adherence and psychosocial support [39].

WHO has produced Patient Self-Management and Caretaker Booklets to support self-care available at: http://www.who.int/hiv/pub/imai/PatientCommune/en/index.html

Recommendation 22

Cadres, such as pharmacists, pharmacy technicians or technologists, laboratory technicians, records managers and administrators, could be included in a task shifting approach that involves the full spectrum of health services.

Comment: This recommendation notes that the potential for redistribution of tasks to, from and between all the cadres involved in health service delivery merits further investigation.

Summary of findings

Health service delivery involves a wide range of skilled workers who do not traditionally have a clinical function. In many countries these cadres, which include pharmacists, pharmacy technicians or technologists, laboratory technicians, records managers and administrators, are also facing acute human resource shortages. In Malawi, there are currently only three pharmacists working in the public sector [45]. These shortages may be alleviated by a task shifting approach whereby some tasks are delegated to less highly trained workers or across to other cadres.

This aspect was not the focus of the WHO-Commissioned Study on Task Shifting. Nevertheless, the study did find evidence of informal changes to the scope of practice among several cadres, such as laboratory technicians, pharmacists and counsellors [Annex a].

In Haiti, pharmacy assistants take on some of the tasks of pharmacists, such as dispensing, organizing and stocking medications. Laboratory assistants draw blood and execute simple laboratory tests, including HIV rapid tests, and X-ray technicians execute X-rays.

Where the shortages of pharmacists are extreme, the study also notes examples of nurses and midwives or community health workers who can show competency in HIV therapy management and are dispensing medication under supervision.

Where the shortages are less acute, there are also circumstances in which cadres, such as pharmacists, pharmacy technicians, counsellors and laboratory technicians, contribute to an array of tasks that are far broader than their original job description might entail. For example, in Haiti many contribute to referrals for HIV testing, recognition and referral of side-effects of HIV therapy and counselling of patients. This is often performed informally; an X-ray technician, for example, might confidentially refer a service user for HIV testing if the person reveals information suggesting that he or she has symptoms of HIV infection, or is otherwise at risk.

There is evidence from a number of studies to suggest that pharmacists can safely and effectively undertake a range of HIV clinical services [255] [256] [257].

In qualitative interviews undertaken as part of the WHO-Commissioned Study, pharmacists, social workers or counsellors, and laboratory technicians showed a readiness to expand their roles by taking on new tasks and to delegate some of their tasks to others. Interviewees emphasized the importance of a team approach, including referral systems and supportive supervision, if task shifting of this type is to succeed.

Advantages:

- The inclusion of all cadres in the task shifting approach allows for further rationalization of the distribution of tasks across the health workforce.

Uncertainties:

- The WHO Commissioned Study on Task Shifting was not designed to undertake systematic mapping and analysis of task shifting among cadres of health workers such as pharmacists, laboratory technicians, records managers and administrators [Annex a].

Selected examples of experience/additional resources:

The WHO-Commissioned Study on Task Shifting provides details of some task shifting that is currently taking place among pharmacists, laboratory technicians, records managers and administrators in Haiti, Malawi, Rwanda and Uganda [Annex a].

Annex 1
HIV clinical tasks by
health worker cadres

The following table provides a list of activities (or tasks) that are involved in the prevention, care and treatment of HIV and AIDS. The tasks have been categorized under 12 headings, which represent services that are recognized as essential for preventing the transmission of HIV, identifying HIV-positive (HIV+) patients, providing basic HIV clinical management, and initiating and maintaining antiretroviral therapy (ART). The list does not represent all the tasks that comprise comprehensive clinical management of HIV. It is restricted to a rational selection of tasks that have been chosen based upon their importance and frequency.

The list of tasks has been selected based on a review of a range of service delivery models, curricula and expert opinion as follows:

- Current service delivery models and training curricula for HIV services in China, Ethiopia, Haiti, Malawi, Namibia, Uganda and Rwanda; [i]

- Partners in Health (PIH) service delivery model and training curricula; [ii]

- International Association of Physicians in AIDS Care (IAPAC) hierarchy of HIV clinical management and training curricula; [iii]

- WHO Integrated Management of Adult Illness (IMAI) modules; [iiiv]

- Expert HIV/AIDS physicians and nurses from Africa, the Americas, Asia and Europe.

Each task in the table is cross-referenced against the main categories of health worker cadres. These are **MD (medical doctor)**; **NPC (non-physician clinician)**; **N (nurse)**; and **CHW (community health worker)**. An **X** is used to indicate which cadres are able to execute that task in a manner that is both safe and effective, assuming that all health workers have standardized training and appropriate supervision specific to the performance of the individual task. People living with HIV/AIDS who are working as CHWs can add value in the delivery of specific services by virtue of their own HIV status provided that they undergo appropriate training and supervision.

The tasks have been assigned to the cadres according to:

- A review of published literature on existing task shifting practices in HIV clinical management;

- An analysis of current task shifting as per the WHO-Commissioned Study on Task Shifting;

- Expert opinion gauging professional health worker confidence in shifting tasks from one cadre to another given standardized training and appropriate supervision.

The table is intended as a guide that indicates the potential scope of practice for each health worker cadre. In practice, decisions on which cadre is assigned responsibility for which tasks will be made at the country level based on a number of factors, including the demography of the available human resources for health and the service delivery model that is in place or that the country wishes to adopt.

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[i]   Annex a

[ii]   http://www.pih.org/inforesources/pihguide-dotstb.html
      http://www.pih.org/inforesources/pihguide-mdrtb.html
      http://www.pih.org/inforesources/pihguide-hiv.html

[iii] http://www.iapac.org

[iiiv] http://www.who.int/3by5/publications/documents/imai/en/

1. HIV Sensitization, Literacy, Education, Counselling				
a. Community-Based Education	**MD**	**NPC**	**N**	**CHW**
Educate on HIV testing and counselling and prevention issues	X	X	X	X
Conduct counselling on HIV/AIDS with individual patient and/or the caregiver if the patient is a child	X	X	X	X
Educate on HIV/AIDS as group education	X	X	X	X
Conduct counselling on ART with individual patient or caregiver if the patient is a child	X	X	X	X
Educate on ART in group	X	X	X	X
b. Facility-Based Education	**MD**	**NPC**	**N**	**CHW**
Conduct counselling on HIV/AIDS with individual patient and/or the caregiver if the patient is a child	X	X	X	X
Educate on HIV/AIDS as group education	X	X	X	X
Conduct counselling on ART with individual patient or caregiver if the patient is a child	X	X	X	X
Educate on ART in group	X	X	X	X
c. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in these activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in these activities	X	X	X	
2. Testing and Counselling in Facility and Community				
a. Testing and Counselling	**MD**	**NPC**	**N**	**CHW**
Recognize HIV-related illnesses and refer patient for HIV testing	X	X	X	X
Offer HIV testing and counselling (including TB patients and TB suspects)	X	X	X	X
Conduct pretest counselling	X	X	X	X
Execute and interpret HIV test (rapid test or ELISA)	X	X	X	X
Take and prepare blood for CD4 test	X	X	X	
Take and prepare blood for DNA PCR or RNA PCR	X	X	X	
Conduct post-test counselling	X	X	X	X
b. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in these activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in these activities	X	X	X	
3. Preventive Interventions				
a. Basic Interventions	**MD**	**NPC**	**N**	**CHW**
Provide key information on HIV, safer sex and condom use and distribute condoms and educational materials when available	X	X	X	X
Educate and counsel on sexually transmitted infections (STIs)	X	X	X	X

