

What do we (need to) know about the development impact of AIDS in Africa?

HIV/AIDS and Development in Zambia Taking Stock and Rethinking Policies

Lusaka, February 4, 2010

Robert Greener

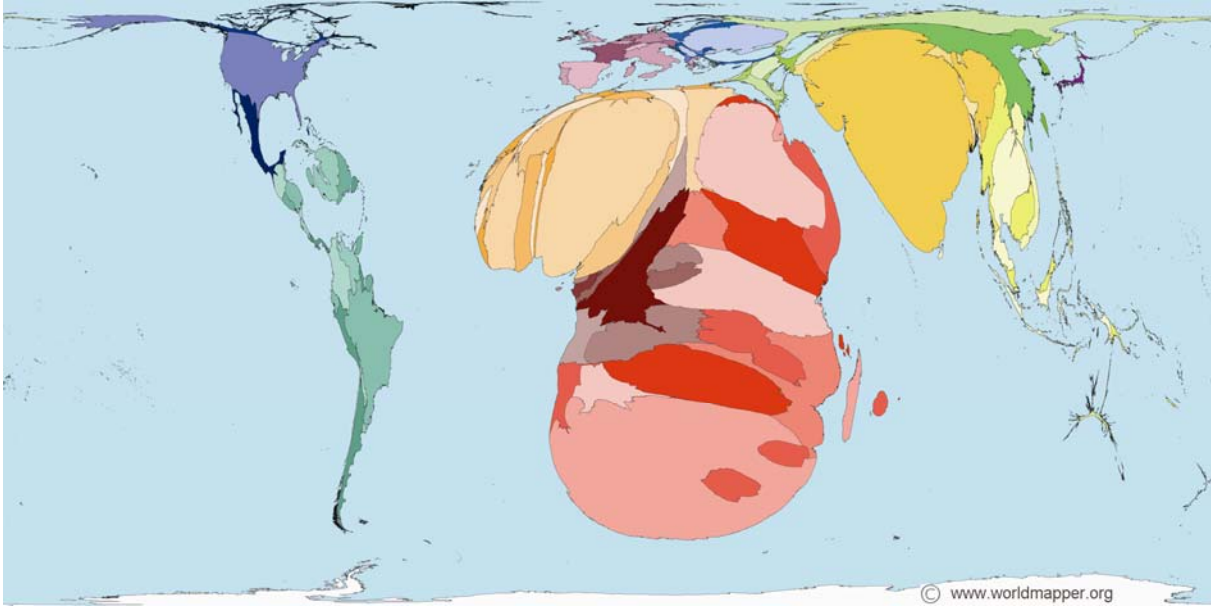


Magnitude of the Epidemic

- 33 million living with HIV
 - 67% in sub-Saharan Africa
- 2.7 million new infections per annum
- 2 million deaths per annum
 - number infected still growing
- More than 3 million on ARV treatment
- Most infections are in low and middle-income countries



The World of HIV

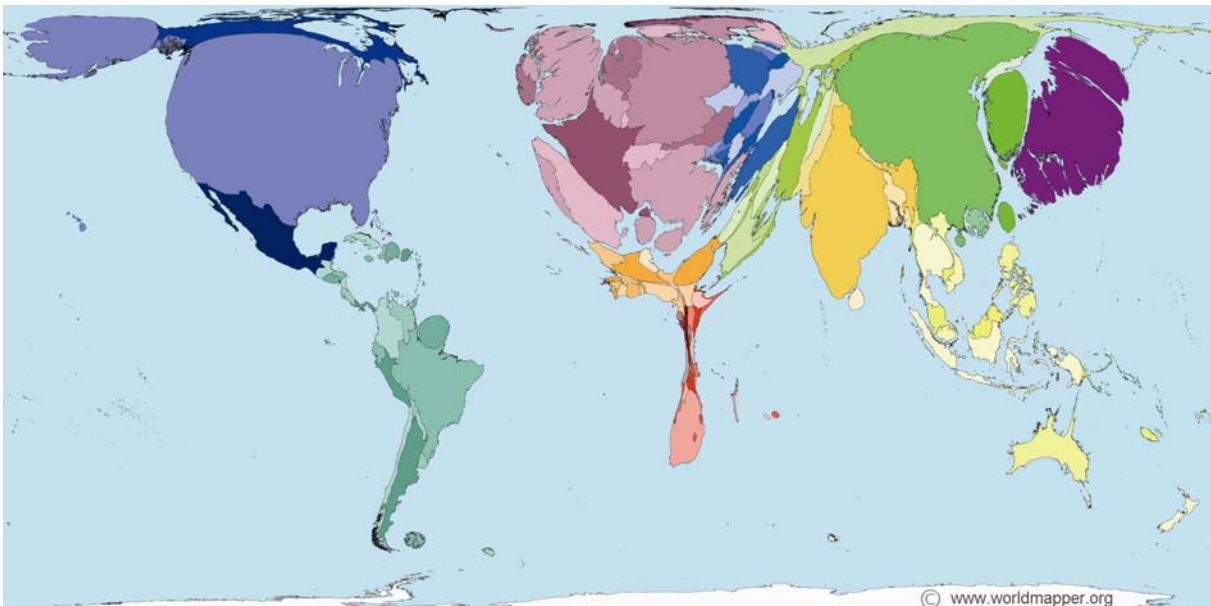


© Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan).

