



# FROM MEDICAL RATIONING TO RATIONALIZING THE USE OF HUMAN RESOURCES FOR AIDS CARE AND TREATMENT IN AFRICA: A CASE FOR TASK SHIFTING

JESSICA PRICE AND AGNES BINAGWAHO

## Keywords

medical rationing,  
 AIDS care in Africa,  
 task shifting

## ABSTRACT

With a global commitment to scaling up AIDS care and treatment in resource-poor settings for some of the most HIV-affected countries in Africa, availability of antiretroviral treatment is no longer the principal obstacle to expanding access to treatment. A shortage of trained healthcare personnel to initiate treatment and manage patients represents a more challenging barrier to offering life-saving treatment to all patients in need. Physician-centered treatment policies accentuate this challenge. Despite evidence that task shifting for nurse-centered AIDS patient care is effective and can alleviate severe physician shortages that currently obstruct treatment scale-up, political commitment and policy action to support task shifting models of care has been slow to absent. In this paper we review the evidence in support of task shifting for AIDS treatment in Africa and argue that continued policy inaction amounts to unwarranted healthcare rationing and as such is ethically untenable.

## RATIONING IMPERATIVES

Medical rationing refers to implicit and explicit processes of selecting individuals who will receive medically beneficial treatment and those who will not.<sup>1</sup> Much of the discussion and practice related to increasing access to AIDS care and treatment in low income countries has centered on just such a rationing logic. Early this century, while antiretroviral therapy (ART) was transforming clinical management of HIV disease and the quality of life for of patients in wealthy countries, a global controversy ensued about whether or not ART should be introduced at all in the most HIV-affected countries of Africa. Cost effectiveness, doubts about developing country health systems' capacity to deliver care, and concerns about patient adherence were the principal arguments for 'withholding' treatment from these populations while continuing to allocate funds for prevention.<sup>2</sup>

<sup>1</sup> V.H. Schmidt. Models of Health Care Rationing. *Curr Sociol* 2004; 52: 969–988.

<sup>2</sup> A. Creese et al. Cost-effectiveness of HIV/AIDS Interventions in Africa: A Systematic Review of the Evidence. *Lancet* 2002; 359: 1635–1642; E. Marseille et al. HIV Prevention Before HAART in Sub-Saharan Africa. *Lancet* 2002; 359: 1851–1857.

Others, invoking a universal human rights ethic, countered that increasing global access to treatment was a moral imperative.<sup>3</sup>

The moral imperative arguments won, setting off limited attempts to introduce ART in resource constrained settings.<sup>4</sup> Replacing the to-treat-or-to-prevent controversy, there was a new rationing dilemma about who should receive the limited treatment available and based on what criteria.<sup>5</sup> Patient selection committees, selection criteria and eligibility scoring systems were established to guide facility-level decisions about who would receive and who would be

<sup>3</sup> United Nations. 2002. *HIV/AIDS and Human Rights: International Guidelines: Revised Guideline 6: Access to Prevention, Treatment, Care and Support*. New York, NY/Geneva: Office of the High Commissioner for Human Rights and the Joint United Nations Programme on HIV/AIDS.

<sup>4</sup> R. Ritzenthaler. 2005. *Delivering Antiretroviral Therapy in Resource-Constrained Settings: Lessons from Ghana, Kenya and Rwanda*. Arlington, VA: Family Health International; J. Tassie et al. Highly Active Antiretroviral Therapy in Resource-poor Settings: The Experience of Médecins Sans Frontières. *AIDS* 2003; 17: 1995–1997.

<sup>5</sup> S. Rosen et al. Hard Choices: Rationing Antiretroviral Therapy for HIV/AIDS in Africa. *Lancet* 2005; 365: 354–356.

denied ART.<sup>6</sup> In recent years, a deepening global commitment, to increase access to AIDS treatment,<sup>7</sup> has for some countries significantly reduced or eliminated availability of ART as the principal obstacle to service expansion. No longer an issue of individual patient selection at relatively few treatment sites, the present challenge is reaching all patients in need.

A recent progress report by the World Health Organization (WHO) notes that ‘achieving universal access to [HIV] prevention, treatment and care services will require health systems capable of delivering high-quality interventions on a vastly expanded scale’.<sup>8</sup> Increasing service access – ‘one of the greatest challenges countries face in the coming years’ – will hinge on improving both physical infrastructure and human resource capacities for strengthened, decentralized and integrated HIV programs within broader health systems.

