Priority Setting and Effectiveness

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Learning Objectives

• Introduce economic and ethical issues surrounding different care interventions

• Share experience in prioritizing eligible populations for access to ART

• Understand different policy options for scaling up access to ARV drugs

• Understanding the constraints to scaling up care and support services in Africa

• Share experience on how to averting possible negative consequences of scaled up treatment
Prioritizing Programs of Care for People with HIV/AIDS

What considerations are made when deciding what kind of treatment to offer for people with HIV/AIDS?

- Ethics
- Economic Analysis
- Bio-medical need
- Demand
- Political Pressure
- Acceptability
- Technical Challenges
Ethical Principles that are Related to Priority Setting

- Justice
- Human rights and dignity
- The common good
- Fair opportunity
Care Options for People with HIV/AIDS in Africa

Ways of improving the quality of life for people with HIV and AIDS in Africa include:

- **Palliative care**: providing supportive care and pain control
- **Prophylactic care** against opportunistic infections
- **Treatment** of opportunistic infections
- **Antiretroviral** therapy
## Costs of Palliative Care for People with HIV/AIDS in Africa

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Country/Description</th>
<th>Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Bank (1997)</td>
<td>Sub-Saharan Africa/ palliative care plus treatment of inexpensive OIs</td>
<td>$299.22 per patient year</td>
</tr>
<tr>
<td>Uys and Hensher (2002)</td>
<td>South Africa/ drugs and nursing care</td>
<td>$400 per patient year</td>
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## Costs of Prophylaxis for OIs for People with HIV/AIDS in Africa

### Prophylaxis for Opportunistic Infections

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Country/ Description</th>
<th>Cost (US$)</th>
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</thead>
<tbody>
<tr>
<td>Wiktor et al. (1999)</td>
<td>Cote d'Ivoire/ co-trimoxazole preventive therapy</td>
<td>$1.50 per month</td>
</tr>
<tr>
<td>Bell et al. (1999)</td>
<td>Sub-Saharan Africa/ preventive therapy for tuberculosis and treatment of adverse reactions</td>
<td>$38.31 for 6 months</td>
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## Costs and Cost-Effectiveness of Treatment of Opportunistic Infections in People with HIV/AIDS in Africa

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<tr>
<th>Author (Year)</th>
<th>Country/ Description</th>
<th>Cost (US$)</th>
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<tbody>
<tr>
<td>World Bank (1997)</td>
<td>Sub-Saharan Africa/ treatment of PCP or toxoplasmosis</td>
<td>$8 per patient treatment</td>
</tr>
<tr>
<td>World Bank (1997)</td>
<td>Sub-Saharan Africa/ treatment of tuberculosis</td>
<td>$37 per patient treatment</td>
</tr>
<tr>
<td>Floyd et al. (1997)</td>
<td>Uganda/ Directly observed treatment short course (DOTS)</td>
<td>DOTS: $740.90 per patient treatment</td>
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Costs and Cost-Effectiveness of HAART for People with HIV/AIDS in Africa

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<thead>
<tr>
<th>Author (year)</th>
<th>Country/ Description</th>
<th>Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creese et al. 2002</td>
<td>Senegal and Cote d’Ivoire</td>
<td>$1100 per year (Cost/DALY= $1100)</td>
</tr>
<tr>
<td>Wood et al. 2000</td>
<td>South Africa</td>
<td>$350 per year (Cost/DALY= $1800)</td>
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</table>
Potential Priority Populations for the Distribution of ART

What considerations are made when deciding which populations are offered ART first?

- Community Involvement
  - Fair process
  - Likelihood of adherence
- Economic Productivity
  - Potential for transmission
- Social Productivity
  - First Come First Served
Potential Priority Populations for the Distribution of ART

The Issues

• Deciding on who should be the first recipients of ARVs

• What process must be followed in priority setting for fairness?

• What Criteria? - Policy guidance on populations to be prioritized

• Involving Communities in decision making
What are the Elements of Fair Process?

- Transparency
- Community access to the rationale for decisions made
- Relevant reasoning is discussed among stakeholders
- Room for revising the criteria
- Accountability for enforcing the criteria are adhered to
Who are the Potential Recipients of Scaled up ARV Programs

First Come/First Served

Groups of People Based on Characteristics

• The economically or socially productive sector
• The poor
• Those likely to adhere to therapy
• Health care workers

Using ARV Drugs to Prevent HIV Transmission

• Exposed health care workers and rape victims
• HIV infected mothers (PMTCT)
• Those at risk of transmitting HIV
  • Sex workers/High risk men
Prioritization to Receive ARVs: The Poor

Issues

• Identifying the poor
• Cost of testing for HIV
• Cost of out-patient visits
• Illiteracy
• Poor nutrition

Cost of treating all HIV+ people below the poverty line in India: $280 per year of life saved
Prioritization to Receive ARVs: The Economically or Socially Productive

Issues

- Identifying the economically or socially productive

- Some may be able to afford the drugs without subsidization (issues of fairness)

- Likely to be literate and able to support other associated costs of care
Preventing the spread of HIV Using ARVs

