

Rationing Antiretroviral Therapy for AIDS in Africa: Efficiency, Equity, and Reality

Ian Sanne

Director, Clinical HIV Research Unit and
Director, Health Economics Research Office
University of the Witwatersrand, South Africa

Managing Director, Right To Care

2 Nov, 2006

Overview of Presentation

1. The Issue of Rationing Treatment for AIDS
2. How Is Antiretroviral Therapy Being Rationed Now?
3. Evaluating the Rationing Systems
4. Conclusions: Efficiency, Equity, and the Need for Debate

Part 1.

The Issue: Rationing of Antiretroviral Therapy for AIDS in Africa

What Is the Issue?

- 26 million people in sub-Saharan Africa are HIV+.
- \approx 4.7 million are already eligible for antiretroviral therapy on very conservative medical grounds (WHO, 3x5 Progress Report, March 2006).
- A few countries met or exceeded the goal of 50% coverage by the end of 2005, but most did not.
- Even the most ambitious treatment scale-up plans anticipate \leq 50% coverage in the next 2-3 years.
- Scarcity of funds, human resources, and infrastructure will preclude universal treatment access for years or decades in most countries.

How Much Rationing Will Be Needed?

Country	Adult HIV1 prevalence	Number needing treatment (Dec 2005)	Number already on treatment (Dec 2005)	% coverage
Angola	3.9%	52,000	3,000	6%
Botswana	37.3%	84,000	72,000	86%
Cote d'Ivoire	7.0%	111,000	18,500	17%
Ethiopia	4.4%	278,000	20,500	7%
Guinea-Bissau	≈5%*	4,800	<200*	4%

*Source: seminar presentation.

Source: WHO, 3 x 5 Progress Report, March 2006

How Much Rationing Will Be Needed?

Country	Adult HIV1 prevalence	Number needing treatment (Dec 2005)	Number already on treatment (Dec 2005)	% coverage
Kenya	6.7%	273,000	66,000	24%
Mozambique	12.2%	216,000	20,000	9%
Nigeria	5.4%	636,000	41,000	6%
South Africa	16.2%*	983,000	205,000	21%
Uganda	4.1%	148,000	75,000	51%

*Source: Nelson Mandela Foundation, National Survey 2005.

Source: WHO, 3 x 5 Progress Report, March 2006

Rationing of Antiretroviral Therapy Is Inevitable

- It is already happening.
- It will persist for many years and may worsen over time.
 - Numbers on treatment are cumulative; countries must add thousands of new patients/year just to maintain coverage.
 - Success at the patient level (longer survival on ART) will intensify the need to ration.
- Rationing can be efficient or inefficient, “fair” or “unfair,” sustainable or unsustainable.
- Governments have vast experience with rationing public resources (but don’t like to talk about it).
- Contention: open public policy debate and deliberate choices will lead to better medical, social, and economic outcomes.

Part 2.

How Will Treatment Be Rationed?

Explicit and Implicit Rationing Systems

- Rationing system: any policy or practice that restricts consumption of a good or service so that demand = supply.
- Most goods are rationed on the basis of price.
- Non-price rationing can be on the basis of:
 - Explicit criteria for who will have access.
 - Implicit arrangements that allow differential access.
- Rationing does not imply intent to deprive, merely the scarcity of a good.
- Non-price rationing is inherently political.
- Multiple types of rationing can prevail simultaneously.

Definition

A rationing system for HIV/AIDS treatment is:

Any use of public resources that prioritizes access to antiretroviral therapy on the basis of any medical, social, economic, or cultural criterion,* whether explicit or implicit, where public resources include resources from governments, international and domestic foundations and donors, and NGOs.

**Our focus here is on non-medical criteria.*

Types of Rationing Systems

- Explicit (Stated)
 - Programs or policies that deliberately target specific populations (1).
 - Conditions for access that favor specific populations (2).
- Implicit (De Facto)
 - Procedures that limit access without specifying populations (3).
 - Informal (illicit) arrangements that create preferential access (4).