	MD	NPC	N	CHW
Manage STIs	X	X	X	
Assess family status including pregnancy, family planning, partner and children status	X	X	X	X
Advise on prevention for IDU and harm reduction	X	X	X	X
Provide preventive measures (co-trimoxazole; mebendazole; iron/folate; preventive treatment against malaria; etc.) and educate on preventive measures against STIs	X	X	X	
b. Prevention of Mother-To-Child Transmission (PMTCT)	**MD**	**NPC**	**N**	**CHW**
Offer HIV counselling and testing to pregnant women	X	X	X	X
Execute and interpret HIV test (rapid test or ELISA)	X	X	X	X
Counsel mother on interventions to reduce the risk of transmitting HIV to her infant	X	X	X	X
Advise and counsel on safer sex, partner and children testing	X	X	X	X
Assess the acceptability of the proposed interventions	X	X	X	X
Educate on basic preventive measures for malaria, TB, worms	X	X	X	X
Provide antenatal care	X	X	X	
Provide preventive measures (co-trimoxazole; mebendazole; iron/folate; preventive treatment against malaria; etc.) and educate on preventive measures against STIs	X	X	X	
Request CD4 count exam	X	X	X	
Assess eligibility for ART (no PMTCT)	X	X	X	
If not medically eligible for ART, offer PMTCT interventions	X	X	X	
Introduce information regarding infant feeding options	X	X	X	X
Discuss plans for delivery, the likely delivery location and the birth attendant; review strategies to decrease the risk of transmission at the time of delivery	X	X	X	X
Discuss where the prophylactic antiretroviral (ARV) will be kept until needed and how the woman will access the ARV at the correct time	X	X	X	X
Give good care during labour and childbirth	X	X	X	
Provide PMTCT interventions during labour and child birth	X	X	X	
Reconsider eligibility for ART after delivery	X	X	X	
Advise and counsel on family planning	X	X	X	X
c. Post-Exposure Prophylaxis (PEP)	**MD**	**NPC**	**N**	**CHW**
Recognize exposure that could place health workers at risk of HIV infection	X	X	X	X
Recommend two or more ARV drug PEP regimens	X	X	X	
Initiate two or more ARV drug PEP regimens	X	X	X	
Manage self-limiting side-effects of ARV drugs in PEP regimens	X	X	X	X
Manage severe toxicities of ARV drugs in PEP regimens	X			
Execute and interpret post-exposure HIV test	X	X	X	X
Provide counselling and support, and refer to formal psychological counselling as needed	X	X	X	X

Provide facility- and community-based education regarding health worker safety and PEP, as part of general HIV education and stigma reduction	X	X	X	X
d. Circumcision	**MD**	**NPC**	**N**	**CHW**
Perform pre-surgical assessment	X	X	X	
Provide pre-surgical treatment, including syndromic management of STIs	X	X	X	
Provide sexual and reproductive health counselling	X	X	X	X
Conduct pre-surgical counselling	X	X	X	X
Perform circumcision (sterilization, aseptic technique, local anaesthesia, surgical procedure)	X	X		
Provide post-surgical care (aseptic technique, wound management)	X	X		
Manage complications and refer	X	X		
e. Positive Prevention	**MD**	**NPC**	**N**	**CHW**
Educate and counsel on preventing sexual and non-sexual transmission of HIV	X	X	X	X
Counsel on reproductive choices and family planning	X	X	X	X
Advise on how to prevent other infections	X	X	X	X
Encourage physical activity	X	X	X	X
Advise on nutrition, clean water and other sanitation measures	X	X	X	X
f. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	
4. Clinical Management of HIV				
a. Triage	**MD**	**NPC**	**N**	**CHW**
Decide which patient needs to be seen by which health worker	X	X	X	X
b. Patient Visit and Clinical Review	**MD**	**NPC**	**N**	**CHW**
Register	X	X	X	X
Find medical record and return it to files	X	X	X	X
Take weight	X	X	X	X
Take vital signs	X	X	X	X
Take height	X	X	X	X
Assess clinical signs and symptoms	X	X	X	
Assess pregnancy status, family planning and HIV status of partners and children	X	X	X	X
Determine functional status	X	X	X	X
Review TB status	X	X	X	X
Request laboratory tests	X	X	X	
Provide clinical care	X	X	X	

	MD	NPC	N	CHW
Provide co-trimoxazole prophylaxis	X	X	X	
Provide fluconazole prophylaxis	X	X	X	
Execute simple laboratory tests	X	X	X	
Register results/fill in lab result form	X	X	X	X
Interpret laboratory results (other than CD4, viral load)	X	X	X	
Administer intramuscular (IM) or subcutaneous (SC) injections	X	X	X	X
Provide wound care or change dressings	X	X	X	X
Perform microscopy	X	X	X	
Execute X-Rays	X	X		
Interpret X-Rays	X	X		
Provide psychological support	X	X	X	X
Provide formal psychological counselling (individual)	X	X	X	
Decide to hospitalize patient	X	X	X	
Complete medical record (paper/electronic)	X	X	X	X
c. HIV Clinical Staging	**MD**	**NPC**	**N**	**CHW**
Determine WHO clinical staging	X	X	X	
Request CD4 test	X	X	X	
d. Manage Opportunistic Infections (OIs) and Other Complications	**MD**	**NPC**	**N**	**CHW**
Manage herpes zoster, with no other signs/symptoms	X	X	X	
Manage oral thrush (candidiasis) with mild weight loss	X	X	X	
Manage watery non bloody diarrhoea > 3 weeks in patient who did not receive treatment before, with weight loss	X	X	X	
Manage intermittent fever for more than 5 weeks and weight loss, malaria test negative	X	X	X	
Manage purple lesions and swelling of the leg, looking like Kaposi's sarcoma	X	X		
Manage headache, fever and weakness of one side of the body	X	X		
Manage a 12-month-old HIV+ child with a height and weight that is far too low for its age	X	X	X	
Recognize and treat severe bacterial pneumonia	X			
Recognize and treat recurrent, non-responsive or severe oral and oesophageal thrush (candidiasis)	X	X		
e. Manage TB Coinfection	**MD**	**NPC**	**N**	**CHW**
Identify an HIV+ patient with symptoms such as chronic cough and/or chronic fever and/or weight loss as a TB suspect and encourage/assist clinic visit	X	X	X	X
Request sputum exam (Ziehl-Neelsen) for TB suspects	X	X	X	
Request additional exams (such as X-ray) to establish the diagnosis of TB in TB suspects with negative sputum results	X	X	X	
Decide to initiate TB treatment with a first episode of pulmonary TB with positive sputum results	X	X	X	