While physical health structures are relatively easy to build, repair and equip, addressing shortages of human resources for health (HRH) is more complicated. Multiple dimensions of the challenge have been documented: inadequate supply of health professionals, competitive global and in-country demand for these professionals leading to internal and external brain-drain, inefficiencies in the organization of healthcare delivery and poor allocation of human resources.<sup>9</sup>

Improving allocation of HRH through task shifting – the systematic reassignment of responsibilities in patient care, typically from more specialized to less specialized providers – is one means of addressing shortages of health personnel, especially of physicians.<sup>10</sup> While there is a long history of task shifting in both high- and low-income countries,<sup>11</sup> a recent renewed interest in it is due in large part to increased HRH demands associated with delivering more AIDS care and treatment in high prevalence countries.<sup>12</sup>

<sup>6</sup> R. Fox & E. Goemaere. They Call It ‘Patient Selection’ in Khayelitsha: The Experience of Médecins Sans Frontières-South Africa in Enrolling Patients to Receive Antiretroviral Treatment of HIV/AIDS. *Camb Q Health Ethics* 2006; 15: 302–312.

<sup>7</sup> UNAIDS. 2006. *Report on the Global AIDS Epidemic*. Geneva: UNAIDS.

<sup>8</sup> World Health Organization (WHO). 2006. *The World Health Report 2006: Working Together for Health*. Geneva: WHO: 133.

<sup>9</sup> W. Van Damme et al. The Real Challenges for Scaling up ART in Sub-Saharan Africa. *AIDS Patient Care STDS* 2006; 20: 653–656.

<sup>10</sup> WHO, *op. cit.* note 8.

<sup>11</sup> M. Chopra et al. Effects of Policy Options for Human Resources for Health: An Analysis of Systematic Reviews. *Lancet* 2008; 371: 668–674; F. Mullan & S. Frehywot. Non-physician Clinicians in 47 Sub-Saharan African Countries. *Lancet* 2007; 370: 2158–2163.

<sup>12</sup> U. Lehmann et al. Task-shifting: The Answer to the Human Resources Crisis in Africa? *Hum Resour Health* 2008; 7: doi:10.1186/1478-4491-1187-1149; Van Damme et al. *op. cit.* note 9.

Despite the renewed interest in and need for task shifting to scale up AIDS treatment,<sup>13</sup> in the most HIV-affected countries of Africa political commitment and policy reform have been slow in coming or absent. Concerns about the quality of non-physician-delivered care underlie the inaction. There is a growing body of evidence, however, that addresses the concerns and that support an expanded role for nurses and other non-physician clinicians in providing AIDS care and treatment. We review this evidence and then discuss task shifting from an ethics perspective. We argue that continued delays and policy inaction to expand access to AIDS treatment through task shifting amounts to unwarranted healthcare rationing and, as such, is ethically untenable.

## THE CASE FOR TASK SHIFTING NOW

Several recent publications demonstrate the feasibility and efficacy of task shifting for AIDS care in Africa and suggest significant promise for using the approach to advance universal access to treatment. Two complementary reports draw on data from Lusaka, Zambia. Morris et al.<sup>14</sup> describe a task shifting approach used in Lusaka clinics which relied on non-physician clinicians to provide initial patient management with rotating physicians consulting on complex patients. As needed, Zambia-based clinicians could also consult HIV specialists outside of the country via the internet. In a robust assessment of the program’s outcomes, Stinger et al.<sup>15</sup> show that by using this approach the country was able to enrol over 21,000 adults in HIV care at primary care sites within a few years, 16,200 of whom were started on ART. Clinical outcomes of patients at these sites were good, with most mortality occurring early on in treatment, evidence of positive (immune) CD4 response among surviving patients and adherence rates comparable to those observed in wealthy countries. Among other factors, the authors cite the use of non-physician clinicians as key to achieving such rapid scale-up.

An alternative model was tried in two large urban care sites in Mozambique.<sup>16</sup> ‘CD4 nurses’ staged patients while physicians continued to initiate ART. Evaluation

<sup>13</sup> B. Samb et al. Rapid Expansion of the Health Workforce in Response to the HIV Epidemic. *NEJM* 2007; 357: 2510–2514.