Explicit Systems That Target Specific Populations (1)

- Mothers of new infants
 - MTCT-Plus.
- Skilled workers
 - Healthcare workers (WHO), government staff (Uganda), soldiers (many countries), employed sector programs.
- Poor or vulnerable populations
 - U.S. PEPFAR has a 10% earmark for treating children.
 - South African national ART plan allocates greater resources to underserved (poorer) areas.
- High risk populations
 - Proposals for treating IDUs, truck drivers, sex workers.
 - In Accra, Ghana, 84% of male HIV infections attributed to transactional sex. (Côté et al, AIDS 2004).

Explicit Systems That Establish Conditions for Differential Access (2)

- Medical eligibility
 - CD4 count < 200 (<250 in future) or AIDS-defining illness
 - In some cases, this will favor those who were infected first (high risk populations?) or have best access to diagnosis.
- Residents of designated geographic catchment areas
 - Residency requirements for public treatment sites.
- Ability to co-pay
 - Many countries charge a fee for drugs and/or clinic visits.
 - Private clinics charge high fees...but this is price (market) rationing.
- Demonstrated commitment to adherence
 - Many programs require attendance at several pre-treatment sessions and/or disclosure.

Implicit Systems That Limit Access Procedurally (3)

- Access to and acceptance of testing (VCT)
 - VCT promotion campaigns for youth.
- Patient costs
 - Transport is prohibitively expensive for many patients.
 - Limited treatment sites favors those who live nearby or can afford travel.
- First come, first served
 - Clinics treat everyone who arrives until supplies run out.
 - Favors those already on ART, infected earliest, or best informed.
- Queueing
 - Most U.S. states have waiting lists for new ARVs.
 - Day-long waits at public clinics in Africa are common.
 - Favors the unemployed and others with low opportunity cost of time.

Implicit Systems That Allow Informal (Illicit) Arrangements (4)

- Queue-jumping
 - Treatment access for members of parliament?
 - Priority at clinic level for important persons.
- Black market
 - Reports of black market in ARVs and re-selling of drugs by patients and/or healthcare workers have surfaced in many countries.

Part 3.

Evaluating the Systems

Evaluation Domains

Effectiveness: Ratio of successfully treated patients to all treated patients.

Cost minimization: Cost savings per patient treated relative to a high-cost standard.

Feasibility: Probability that the human and infrastructural resources needed for implementation will be available.

Economic efficiency: Net benefits of the treatment program for the accumulation of human capital.

Social equity: Probability that poor or disadvantaged populations have equal access to HIV/AIDS treatment.

Rationing potential: Will the system sufficiently reduce the number of patients?

Other criteria that could be considered include:

- *Impact on HIV transmission.*
- *Sustainability (over time, space, scale, and budget).*
- *Effect on the healthcare system as a whole.*

Explicit Systems: Targeted Populations (1)

	Effectiveness	Cost	Feasibility	Efficiency	Equity	Rationing
Mothers	Medium	Medium	High	High	Low	Medium T
Skilled workers	High	High	High	High	Low	High
Poor people	Medium	Low	Medium	Low	Medium	Low
High risk groups	Low	Low	Medium	Medium	Low	High T

● High
 ◎ Medium
 ○ Low

Effectiveness » medical outcomes
Cost » cost savings
Feasibility » implementation potential

Efficiency » human capital
Equity » equal access
Rationing » potential to decrease patient numbers

Explicit Systems: Conditions for Differential Access (2)

	Effectiveness	Cost	Feasibility	Efficiency	Equity	Rationing
Medical eligibility	Medium	Medium	Medium	Medium	Medium	Low
Geographic catchment	Medium	High	Medium	Medium	Low	Medium
Ability to co-pay	Low	High	High	High	Low	High
Adherence commitment	High	High	Medium	Medium	High	Low

● High ● Medium ○ Low

Effectiveness » medical outcomes
Cost » cost savings
Feasibility » implementation potential
Efficiency » human capital
Equity » equal access
Rationing » potential to decrease patient numbers

Implicit Systems: Procedural Limits (3)

	Effectiveness	Cost	Feasibility	Efficiency	Equity	Rationing
Access to VCT	Medium	Medium	High	Medium	Medium	Medium T
Patient costs	Medium	High	High	Medium	Low	Medium
First-come, first-served	Medium	High	High	Low	Medium	High QJ
Queuing	Medium	High	High	Low	Medium	High QJ

● High
 ◎ Medium
 ○ Low

Effectiveness » medical outcomes
Cost » cost savings
Feasibility » implementation potential