	MD	NPC	N	CHW
Decide to initiate TB treatment with sputum-negative and/or extrapulmonary TB	X	X	X	
After decision for initiation of TB treatment, provide TB treatment to sputum-positive pulmonary TB patients with HIV	X	X	X	
After decision for initiation of TB treatment, provide TB treatment to patients other than sputum-positive pulmonary	X	X	X	
Monitor TB treatment response	X	X	X	
Initiate isoniazid (INH) prophylaxis	X	X	X	
Provide INH prophylaxis	X	X	X	
Treat a dry itching diffuse skin rash (not involving mouth or eyes) under co-trimoxazole prophylaxis	X	X	X	
f. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	
5. ART				
a. Preparation for ART	**MD**	**NPC**	**N**	**CHW**
Explain goal, benefit and risks of ART	X	X	X	X
Counsel patient on the importance of adherence and explore options to maintain long-term adherence	X	X	X	X
Prepare the individual patient and/or patient's caregiver to initiate ART	X	X	X	X
Establish readiness of the patient to start ART	X	X	X	X
Explain food/other diet restrictions where needed	X	X	X	X
b. Eligibility for ART	**MD**	**NPC**	**N**	**CHW**
Establish medical eligibility for ART in a naive patient	X	X	X	
Request laboratory test relevant to specific ARV drug initiation (pregnancy test if efavirenz or haemoglobin if zidovudine)	X	X	X	
c. Initiation of ART	**MD**	**NPC**	**N**	**CHW**
Recommend first-line ARV regimen for ART-naive patient	X	X	X	
Recommend first-line regimen for ART-experienced patient	X	X		
Recommend first-line ARV regimen with TB coinfection	X	X	X	
Recommend first-line ARV regimen in a pregnant woman (no PMTCT)	X	X	X	
Decide on when to start ART in eligible patients who have an active OI (taking into account if stabilization of OI is needed and possible)	X	X	X	
d. Prescription of ART	**MD**	**NPC**	**N**	**CHW**
Prescribe first-line ART	X	X	X	
Prescribe second-line ART	X			
Prescribe third-line ART	X			

e. Supervision	MD	NPC	N	CHW
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	
6. Early Follow-Up (up to 3 months from starting ART)				
a. Clinical Monitoring	**MD**	**NPC**	**N**	**CHW**
Take weight	X	X	X	X
Take vital signs	X	X	X	X
Determine functional status	X	X	X	X
Monitor and support adherence	X	X	X	X
Request CD4 test and VL (if available)	X	X	X	
b. Respond to New Signs and Symptoms and Possible Side-Effects	**MD**	**NPC**	**N**	**CHW**
Recognize/manage self-limiting ARV drug side-effects and encourage/assist consultation or clinic visit when necessary	X	X	X	X
Manage headache and fever 2 weeks after initiation of d4T/3TC/NVP (malaria test negative)	X	X	X	
Manage a patient on d4T/3TC/NVP since 3 weeks who develops a generalized dry skin rash without other symptoms	X	X	X	
Manage a patient on AZT/3TC/NVP since 2 weeks with nausea without other symptoms	X	X	X	
Manage herpes zoster 4 weeks after ART initiation	X	X	X	
Manage oral thrush 8 weeks after ART initiation (patient at WHO clinical stage 4 at initiation)	X	X	X	
Recognize treatment failure from clinical symptoms	X	X	X	
Manage rare severe toxicities associated with ART	X			
c. Manage TB Coinfection	**MD**	**NPC**	**N**	**CHW**
Initiate INH prophylaxis	X	X	X	
Identify symptoms such as chronic cough and/or chronic fever and/or weight loss as a TB suspect in the first 3 months of ART and encourage/assist clinic visit	X	X	X	X
Request sputum exam (Ziehl-Neelsen) for TB suspects in the first 3 months of ART	X	X	X	
Request additional exams (such as X-ray, ultrasound etc.) to establish the diagnosis of TB in TB suspects in the first 3 months of ART	X	X	X	
Initiate TB treatment patient with a first episode of pulmonary TB with positive sputum results	X	X	X	
Decide to initiate TB treatment in patient with sputum-negative and/or extrapulmonary TB	X	X		
After decision for initiation of TB treatment, provide TB/ART co-treatment to patient with sputum-positive pulmonary TB	X	X	X	

	MD	NPC	N	CHW
After decision for initiation of TB treatment, provide TB/ART co-treatment to patients other than sputum-positive pulmonary TB patients	X	X		
Monitor TB treatment response	X	X	X	
Provide combined TB/ART directly observed treatment (DOT) if necessary	X	X	X	X
Recognize side-effects of TB and/or HIV medications and encourage/assist consultation or clinic visit when necessary	X	X	X	X
Identify a patient with symptoms suspected for TB immune reconstitution inflammatory syndrome (IRIS)	X	X		
Manage suspected TB IRIS	X	X		
d. Manage Substitution or Switch of ARV Regimen	**MD**	**NPC**	**N**	**CHW**
Switch to alternative first-line ARV regimens	X	X		
Switch to second-line ARV regimens	X	X		
e. Dispensing and Arranging Follow-Up	**MD**	**NPC**	**N**	**CHW**
Dispense ARV and other drugs	X	X	X	X
Arrange follow-up visit	X	X	X	X
f. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	
7. Long-Term Follow-Up (3 months after initiation of ART)				
a. Clinical Monitoring	**MD**	**NPC**	**N**	**CHW**
Monitor and support ART adherence	X	X	X	X
Take weight	X	X	X	X
Take vital sings	X	X	X	X
Determine functional status	X	X	X	X
Request CD4 test and VL (if available and indicated)	X	X	X	
Recognize/manage self-limiting ARV side-effects	X	X	X	X
Manage headache and fever 10 months after initiation of d4T/3TC/NVP	X	X	X	
Treat a patient on d4T/3TC/NVP with tingling in fingers and toes since 2 weeks	X	X	X	
Recommend another treatment for a patient on d4T/3TC/NVP with severe lipoatrophy or fat maldistribution	X	X		
Prescribe another treatment for a patient on d4T/3TC/NVP with severe and disturbing lipoatrophy or fat maldistribution	X	X		
Manage oral thrush 24 months after ART initiation (WHO clinical stage 4 at initiation)	X	X	X	
Recognize treatment failure from clinical symptoms	X	X		
Manage rare severe toxicities associated with ART	X			
Recognize/manage immune reconstitution syndrome	X	X		

b. Manage TB Coinfection	MD	NPC	N	CHW
Identify symptoms such as chronic cough and/or chronic fever and/or weight loss as a TB suspect	X	X	X	
Request sputum exam (Ziehl-Neelsen) for TB suspects	X	X	X	
Request additional exams (such as X-ray) to establish the diagnosis of TB in TB suspects with negative sputum results	X	X	X	
Initiate TB/ART co-treatment with a first episode of pulmonary TB with positive sputum results	X	X	X	
Decide to initiate TB treatment for HIV+ patients with sputum-negative and/or extrapulmonary TB	X	X		
After decision for initiation of TB treatment, provide TB treatment to sputum-positive pulmonary TB patients with HIV	X	X	X	
After decision for initiation of TB treatment, provide TB treatment to patients other than sputum-positive pulmonary TB patients	X	X	X	
Monitor TB treatment response	X	X	X	
Recognize side-effects of TB and/or HIV medications and encourage/assist consultation or clinic visit when necessary	X	X	X	X
Provide combined TB/ART DOT if necessary in a patient who is on ART > 3 months	X	X	X	X
c. Manage Substitution or Switch of ARV Regimen	MD	NPC	N	CHW
Switch to alternative first-line ARV regimens	X	X		
Switch to second-line ARV regimens	X			
Choose an appropriate third-line ARV regimen	X			
d. Dispensing and Arranging Follow-Up Visits	MD	NPC	N	CHW
Dispense ARV and other drugs	X	X	X	X
Arrange follow-up visits	X	X	X	X
e. Supervision	MD	NPC	N	CHW
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	
8. Clinical Management of HIV+ Pregnant Women				
a. Clinical Management of HIV, Including ART	MD	NPC	N	CHW
Describe the benefits and risks of ART in the first trimester and throughout the rest of the pregnancy and general health principles for pregnant women	X	X	X	X
Provide chronic HIV care	X	X	X	
Establish eligibility for ART	X	X	X	
Explain when to start ART; adherence and monitoring; management of mild side-effects	X	X	X	X
When the pregnant woman is medically eligible for ART, prescribe a non-teratogenic ART	X	X	X	
When a woman on ART becomes pregnant, know when to substitute for efavirenz (first trimester)	X	X	X	