<sup>14</sup> M.B. Morris et al. Use of Task-Shifting to Rapidly Scale-up HIV Treatment Services: Experiences from Lusaka, Zambia. *BMC Health Serv Res* 2009; 9: 1–9.

<sup>15</sup> J.S.A. Stringer et al. Rapid Scale-up of Antiretroviral Therapy at Primary Care Sites in Zambia: Feasibility and Early Outcomes. *JAMA* 2006; 296: 782–793.

<sup>16</sup> S.O. Gimbel-Sherr et al. Using Nurses to Identify HAART Eligible Patients in the Republic of Mozambique: Results of a Time Series Analysis. *Hum Resour Health* 2007; 5: 1–9.

of the model confirmed that nurses effectively staged patients thereby allowing physicians to proportionately spend more time with ART eligible patients. While producing a more rational use of higher level clinical skills, in preserving physician-centered ART initiation, the Mozambique model did not produce an increase in the number of patients started on treatment.

In South Africa and Rwanda an expanded role of nurses to initiate ART is being tried as a way of meeting treatment needs in under-served rural communities. An assessment of the Lusikisiki model in South Africa showed significantly increased enrolment of patients on treatment through decentralized rural services.<sup>17</sup> Furthermore, a comparison of one-year data on retention and death rates, CD4 response and viral load consistently showed outcomes of patients at rural clinics to be as good as, or better than for patients being followed at hospitals. New findings from a pilot intervention of nurse-initiated ART at three rural primary health centres in Rwanda similarly show excellent promise.<sup>18</sup> Evaluation of the pilot indicated high nurse compliance with national treatment guidelines and patient outcomes in retention, death rates and CD4 response comparable to, or better than, findings from an evaluation of Rwanda's national treatment program.<sup>19</sup>

With only one physician per 50,000 inhabitants in Rwanda,<sup>20</sup> shifting more clinical tasks to nurses may not only be a practical issue but an urgent policy need. To inform health decision makers on the potential importance of task shifting to deliver AIDS care and treatment, Chung et al.<sup>21</sup> used the Rwanda pilot evaluation data in a simulation model to estimate the impact of nurse-initiated ART on HRH time allocation. Including time estimates for physician supervision and consultation in complicated cases, the model indicates that application of task shifting saves approximately 45 minutes of physician time for every one hour worked by a prescribing nurse. If task shifting were applied nationally in a future roll-out of ART in Rwanda, the simulation model indicates a 76%

reduction of demand on physician time for HIV patient management, time which could be applied to other physician-level consultations, mentoring and supervision of primary health centres.

Based on the experience gained from the task shifting pilot project, positive findings from its evaluation and the analysis of time savings for physicians, the Rwanda Ministry of Health issued ministerial instructions allowing qualified nurses to prescribe ART under the supervision of a medical doctor.<sup>22</sup> Given a shortage of physicians in most countries of Africa,<sup>23</sup> the collective findings from Rwanda and the other countries cited above are highly relevant to health policy makers throughout the continent.

The availability of nurses and other non-physician clinicians to assume new tasks without 'crowding out' attention to non-HIV patients is an important concern.<sup>24</sup> It is not in itself, however, justification for inaction and with it denying HIV patients the care and treatment they need. Not only are there significantly more non-physician clinicians already available to provide patient care compared to doctors, but it also costs substantially less to train and to retain them.<sup>25</sup> Further, a heightened workload for nurses treating patients in the clinics could in part be alleviated by combining clinic-based task shifting with community-based approaches. Paralleling the positive task shifting outcomes described above, efficacy of service delivery through various community and lay health workers has also been demonstrated.<sup>26</sup>

Findings from task shifting initiatives in Zambia, Mozambique, South Africa and Rwanda consistently show good quality of care outcomes and significant promise to extend AIDS care and treatment to more patients in need, including in underserved rural communities. In light of these findings we contend that it is now time to focus on how best to act upon the evidence. Specifically, how do we ensure adequate preparation of and support for nurses as well as good referral systems and continuous access to physician-level medical advice as needed? How do we ensure that task shifting for AIDS care does not result in a reduction of clinician attention to other primary health care needs? What level of training in

<sup>17</sup> M. Bedula et al. Implementing Antiretroviral Therapy in Rural Communities: The Lusikisiki Model of Decentralized HIV/AIDS Care. *J Infect Dis* 2007; 196: S464–S468.