Efficiency » human capital
Equity » equal access
Rationing » potential to decrease patient numbers

Some Comments on the Evaluation

- The evaluation domains, how they are interpreted, and the ratings we gave reflect our own values and experiences.
- Some of the ratings are well grounded in prior experience.
 - Treating skilled workers preserves human capital and is therefore highly efficient.
- Other ratings are largely speculative.
 - Requiring a demonstrated commitment to adherence is highly equitable because anyone can do it.
- Research can affect ratings.
 - Patient co-payments were expected to encourage adherence but shown to discourage it.
- Effect on HIV transmission varies widely among the systems.
 - Limiting access to VCT is probably a bad way to ration ART!
- Some of the domains interact.
 - At some cost, any system is feasible.
 - A highly inequitable system may not be sustainable.

Part 4.

Conclusions: Efficiency, Equity, and the Need for Debate

The Efficiency-Equity Tradeoff

		← Equity →		
		High	Moderate	Low
↑ Efficiency	High			Mothers Skilled workers Co-payment
	Moderate	Commitment to adherence	Medical eligibility VCT access	Patient costs Geographic areas High risk groups
	Low		Poor people First come-first served Queuing	First come-first served plus queue jumping Queuing plus queue jumping

Achieving Equity Will Be Challenging

- Access for one group may exclude another.
 - Spending more to reach rural patients or children may reduce total number who can be treated.
 - Switching patients to second line drugs may reduce numbers who can be started on first line treatment.
 - Emphasis on equity will require compromises on other goals.
 - As a rationing system, only commitment to adherence rated “high” on equity...and it rated “low” on rationing potential.
 - All systems that rated “high” on efficiency rated “low” on equity.
- ▶ How important is equity, relative to other goals?

What Is the “Best” Rationing Strategy?

- Given these challenges, best strategy could be to choose a mix of high and moderate efficiency and moderate equity approaches, e.g:
 - Mothers of young children.
 - Skilled workers considered essential to development.
 - High risk groups if shown to reduce transmission.
 - Geographic catchment areas that can provide most efficient service delivery and thus reach largest number of patients.
 - Victims of rape, transfusions, needle sticks, etc., if society takes responsibility for these acts.

Who Will Decide? (Who Should Decide?)

- Governments, through legislation, regulations, and resource allocation (national, provincial, local).
- International and bilateral agencies, through treatment guidelines and funding allocation (e.g. WHO, Global Fund, U.S. PEPFAR).
- Grant recipients, through targeted proposals and programmes (e.g. MTCT-Plus, Medecins sans Frontieres).
- Healthcare managers and financers, through facility policies and procedures (e.g. clinic directors, health insurance providers, etc.).
- Front-line healthcare providers, through standard triage or informal or personal arrangements (nurses, doctors, counselors).

Reality

- Rationing of medical care is not a new phenomenon, in Africa or elsewhere.
- The choice of rationing criteria for HIV/AIDS treatment is a matter of life and death.
- If deliberate choices are not made, implicit rationing will prevail.
- Implicit systems are usually neither efficient nor equitable and thwart transparency and accountability.
- Explicit criteria for rationing can make treatment delivery more efficient and (or) more equitable.
- Clear policies about which patients have priority can also relieve front-line healthcare workers of an ethical burden.
- Public policy debate at all levels is needed to reach consensus on rationing criteria and achieve a socially desirable and sustainable outcome.

Acknowledgements

Co-Authors: Sydney Rosen, Jonathon Simon, Alizanne Collier.

Funder: U.S. Agency for International Development.

The analysis presented here was previously published as:

Rosen S, Sanne I, Collier A, Simon JL. Rationing antiretroviral therapy for HIV/AIDS in Africa: choices and consequences. *PLoS Med* 2005; 2(11): e303.

Rosen S, Sanne I, Collier A, Simon JL. Hard choices: rationing antiretroviral therapy for HIV/AIDS in Africa. *The Lancet* 2005; 365 (9456): 354-56.

Papers and reports on the economic impact of HIV/AIDS and related issues can be found at

http://www.bu.edu/dbin/sph/research_centers/cih_impact_hiv.php.

Contact: sbrosen@bu.edu; isanne@witshealth.co.za