	MD	NPC	N	CHW
Prescribe a non-teratogenic second-line therapy where needed	X	X		
Educate on basic preventive measures for malaria, TB, worms	X	X	X	X
b. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	

9. Clinical Management of Neonates, Including PMTCT

a. Clinical Management	**MD**	**NPC**	**N**	**CHW**
Provide ARV prophylaxis to neonate	X	X	X	
Provide neonate care plan including co-trimoxazole prophylaxis	X	X	X	
Monitor co-trimoxazole prophylaxis	X	X	X	
Explain timing for HIV test of the child to parents	X	X	X	X
Make a presumptive diagnosis of severe HIV diseases in children < 18 months (in the absence of DNA PCR)	X	X	X	
Take and prepare blood for DNA PCR	X	X	X	
Provide regular assessment and early detection of HIV-related symptoms	X	X	X	
Decide on referral	X	X	X	
Follow up HIV status in an HIV-negative child born from an HIV+ mother and receiving breastfeeding	X	X	X	
Assess developmental milestones in a child (possibly) infected with HIV	X	X	X	
Counsel HIV+ mothers with a child of unknown HIV status on feeding options	X	X	X	X
b. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	

10. Clinical Management of HIV+ Children

a. HIV Diagnosis	**MD**	**NPC**	**N**	**CHW**
Make presumptive diagnosis of severe HIV diseases (if virological testing not available)	X	X	X	
Confirm HIV infection	X	X	X	
b. Clinical Management (non-OI, non-ART)	**MD**	**NPC**	**N**	**CHW**
Perform clinical review of signs and symptoms	X	X	X	
Check for development milestones	X	X	X	
Interpret the CD4 cell count in young children	X	X	X	
Determine clinical staging	X	X	X	
Assess and manage nervous system and developmental manifestations of HIV infection among children	X			
Assess and manage HIV-associated malignancies in children	X			

Provide supportive care to children with HIV-associated malignancies	X	X	X	
c. Management of OIs before Starting ART	**MD**	**NPC**	**N**	**CHW**
Provide co-trimoxazole prophylaxis	X	X	X	
Manage TB	X			
Manage severe OI	X			
Manage non-severe pneumonia	X	X	X	
Manage persistent diarrhoea	X	X	X	
Manage oesophageal thrush	X	X	X	
Manage anaemia	X	X	X	
d. Nutrition	**MD**	**NPC**	**N**	**CHW**
Educate and counsel on proper local foods	X	X	X	X
Educate and counsel on clean water and sanitation	X	X	X	X
e. Psychosocial Support for HIV+ Children and for Other Children in Household, Including Orphans	**MD**	**NPC**	**N**	**CHW**
Educate and counsel caregiver	X	X	X	X
Support and counsel the child	X	X	X	X
Support child and caregiver for disclosure	X	X	X	X
Support child and caregiver for appropriate development	X	X	X	X
Support child and caregiver for illness and death	X	X	X	X
Support for orphans and vulnerable children and their caregivers	X	X	X	X
f. Initiation of ART	**MD**	**NPC**	**N**	**CHW**
Educate and counsel child and/or caregiver on adherence	X	X	X	X
Evaluate the child's eligibility for ART	X	X	X	
Determine eligibility for ART	X	X	X	
Determine any barriers to adhering to ART	X	X	X	X
Offer assistance in disclosure if necessary	X	X	X	X
Assist the family in incorporating ART in daily life	X	X	X	X
Recommend first-line ARV regimen	X			
Calculate the correct dose of ARV medicines	X	X		
Prescribe first-line ARV regimen	X			
Explain the management and planning for an uninterrupted supply of medication for children	X	X	X	X
Understand the correct dose and drug formulations for children	X	X		
Monitor adherence; monitor and manage side-effects; and monitor effectiveness	X	X	X	
Adjust ART as appropriate as the weight changes	X	X		
Substitute individual drugs in first-line ARV regimen	X			
Manage acute care for life-threatening complications of ART in children	X			
Provide treatment options for children who fail ART	X			

g. Supervision	MD	NPC	N	CHW
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	

11. Clinical Management of Injection Drug Users (IDUs)				
a. Harm Reduction	**MD**	**NPC**	**N**	**CHW**
Educate on risks of injecting drugs (e.g. HIV, and hepatitis B and C viruses)	X	X	X	X
Encourage and support IDUs to minimize risks	X	X	X	X
Encourage enrolment in drug substitution programme (DSP)	X	X	X	X
Counsel on safer sex issues	X	X	X	X
Discuss disclosure and encourage partner testing	X	X	X	X
b. Clinical Management (non-ART)	**MD**	**NPC**	**N**	**CHW**
Determine whether patient is a current IDU	X	X	X	X
Determine if patient is in DSP	X	X	X	X
Assess psychological status	X	X	X	
Determine hepatitis B virus (HBV) vaccination status	X	X	X	X
Diagnose common infections (e.g. abscesses, pneumonia)	X	X	X	
Manage common infections (e.g. abscesses, pneumonia)	X	X	X	
Recommend that patient consider enrolment in DSP	X	X	X	
Prepare patient for DSP	X	X	X	X
Initiate patient on DSP	X	X	X	
Monitor adherence to DSP	X	X	X	X
Support adherence to DSP	X	X	X	X
Screen for signs and symptoms associated with methadone	X	X	X	
Manage signs and symptoms associated with methadone	X	X	X	
Adjust dose of substitution drug	X	X		
c. IDUs and ART	**MD**	**NPC**	**N**	**CHW**
If drug substitution is available, start ART when optimal dose of methadone is reached	X	X		
If drug substitution is unavailable, start ART if patient can have additional adherence support or has demonstrated ability to be adherent	X	X		
Counsel on importance of ART adherence	X	X	X	X
Provide additional adherence support, including DOT	X	X	X	X
Adjust methadone dosing if prescribing efavirenz- or nevirapine-based ARV regimens	X	X		
If efavirenz or nevirapine are discontinued, incrementally decrease methadone dosing	X	X		
Consider other drug-drug interactions with methadone (e.g. protease inhibitors, rifampicin)	X	X		

	MD	NPC	N	CHW
Counsel on special nutritional needs	X	X	X	X
d. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	
12. Palliative Care				
a. Pain Management	**MD**	**NPC**	**N**	**CHW**
Conduct pain assessment(s)	X	X	X	X
Treat mild, moderate and severe pain using chronic pain management guidelines, including oral morphine	X	X	X	
Teach the patient and caregiver how to give pain medicine	X	X	X	X
Teach the patient and caregiver how to give oral morphine	X	X	X	X
Prevent, recognize and treat the side-effects of pain medications	X	X	X	
Advise on non-pharmacologic methods for controlling pain	X	X	X	X
Treat extreme, non-responsive pain appropriately, including through the use of steroids where indicated	X	X		
b. Symptom Management	**MD**	**NPC**	**N**	**CHW**
Manage common symptoms (weight loss, nausea, fever, diarrhoea, trouble sleeping, anxiety, etc.)	X	X	X	
c. Psychosocial Support and End-of-Life Care	**MD**	**NPC**	**N**	**CHW**
Counselling, psychosocial and spiritual support	X	X	X	X
Support for patient at end of life	X	X	X	X
Support for caregivers, family members and children	X	X	X	X
d. Supervision	**MD**	**NPC**	**N**	**CHW**
Supervise NPCs, Ns and CHWs in the above activities	X			
Supervise Ns and CHWs in the above activities	X	X		
Supervise CHWs in the above activities	X	X	X	

Annex 2
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Annex 3
Methodology

The recommendations and guidelines on task shifting were developed based on the existing evidence that is available in both peer-reviewed literature and in "grey" literature such as policy documents and reports. These sources were complemented by evidence gathered through specifically commissioned studies in seven selected countries that had different degrees of experience in task shifting. The evidence gathering was informed and guided by a wide range of experts and stakeholders and by a number of selected countries that were already implementing a task shifting approach to varying degrees. The evidence was reviewed by a panel of experts over a period of one year at a total of nine international consultations. The final text of each of the recommendations is based on the consensus that was reached.