<sup>18</sup> F. Shumbusho et al. Task Shifting for Scale-up of HIV Care: Evaluation of Nurse-Centered Antiretroviral Treatment at Rural Health Centers in Rwanda. *PLoS Med* 2009; 6: e100163.

<sup>19</sup> D.W. Lowrance et al. Adult Clinical and Immunologic Outcomes of the National Antiretroviral Treatment Program in Rwanda During 2004–2005. *JAIDS* 2009; 52: 49–55.

<sup>20</sup> Ministry of Health, Rwanda. 2006. *Human Resources for Health: Strategic Plan 2006–2008*. Kigali: Ministry of Health. Available at: <http://www.moh.gov.rw/docs/Rwanda%20HRH%20strategic%20plan%20Final%20version-2010.pdf> [Accessed 2 Sept 2008].

<sup>21</sup> J. Chung. 2008. Quantification of Physician-time Saved in a Task Shifting Pilot Program in Rwanda. Paper presented at the HIV/AIDS Implementers' Meeting, Kampala. June 3–7, 2008.

<sup>22</sup> Ministry of Health, Rwanda. 2009. Ministerial Instructions Determining Conditions and Modalities for Therapeutic Care for People Living with HIV and AIDS, No 20/40, 10 September 2009.

<sup>23</sup> Mullan & Frehywot, *op. cit.* note 11.

<sup>24</sup> Van Damme et al. *op. cit.* note 9.

<sup>25</sup> Mullan & Frehywot, *op. cit.* note 11.

<sup>26</sup> P. Sanjana et al. Task-shifting HIV Counseling and Testing Services in Zambia: The Role of Lay Counselors. *Hum Resour Health* 2009; 7: doi:10.1186/1478-4491-1187-1144; K. Torpey, et al. Adherence Support Workers: A Way to Address Human Resource Constraints in Antiretroviral Treatment Programs in the Public Health Setting in Zambia. *PLoS One* 2008; 3: e2204.

AIDS care should be required in pre-service training versus in-service specialization and certification? Such operational, how-to questions need to be addressed according to particular contexts, but they should not delay taking steps to extend treatment through task shifting measures. Beyond such operational issues, questions of HRH allocation speak to a question of a fundamentally ethical nature: healthcare rationing.

## PHYSICIAN-CENTERED PRESCRIPTION AND UNWARRANTED RATIONING OF TREATMENT

In their paper reviewing the ethical dimensions of scaling-up AIDS care and treatment, Rennie and Behets remind us that healthcare rationing is never purely medical and indeed is profoundly political; is ethically significant; is unavoidable and, in fact, 'should not be avoided';<sup>27</sup> and, however explicit the rationing logic, some implicit rationing is inevitable. The problem with implicit forms of rationing, however, is that it often goes unrecognized thus leading to unwarranted exclusions from medical care.<sup>28</sup> Making explicit the implicit is therefore critical for minimizing unwarranted exclusions from care.

Decisions about whether to offer or to withhold ART from an entire population,<sup>29</sup> or to treat certain eligible patients while excluding others,<sup>30</sup> have explicit rationing premises and may be unavoidable and acceptable, all things considered. National treatment guidelines on when to initiate a patient on ART are at once explicit and implicit forms of rationing. As it relates to HRH roles and physician-centered prescription policies for AIDS treatment, we believe a more implicit rationing process is occurring, the end result of which is unwarranted denial of AIDS treatment to eligible patients. Several of Schmidt's categories,<sup>31</sup> describing implicit forms of rationing, are useful for our own argument.

Schmidt refers to 'rationing by rejection' to describe a health facility's refusal to treat patients; hospitals that turn patients away due to anticipated treatment costs exceeding insurance plan reimbursements is an example of this form of implicit rationing. Health facilities in Africa that turn HIV patients away due to legal frameworks that authorize only select physicians to initiate ART has the same *rationing by rejection* result: patients

who need life-saving treatment do not receive it, even when the drugs are available in the country. Schmidt's concept of 'rationing by redirecting' describes situations wherein would-be patients are sent to another facility that is ostensibly better equipped to provide the needed care. With primary health centres referring HIV-infected patients to secondary and tertiary hospitals for clinical staging and treatment, *rationing by redirecting* is a commonplace occurrence in many African countries as, inevitably, many patients are lost to follow up when redirected to treatment centres that may be difficult for sick patients to reach. 'Rationing by delay', another of Schmidt's implicit rationing categories, has a similar effect. This form of rationing refers to a procedure of wait-listing patients to see a specialist provider. AIDS patients having to walk back to the health facility one or several times prior to starting treatment initiated by a physician is an example of *rationing by delay*. When the stage of illness is advanced and the wait is too long, the patient will likely die before consulting a physician who is authorized to initiate treatment.