- ARVs have demonstrated reductions in transmission when used for
  - Occupational post-exposure prophylaxis
  - The prevention of mother-to-child transmission

- ARVs are likely to reduce HIV transmission by reducing viral load, thereby making HIV less sexually transmissible
Post-Exposure Prophylaxis (PEP) for Occupational Exposure

- Risk of HIV transmission after a needle stick injury from an HIV infected source is about 1 in 400 (or 0.25%)

- Zidovudine (AZT) lowers the risk of HIV transmission from a needle stick exposure by 80%

- PEP may result in cost savings in developing countries
Post-Exposure Prophylaxis (PEP) for Post-Rape

- Unprotected heterosexual sex between HIV discordant couples = estimated risk of 0.2% (if the male partner is HIV+)

- Risk of acquiring HIV from unprotected receptive anal sex with an infected partner is estimated to be 0.8%

- Risk of HIV infection in a rape situation would likely be higher as
  - There is a greater potential for other sexually transmitted diseases, trauma, and inflammation.
  - The risk is multiplied as more assailants are involved
Prevention of Mother-to-Child Transmission

- The infection rates of children born to HIV infected mothers in the absence of any intervention is about 25%.
- Several studies have demonstrated that short courses of AZT or Nevirapine during pregnancy, reduce transmission by 50%.

One effective combination is being used in Cameroon at a total cost of less than $US 23.
Supplying ARVs to those Most at Risk for Spreading HIV: Population-level Prevention

• ARVs can
  - reduce the viral load of HIV, a major determinant of HIV transmission
  - potentially be used to prevent the spread of HIV at a population level

• If ARV treatment is shown to effectively reduce sexual transmission, who should get them?
Avoiding the Pitfalls: Ways to Improve the Effectiveness of ART Programs

- Side Effects
- Resistance
- Monitoring
- HIV prevention
- Adherence
Avoiding the Pitfalls: Ways to Improve the Effectiveness of ART Programs

• ARVs have the potential to benefit populations greatly

• Possible adverse effects exist such as
  – increases in risky behavior
  – Resistance
  – side-effects
  – over-reliance on ARVs
Even with effective viral suppression due to HAART, infection can occur

- 33% of men on ARVs continue to shed virus in their semen

- Transmission benefits gained from a program covering 50-90% of HIV positive people with effective HAART is reversed with a 10% increase in risky behaviour

- Actual coverage with HAART does not usually exceed 30% of HIV positive people in industrialized countries
Adverse Behavioural Change - 2

• Risky behaviour is on the rise among MSM in North America in the post-HAART era

• For years, North American MSM had declining rates of HIV and STI. Some cities in the late 1990’s reported an upturn in both epidemics, especially among young MSM

• In Kenya, on two separate occasions immediately following wide media coverage of “quack cures”, 100% condom use among female sex workers decreased condom use and increased HIV incidence
Adverse Behavioural Change - 3

Source: Jha et al., 2001
Mitigating Against Adverse Behavior Change

• Step up prevention activities that are highly effective

• Healthy media messages
  – Positive living, but with scaled up preventive behavior

• Counseling: encourage safe behavior and adherence to therapy
Most HIV-infected people on HAART experience some side effects

A study from Botswana found that the side effects were so serious that they interfered with adherence to therapy in 9% of people on HAART

Poor management of side effects may lead to purposeful non-adherence, which in turn could lead to lowered effectiveness of the treatment and resistance
Side Effects - 2

Side effects from HAART include the following:

- Bone demineralization
- Hyperlipidemia
- Hyperglycemia
- Gastrointestinal symptoms
- Diarrhea
- Rashes
- Headaches
- Neuropathies
- Hepatotoxicity
- Lactic acidosis
- Hypersensitivity
- Pancreatitis
- Anemia
- Neutropenia
Mitigating Against Side Effects

• Make a number of standard regimens of medications available

• Treat side-effects. Offer good overall care, not just drugs

• Encourage adherence to therapy

• Offer appropriate nutritional support
Resistance to ARVs - 1

• There is a concern that there will be widespread antiretroviral resistance resulting in mass treatment failure

• One of the key accelerators of resistance is lack of adherence
  - A study from Botswana found that only 54% of people on ARVs reported that they had adhered to the therapy regimen
  - A Ugandan study reported that 70% of patients enrolled in their study had virus that was resistant to at least one antiretroviral drug

• Drug resistant HIV strains are transmissible
Resistance to ARVs-2

- “HAART for all” may lead to resistance in drug regimens which are used to prevent mother-to-child transmission

- Nevirapine should be reserved for mother to child treatment

*Note that only an estimated 5% of HIV infected mothers in developing countries currently have access to ARVs
Mitigating Against Drug Resistance

- Use standard regimens with fixed dose therapies
- Monitor drug resistance using simplified diagnostics
- Improve clinical management and build infrastructure
- Work with communities to find strategies that encourage adherence to therapy
Conclusion

Policies written to guide ARV programs must address the following

• the level of treatment to be offered
• the process to be followed in prioritization
• those who will be prioritised for treatment
• the potential adverse effects
• how those side-effects can be mitigated against