The steps in the process between January and December 2007 can be summarized as follows:

1. Identification of the needs and scope

2. Development of partnerships and technical collaborations

3. Review of peer-reviewed and "grey" literature

4. Gathering of expert opinion

5. Identification of evidence gaps

6. Additional research in countries

7. Drafting, review and revision of the recommendations and guidelines

The activities undertaken at each of these steps is described in detail below.

1. Identification of needs and scope

At the outset, in late 2006, WHO undertook an initial preparatory process of country consultation. This involved a series of country visits to Ethiopia, Haiti, Malawi, Namibia, Rwanda and Uganda, where multisectoral meetings were held to consult relevant stakeholders about their knowledge and opinions on the task shifting approach and their own identification of the needs and challenges involved. This helped to identify the themes that needed to be addressed by the recommendations and guidelines on task shifting. It also established, from the start, that the development of the recommendations and guidelines would be a process led by countries with direct experience of implementing the task shifting approach to increase access to HIV services.

The themes were further defined in consultation with a selected number of technical experts on HIV and human resources for health and with other stakeholders, including government representatives from HIV programmes and human resources for health departments from health ministries; representatives from other ministries, such as education and labour; regulatory bodies; United Nations agencies; donors; health workforce representatives, including professional associations and unions; academic institutions; civil society organizations; and representatives of people living with HIV/AIDS.

On the basis of the experiences of the participating countries and an initial review of the evidence available in the published literature, those who were involved in the consultation process identified the issues that would need to be considered by countries wishing to adopt, or extend, a task

shifting approach for the delivery of HIV services on a wide scale. These issues can be summarized as follows:

- The organization of clinical care services under a task shifting approach;

- The quality assurance mechanisms for task shifting, including the standardization of training, scope of practice and job requirements;

- The definition of the regulatory framework needed to support task shifting;

- The opinions and involvement of people living with HIV/AIDS;

- The costing implications and sustainability of a task shifting approach.

2. Development of partnerships and technical collaborations

To further explore these themes, WHO issued a call for proposals from academic and technical institutions with expertise in each of the research areas. The proposals were reviewed and, on the basis of the proposals, independent bodies were selected and commissioned to analyse existing evidence and to undertake specific additional studies in selected countries.

A total of 13 independent institutions participated in the research process in the role of technical partners and collaborators. These were (in alphabetical order) the Association of Nurses in AIDS Care, United States; Centers for Disease Control and Prevention, United States; Global Network of People Living with HIV/AIDS, the Netherlands; George Washington University, United States; Partners In Health, Harvard Medical School, United States; Health GAP, United States; Institut de Recherche et Documentation en Economie de la Santé (IRDES), France; Institut National de la Santé et de la Recherche Médicale (INSERM), Research Unit 379, France; Institute of Tropical Medicine, Belgium; International Association of Physicians in AIDS care, United States; International Council of Nurses, Switzerland; Makerere University, Uganda; Université Cheikh Anta Diop, Senegal; University of Addis Ababa, Ethiopia.

WHO also established partnerships and technical collaboration with other United Nations agencies and international organizations, in particular with the Joint United Nations Programme on HIV/AIDS (UNAIDS), the Office of the US Global AIDS Coordinator, the International Labour Organization and the World Bank.

3. Review of peer-reviewed and "grey" literature

Work in each of the identified areas began with a systematic review of the published, peer-reviewed, literature and of reports, monographs and other available materials ("grey" literature).

The search utilized the following databases:

- aim
- bmj clinical evidence
- cochrane
- factiva
- imemr
- imsear
- international financial statistics
- isi – current contents connect
- isi – journal citation reports
- isi – web of science

- lilacs
- nlm gateway
- popline
- pubmed/medline
- world bank – e-library
- world bank – world development indicators
- yearbook of international organizations
- wholis (the WHO headquarters library database)

To further extend the search strategy an additional review was undertaken using the Google search engine.

The search key words (used individually and in combination) included: task shifting; clinical services; HIV services; TB services; malaria services; child health; maternal health; chronic diseases; task substitution; skill mix; task sharing; task rationalization; decentralization; primary health care; HIV ART outcomes; TB care outcomes; malaria outcomes; nurses prescribing; clinical officers prescribing; community health workers; laboratory exams; drug dispensing; patient workload; FTE requirements; quality mechanisms; quality improvements; assessment performance; credentialing; certification; exams; practical exam; job description; terms of reference; recruitment criteria; regulatory framework; legal issues; policy issues; new cadre; scope of practice; professional associations; regulatory bodies; guidelines; governing bodies.

In addition, a further search was performed by inputting the key terms used in each of the 22 recommendations as search words.

4. Gathering of expert opinion

The country representatives, technical partners and collaborators as well as a wider group of experts and stakeholders were invited to consider the evidence obtained through the literature review. Despite the information from countries that task shifting is currently being used in a number of settings to respond to the shortage of human resources for health, there was found to be a shortage of authoritative published information on these experiences. The technical experts identified the areas where sufficient evidence and experience existed and those where further investigation was needed to bring clarity.

5. Identification of evidence gaps

Evidence gaps were identified as follows:

- The available evidence did not provide information on the full range of tasks that may be shifted.

- There was insufficient evidence on which tasks to shift to from one cadre to another.

- There was no evidence on the full time equivalents (FTE) of health workers needed to deliver HIV services according to a task shifting approach.

- There was little robust outcome data for health services using a task shifting approach.

- There was insufficient evidence on the use of a specific regulatory framework to support task shifting in resource-constrained settings.

- There was insufficient evidence on the creation of new cadres of health workers in response to the human resources for health crisis, as part of a task shifting approach.

- There was insufficient evidence to indicate degrees of patient satisfaction with task shifting.

- There was no robust evidence on the costs associated with implementing a task shifting approach to service delivery.

6. Additional research in countries

On the basis of the evidence gaps, a series of country studies were designed by the technical partners and collaborators commissioned by WHO to address the need for additional data.

The country studies focused on seven countries: Ethiopia, Haiti, Malawi, Namibia, Rwanda, Uganda and Zambia. These were selected because they share a critical shortage of human resources for health and a high HIV burden, and because they have different degrees of experience in task shifting.

The country studies were designed to address the evidence gaps related to each of the five issues that had been identified as those that countries would need to consider if they wished to adopt a task shifting approach for the delivery of HIV services on a wide scale.

In each of the areas of investigation, the research was undertaken by a working group that included appropriate expertise in the subject area. The method of work for each working group included a review of published and grey literature; the development of survey and data gathering tools; country visits or country consultations; analysis of the findings; peer review of the results; feedback to countries; and report writing. (See Annex a, available in electronic form, for a full description of the studies.)

A desk review and analysis of the human resources plans and HIV services scale-up plans in each of these countries was undertaken and included interviews with key informants.