The point of these examples is not to question the need for national guidelines that delineate referral procedures and that restrict who can prescribe treatment. Our aim rather is to make explicit how prescription policies and use of HRH can unduly deny eligible patients treatment. Given the feasibility and efficacy of task shifting to alleviate physician shortages, we believe that policy stagnation amounts to unjustifiable medical rationing of life-saving care.

## TIME FOR ACTION

When medical rationing can be avoided it should be avoided. Recognizing that physician-centered AIDS care and treatment policies unduly deny treatment to patients in need provides an ethical rationale for changing these policies.

In addition to increasing access to AIDS treatment, there are other benefits from adopting task shifting measures. First, anecdotal but widespread accounts suggest that task shifting for AIDS treatment is already occurring informally. While ministries hesitate to take policy action and to develop training and certification programs, faced with long patient queues some health providers take matters into their own hands and treat, even if not officially authorized to do so.<sup>32</sup> Formal training programs, support mechanisms and referral procedures for nurse-physician task sharing will avoid potential compromises to the quality of care through informal task shifting practices. Additionally, physicians spared of the task of initiating ART in stable, adult patients can dedicate their

<sup>27</sup> S. Rennie & F. Behets. AIDS Care and Treatment in Sub-Saharan Africa: Implementation Ethics. *Hastings Cent Rep* 2006; 36: 23–33.

<sup>28</sup> Schmidt, *op. cit.* note 1.

<sup>29</sup> Creese et al. *op. cit.* note 2.

<sup>30</sup> Fox & Goemaere, *op. cit.* note 6.

<sup>31</sup> Schmidt, *op. cit.* note 1, p. 972.

<sup>32</sup> Personal communication with several nurses and doctors in Rwanda.

time saved to consulting complex and paediatric patients (HIV and non-HIV) as well as to much-needed clinical mentoring and quality assurance tasks in primary care settings. Both have the potential to improve the availability and the quality of all patient care. Finally, providing more AIDS treatment amplifies opportunities for prevention through suppressed viral load and through positive prevention as an aspect of routine AIDS care. Averting new HIV infections that necessitate life-long, complex treatment has the potential to dramatically reduce strain on healthcare systems in the immediate and in the long term.

We would not, however, promote task shifting in isolation. Attention to production, retention, and rational allocation of HRH more broadly and at all levels needs to be considered alongside task shifting specific to the delivery of AIDS treatment.<sup>33</sup> To avoid depleting the delivery of other primary healthcare, task shifting for AIDS care must be planned carefully and within a holistic healthcare context and plan. Approached in such an integrated and holistic manner would further contribute to ending a

dichotomizing, either/or polemic,<sup>34</sup> that too often presents AIDS care as competing with, rather than as part of, primary health care.

#### BIOGRAPHY

**Jessica Price, PhD**, is presently Country Director for Family Health International in Rwanda. Trained in medical anthropology, Dr. Price has led and participated in a variety of health-related research including topics on aging and mental health in the United States, as well as behavioral studies, program evaluations and research on popular medical culture in sub-Saharan Africa. She has co-authored papers that have been published in a range of national and international health journals. **Agnes Binagwaho, MD**, is a pediatrician and has been Permanent Secretary to the Rwanda Ministry of Health (MOH) since 2008. She has worked as a pediatrician in public hospitals in France and Rwanda and has been a leading figure in developing and managing Rwanda's response to the HIV/AIDS epidemic. Dr. Binagwaho has published extensively on a wide range of topics including human rights and health, children's health care, health systems strengthening and HIV prevention, care and treatment.

<sup>33</sup> M. Philips et al. Task-shifting for Antiretroviral Treatment Delivery in Sub-Saharan Africa: Not a Panacea. *Lancet* 2008; 371: 682.

<sup>34</sup> J. Price et al. Integrating HIV clinical services into primary health care in Rwanda: A measure of quantitative effects. *AIDS Care* 2009; 21: 608–614.