Research on the organization of clinical care services under a task shifting approach was undertaken by Partners In Health, Harvard Medical School, United States; Institute of Tropical Medicine, Belgium; University of Makerere, Uganda; and Université Cheikh Anta Diop, Senegal. The work included direct observation at selected facilities during country visits to Ethiopia, Haiti, Malawi, Namibia, Rwanda and Uganda. The facilities were selected to provide a cross-sectional view of the existing task shifting approaches. Information was collected on staff inventory; clinical tasks by cadres; workload; and community services in the vicinity of the facility. Data on health outcomes were also collected where possible. Semi-structured interviews were conducted with different cadres of health workers and service users. Observations of client-provider encounters were carried out using observational checklists.

Research on quality assurance, including training and assessment, was undertaken by the International Council of Nurses, Switzerland; the International Association of Physicians in AIDS Care, United States; and the American Association of Nurses in AIDS Care, United States. Work included a desk review of quality assurance mechanisms in high-income and resource-constrained countries. The results of the review were the basis for in-depth international consultations involving technical experts and stakeholders, including representatives from HIV programmes and human resources for health departments from health ministries; United Nations agencies; donors; professional associations and unions; academic institutions; civil society organizations; and people living with HIV/AIDS.

Research on the definition of a regulatory framework to support task shifting was undertaken by George Washington University, United States, and the Institut de Recherche et Documentation en Economie de la Santé (IRDES), France. The work included country visits to Ethiopia, Malawi, Namibia and Uganda. Mapping of the policy, legal and regulatory landscape within each country was conducted and was supported by extensive key informant interviews. A review and synthesis of the information served as the basis for categorization of the types of regulatory activities present in the countries and for the identification of the elements of an appropriate regulatory framework.

Research on the opinions and involvement of people living with HIV/AIDS was undertaken by the Global Network of People Living with HIV, the Netherlands; Health GAP, United States; Partners In Health, Harvard Medical School, United States; and the University of Addis Ababa, Ethiopia. Research on the involvement of people living with HIV/AIDS aimed to elicit their perspectives as consumers of, and providers of, health care. Data were gathered in Ethiopia, Haiti, Kenya, Lesotho, South Africa, Uganda and Zambia, primarily through standard interviews with key informants and focus group discussions.

Research on the costing implications of a task shifting approach was undertaken by the World Health Organization and the Institut National de la Santé et de la Recherche Médicale (INSERM), France. The research was conducted by means of a desk audit of the global data available in WHO and a review of specific data from Ethiopia, Haiti, Malawi, Namibia, Rwanda, Uganda and Zambia. These data were analysed with the objective of providing a price tag for the task shifting approach and a costing tool that could help countries in their planning.

7. Drafting, review and revision of the recommendations and guidelines

The evidence that was being gathered by the working groups, including the preliminary and then final results of the country studies, was reviewed and discussed, along with other submissions and case studies by countries, at a series of expert consultations which took place between February and December 2007, as follows:

Geneva, February 2007: First expert consultation towards the development of the WHO global recommendations and guidelines on task shifting.

Kigali, June 2007: Second expert consultation towards the development of the WHO global recommendations and guidelines on task shifting.

Geneva, September 2007: Third expert consultation towards the development of the WHO global recommendations and guidelines.

Kampala, 1–2 October 2007: Fourth expert consultation towards the development of the WHO global recommendations and guidelines. Meeting of the writing committee chaired by the Ministry of Health of Uganda.

Geneva, 4–5 October 2007: Fifth expert consultation towards the development of the WHO global recommendations and guidelines. Working group on quality assurance.

Washington, DC, 10 October 2007: Sixth expert consultation towards the development of the WHO global recommendations and guidelines. Working group on defining a costing model for the task shifting approach.

Washington, DC, 11–12 October 2007: Seventh expert consultation towards the development of the WHO global recommendations and guidelines on task shifting.

Geneva, 3 December 2007: Eighth expert consultation towards the development of the WHO global recommendations and guidelines. Consultation on civil society and people living with HIV/AIDS .

Geneva, 4–6 December 2007: Ninth expert consultation to finalize the WHO global recommendations and guidelines on task shifting.

These meetings represented a broadly consultative process that included participants from many of the countries that are currently experiencing acute shortages of human resources for health alongside a high burden of HIV; technical experts on HIV and human resources for health; government representatives from HIV programmes and human resources for health departments from health ministries; United Nations agencies; donors; health workforce representatives, including professional associations and unions; academic institutions; civil society organizations; and representatives of people living with HIV/AIDS.

At the consultation held in Geneva in September 2007 the participants began the process of formulating the draft texts for the specific recommendations and guidelines based on the evidence and on expert opinion.

A writing committee was convened and was chaired by the Ministry of Health of Uganda. The draft guidelines were reviewed and revised at a meeting hosted by the Government of Uganda in October 2007 and the text was then again reviewed, discussed and further revised at a consultation in Washington, DC in October. On 18 November 2007 the draft recommendations and guidelines were distributed to a total of over 400 selected reviewers for global peer review.

Written comments were analysed and discussed at a consultation to finalize the guidelines in Geneva in December 2008. The final text of each of the recommendations is based on the consensus that was reached.

Additional information

A total of 168 experts and stakeholders participated in the development, review and amendment of the recommendations and guidelines (see Annex 7 for a full list of participating technical experts and stakeholders).

A declaration of conflicts of interest was completed and signed by all participants. A report of any declarations of potential conflicts of interest is available in electronic form (Annex c).

Guidelines are living documents. To remain useful, they need to be updated as new information becomes available. The recommendations and guidelines on task shifting will be reviewed, and updated as necessary, no later than January 2011.

The work commissioned by WHO and prepared by independent bodies has been compiled and collated in the WHO-Commissioned Study on Task Shifting, which is available in electronic form (Annex a).

The evidence gathered through systematic literature reviews is summarized in tables of evidence that are available in electronic form (Annex b), and the literature reviews that were undertaken on the various topics are also available in electronic form (Annex a).

Meeting reports from the international expert consultations will be available in electronic form.

The recommendations and guidelines were produced with the financial support of:

The Office of the US Global AIDS Coordinator (OGAC), Washington, DC, United States;

Cooperazione Generale allo Sviluppo, Ministry of Foreign Affairs, Rome, Italy;

The Norwegian Agency for Development Cooperation (NORAD), Oslo, Norway;

The Joint United Nations Programme on HIV/AIDS (UNAIDS), Geneva, Switzerland.

The recommendations and guidelines have been developed under the joint technical guidance of the Health Systems and Services Cluster and the HIV/AIDS, Tuberculosis, Malaria and Neglected Tropical Diseases Cluster, WHO HQ.

Annex 4
Guiding principles for country adaptation and implementation

Country specific

The implementation of the recommendations and guidelines on task shifting will be country specific. National implementation will be dependent on a wide range of variables that exist at the country level. These include the extent of the current shortage of human resources for health and the need for scaling up health services, including HIV services. It is unlikely that any two countries will take exactly the same course of action. The recommendations and guidelines are designed to provide an authoritative framework for countrywide scale-up of task shifting as a contribution to increasing access to HIV services and supporting further progress towards the health-related Millennium Development Goals. The challenge is now to translate the global recommendations and guidelines into action on the ground through a process of national adaptation followed by the development of an action plan for implementation of task shifting.

Translating recommendations into national action

A number of countries have already started to implement task shifting for HIV and other health services and the experience of these countries has been crucial in informing the development of these recommendations and guidelines. Some governments have adopted the approach, in various forms, for the delivery of health services on a national scale. In other countries, task shifting is being implemented on a relatively modest scale, sometimes as a part of projects that are led by nongovernmental organizations.

Whatever level of implementation is considered appropriate at the national level, the recommendations and guidelines must be adapted to the country situation.

There are five key areas that require country-specific adaptation to support successful national level implementation of the task shifting approach. These are:

1. Involvement of stakeholders;

2. Resources available;

3. Regulatory framework;

4. Integration with other basic health services;

5. Training of health workers according to need.

Global stakeholders

Global stakeholders in public health can help facilitate the successful implementation of the task shifting approach through policies for the allocation of financial resources and through the provision of appropriate technical support.

Global health initiatives that are in a position to disburse funds should be encouraged to review current guidelines for funding applications and revise these as necessary to accommodate and reflect support for a task shifting approach.

Technical agencies should be encouraged to allocate technical support for countries that require assistance as they implement or scale up task shifting for HIV services. This will require an investment of time and resources for the development of appropriate expertise.

Learning by doing

Above all, implementation plans for task shifting should incorporate adequate flexibility so that adjustments can be made based on a continuous assessment of the outcomes. The implementation phase must be subject to evaluation and redefinition as part of a constantly evolving and maturing process.

Implementation is everybody's business

Implementation of the recommendations and guidelines on task shifting is a matter of both global and national commitment. Health service delivery and the response to HIV at the country level often involve a complex mixture of technical and financial inputs from a range of national and international stakeholders. Successful implementation of the task shifting approach to increase access to HIV services is therefore a shared responsibility.

Annex 5
Monitoring and evaluation

In many countries, the implementation of the task shifting approach will involve breaking new ground. Even in those countries that are already familiar with task shifting, the implementation of the recommendations and guidelines is likely to involve a major scale-up of the approach.

There is already evidence that task shifting can be a rational answer to the health workforce crisis and can directly contribute to scaling up access to basic health-care services, including HIV services. However, only a careful evaluation of its practical implementation will produce further evidence about:

a) the optimal models for task shifting, which may vary depending on different contexts in different countries and according to the level of decentralization in health-care delivery;

b) the extent to which task shifting is more cost-effective than standard delivery of care for delivering efficient and equitable health-care services, in particular for HIV/AIDS.

Continuous monitoring and evaluation must therefore be established as an integral component of the implementation process for task shifting at both the country level and the global level, and operational research should be developed alongside this implementation process.

Monitoring and evaluation should be distinguished from each other, although they are closely related.

Monitoring should involve documenting the diffusion of the task shifting approach in the various countries that adopt it. Pursuing this goal implies that each country monitors the implementation of the task shifting approach by systematically collecting a minimum package of strategic information. In the case of HIV/AIDS, this will include documenting the number and characteristics of the health-care facilities involved, the composition of the health workforce in these facilities and some major indicators of outputs. Such indicators may be, for example, the number of people tested and counselled for HIV, the number of people living with HIV/AIDS who are on antiretroviral therapy, and number of patients lost to follow-up.

The monitoring process should also include a costing component to answer two important questions for the budgeting of the task shifting approach and the long-term sustainability of financing it. First, to what extent does task shifting lead to a decrease (or an increase) in the costs of health workforce labour per unit of outcome? Second, what is its impact on the total unit costs of care (in particular whether the use of a less expensive labour force for certain tasks is, or is not, "compensated" by an increase in other components of care, for example laboratory exams for biological monitoring and referrals to specialized physicians)?

Evaluation is necessary to assess the effectiveness and cost-effectiveness of various degrees of task shifting in comparison to standard care for scaling up access to HIV services, and eventually other basic health-care services.

At the global level, indicators will be required that can show the extent to which the task shifting approach is making a positive impact on efforts to reach agreed targets, such as the Millennium Development Goals. Therefore it follows that task shifting should not be assessed in isolation but as an integral part of the evaluation of HIV programmes. Success should be judged on the basis of what value the approach can be shown to add to overall responses to the HIV epidemic.

In order to achieve this, global HIV programmes should develop indicators to track changes in the deployment of human resources for health where such indicators do not already exist. Global programmes should also endeavour to embed a recognition of task shifting in the indicators that are currently used to assess global trends and influences both on HIV services and, more generally, on basic health care and on public health.

Annex 6
Definitions

Accreditation Approval or formal recognition of an educational programme (or institution) by an authoritative governmental or professional body through a systematic assessment against established, explicit standards.

Certification Evaluation and recognition of an individual by an authorized body, which may be either a governmental or nongovernmental organization, implying that the individual received additional education and training, and demonstrated competence against predetermined requirements or criteria.

Community health worker A health worker who has received training that is outside the nursing and midwifery medical curricula but is, nevertheless, standardized and nationally endorsed. This category can include health workers with a range of different roles and competencies and those that are providing essential services in a health facility, or in the community as part of, or linked to, a health team at a facility.

Competencies Knowledge, understanding, skills and attitudes that an individual develops or acquires through education, training and work experience, which can be used to describe particular occupational roles or functions against which individual performance may be assessed.

Expert patient A person living with a long-term health condition who is able to take more control over his or her health by understanding and managing his or her condition, leading to an improved quality of life. Becoming an expert patient is empowering for people with chronic conditions. Expert patients can also use the skills and knowledge they have acquired to support peers.

HIV burden Estimates for global or national incidence, prevalence, disability and mortality due to HIV/AIDS derived from the global burden of diseases (GBD). The GBD uses a summary measure – the disability-adjusted life year (DALY) – to quantify the burden of disease. DALYs for a disease are the sum of the years of life lost due to premature mortality (YLL) in the population and the years lost due to disability (YLD) for incident cases of the health condition.

Human resources for health All people engaged in actions whose primary intent is to enhance health. Included are those who promote and preserve health as well as those who diagnose and treat disease. Also included are health management and support workers – those who help make the health system function but who do not provide health services directly.

HIV services A package of clinical services including HIV prevention, care, treatment and support.

Medical doctor A legally qualified and licensed practitioner of medicine, concerned with maintaining or restoring human health through the study, diagnosis and treatment of disease and injury, through the science of medicine and the applied practice of that science. A medical doctor requires training in a medical school. Depending on jurisdiction and university, these may be either undergraduate-entry or graduate-entry courses. Gaining a basic medical degree may take from five to eight or even nine years, depending on jurisdiction and university. Medical doctors include generalists and specialists. Medical training completed by internship qualifies a medical doctor to become a physician or a surgeon.

Midwife Someone who is trained to assist in childbirth: includes registered midwives and enrolled midwives but does not include traditional birth attendants.

Registered midwives: also called professional or licensed midwives (or sage-femmes diplômés d'état). Their education lasts three, four or more years in nursing school, and leads to a university or postgraduate university degree, or the equivalent. A registered midwife has the full range of midwifery skills.

Enrolled midwives: also called nurse technicians or associate midwives. Their education lasts three to four years and leads to an award not equivalent to a university first degree (post-secondary school). An enrolled midwife has common midwifery skills.

Non-physician clinician A professional health worker who is not trained as a physician but who is capable of many of the diagnostic and clinical functions of a medical doctor and has more clinical skills than a nurse. These types of health workers are now known as health officers, clinical officers, physician assistants, nurse practitioners or nurse clinicians and are present both in high-income and low-income countries.

Non-state sector (health care) All providers who exist outside the public sector, whether their aim is philanthropic or commercial, and whose aim is to treat illness or prevent disease.

Nurse Includes professional nurses, enrolled nurses and auxiliary nurses, and other nurses such as dental nurses or primary care nurses.

Professional registered nurses: also called professional or licensed nurses (or infirmiers diplômés d'état). Education includes three, four or more years in nursing school, and leads to a university or postgraduate university degree or the equivalent. A registered nurse has the full range of nursing skills.

Enrolled nurses: also called nurse technicians or associate nurses. Education includes three to four years training and leads to an award not equivalent to a university first degree (post-secondary school). An enrolled nurse has common nursing skills. Within a traditional service delivery model, they can perform simple as well as complex medical procedures and traditionally operate under the supervision of registered nurses or physicians.

Auxiliary nurses: also called assistants. Have some training in secondary school. A period of on-the-job training may be included, and sometimes formalized in apprenticeships. An auxiliary nurse has basic nursing skills and no training in nursing decision-making.

Public health approach Moving from an individual-based approach to a population-based approach that aims to make services available to all those in need. The public health approach takes into account country requirements, the realities of weak health systems and the experiences of pioneering service delivery programmes. The key tenets are standardization and simplification of clinical protocols to support efficient implementation, ensuring service delivery is based on rigorous scientific data and equality of health service provision.

Public health initiative A fundamental approach that aims to achieve population-wide health outcomes; stimulate and monitor wide consultative processes and networking at international, national and local levels towards implementing public health essential functions and programmes; and increase the quality and the accessibility of data, forums of debate and updated learning materials for public health interventions.

Public sector Part of economic and administrative life that deals with the delivery of goods and services by and for the government, whether national, regional or local.

Quality assurance Standards-based approach to measuring consumer satisfaction, work performance and efficiency of service delivery in relation to policies and targets.

Quality improvement Interdisciplinary process designed to raise the standards of the delivery of services in order to maintain and improve health outcomes of individuals and populations.

Registration Official recording of the names of individuals who have certain qualifications to practise a profession or occupation.

Resource-constrained countries Low- and middle-income countries, as defined by the World Bank. The World Bank's main criterion for classifying economies is gross national income (GNI) per capita. Based on its GNI per capita, every economy is classified as low income, middle income (subdivided into lower middle and upper middle), or high income. Income group: Economies are divided according to 2006 GNI per capita. The groups are: low income, $905 or less per capita; lower middle income, $906–3,595 per capita; upper middle income, $3,596–11,115 per capita; and high income, $11,116 or more per capita.

Task shifting Task shifting involves the rational redistribution of tasks among health workforce teams. Specific tasks are moved, where appropriate, from highly qualified health workers to health workers with shorter training and fewer qualifications in order to make more efficient use of the available human resources for health.

The evidence supports a broad categorization of task shifting practices into four types, as follows:

Task shifting I: The extension of the scope of practice of non-physician clinicians in order to enable them to assume some tasks previously undertaken by more senior cadres (e.g. medical doctors).

Task shifting II: The extension of the scope of practice of nurses and midwives in order to enable them to assume some tasks previously undertaken by senior cadres (e.g. non-physician clinicians and medical doctors).

Task shifting III: The extension of the scope of practice of community health workers, including people living with HIV/AIDS, in order to enable them to assume some tasks previously undertaken by senior cadres (e.g. nurses and midwives, non-physician clinicians and medical doctors).

Task shifting IV: People living with HIV/AIDS, trained in self-management, assume some tasks related to their own care that would previously have been undertaken by health workers.

Task shifting can also be extended to other cadres that do not traditionally have a clinical function, for example pharmacists, pharmacy technicians or technologists, laboratory technicians, administrators and records managers.

The cadre that assumes the new task, not the cadre that is relieved of the task, is the defining factor for task shifting types. For example, any extension of the scope of practice of nurses and midwives is defined as task shifting type II.

Annex 7
Technical experts and stakeholders

The following technical experts and stakeholders participated in one or more of nine international consultations on task shifting for the purpose of developing and reviewing the recommendations and guidelines.

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Annex 8

International Conference on Task Shifting
Addis Ababa Declaration – 10 January 2008

We, representatives of governments, multilateral agencies, development partners, civil society, professional associations, education, training and research institutions, care and support organizations and people living with HIV and AIDS, assembled at the International Conference on Task Shifting in Addis Ababa, Ethiopia, January 8th – 10th 2008 to address the human resource constraints that are impeding progress towards the realization of the Millennium Development Goals to reduce child mortality (Goal 4), to improve maternal health (Goal 5), and to combat HIV and AIDS, malaria and other diseases (Goal 6) and towards achieving universal access to HIV and AIDS services by 2010;

1. **recognize** that the global health workforce deficit exceeds four million and that shortages of health workers are particularly acute in many low- and middle-income countries that also face major health challenges including a high burden and prevalence of communicable diseases (for example, HIV and AIDS, malaria, tuberculosis, diarrhoea, and pneumonia), non-communicable diseases (for example, diabetes, hypertension and cancer), trauma and incidents, and unacceptable high levels of maternal mortality;

2. **acknowledge** that there is an urgent need for rapid increases in access to essential health services, especially for the poor, and that improvements in the performance of health systems, including significant strengthening of human resources for health, are necessary to deliver services which are accessible, safe, efficient, effective, equitable and sustainable;

3. **acknowledge** that increased investment in health is of major importance, not only for attaining the health goals but also for contributing to development in general;

4. **recognize** that reorganization and decentralization of health services including task shifting can help to address the current shortages of health workers, if implemented alongside a broad range of other strategies that are designed to address other aspects of the human resources for health crisis;

5. **note** the on-going efforts to address the broader aspects of the human resources crisis, such as issues relating to the production, retention and migration of health workers, as well as the financing of human resources. The Global Health Workforce Alliance is providing an appreciated leadership together with other partners. Specific calls for action have been issued from different regions across the world;

6. **note** that task shifting as a response to health workforce shortages, as well as health systems needs, is being implemented in different ways and to a variety of extents in many countries, often informally. It is important to build on existing efforts, especially those that empower communities while expanding the number of community health workers and providing them with the necessary support;

7. **note** the evidence that access to quality primary health care can be provided using a task shifting approach, where there is an enabling environment that includes a supportive regulatory framework, functioning referral systems, robust quality assurance mechanisms(such as standardized training and supportive supervision), and where there is adequate remuneration of health workers and resources for health service delivery;

8. **welcome** the WHO global recommendations and guidelines on task shifting which provide a broad and flexible global framework that can contribute to national adoption and urgent action, or expansion, of a task shifting approach as one method of strengthening and expanding the health workforce to fight HIV and AIDS and to rapidly increase access to primary health care services;

9. **commit** to pursue a process of national, sub-regional and regional consultations (including also Ministries of Finance) on the WHO recommendations and guidelines on task shifting and make necessary adjustments if needed. These consultations could also address the broader human resources for health agenda and the need for additional strategies and solutions.

10. **call** on countries to adapt and to implement the WHO global recommendations and guidelines, where appropriate, according to the specific circumstances of individual countries and develop national action plans for the implementation of task shifting, within national human resources policies, strategies and budgets, that can ensure quality and effectiveness of essential health services contributing to the strengthening of health systems;

11. **call** on countries and all partners to also urgently address the broader human resources agenda, including the production, education, recruitment and retention of health workers, adequate financing (including adequate fiscal space) as well as challenges of migration and brain drain moving towards a long term sustainable situation;

12. **call** on governmental, multilateral and bilateral agencies and other partners to take shared responsibility for providing appropriate and increased financial resources and technical support for the implementation and evaluation of the task shifting approach by those countries who choose to adopt, or expand, the approach and to promote task shifting as one of the range of strategies under the WHO Treat, Train, Retain plan, and alongside other interventions to increase human resources for health.
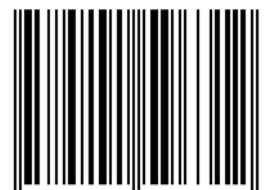
Task Shifting

Global
Recommendations
and Guidelines

Annexes

World Health Organization