© www.worldmapper.org



The World of Income

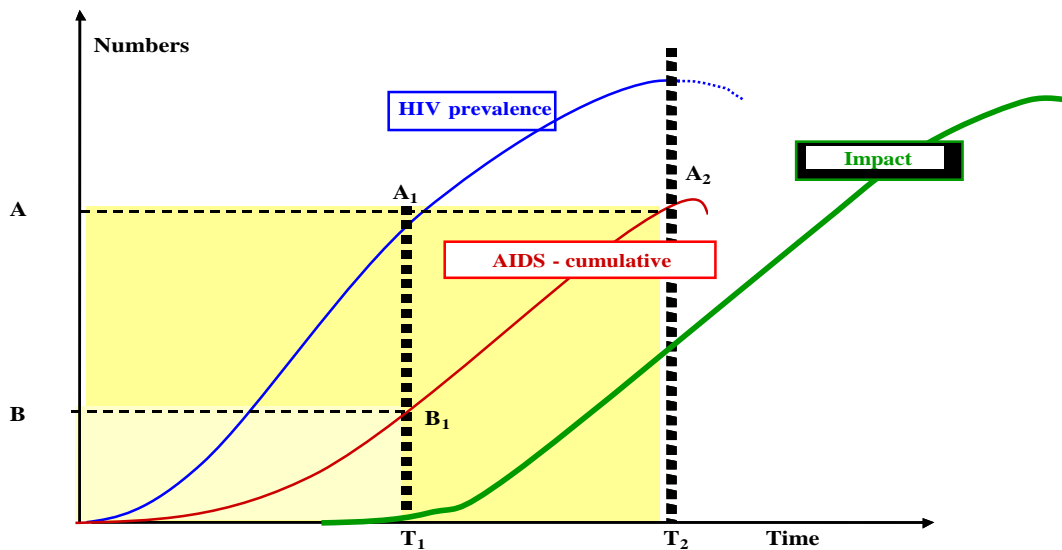


© Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan).

© www.worldmapper.org



Prevalence and Impact – the “long waves”



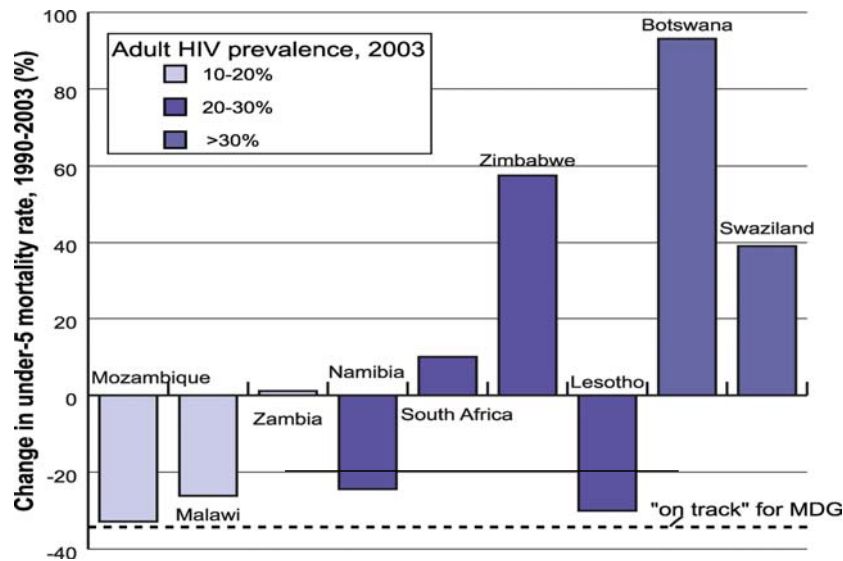
T.Barnett, A.Whiteside



Top Causes of Death in Africa

1. HIV/AIDS
2. Malaria
3. Lower respiratory infections
4. Diarrhoeal diseases
5. Perinatal conditions
6. Cerebrovascular disease
7. Tuberculosis
8. Ischaemic heart disease
9. Measles
10. Road traffic accidents

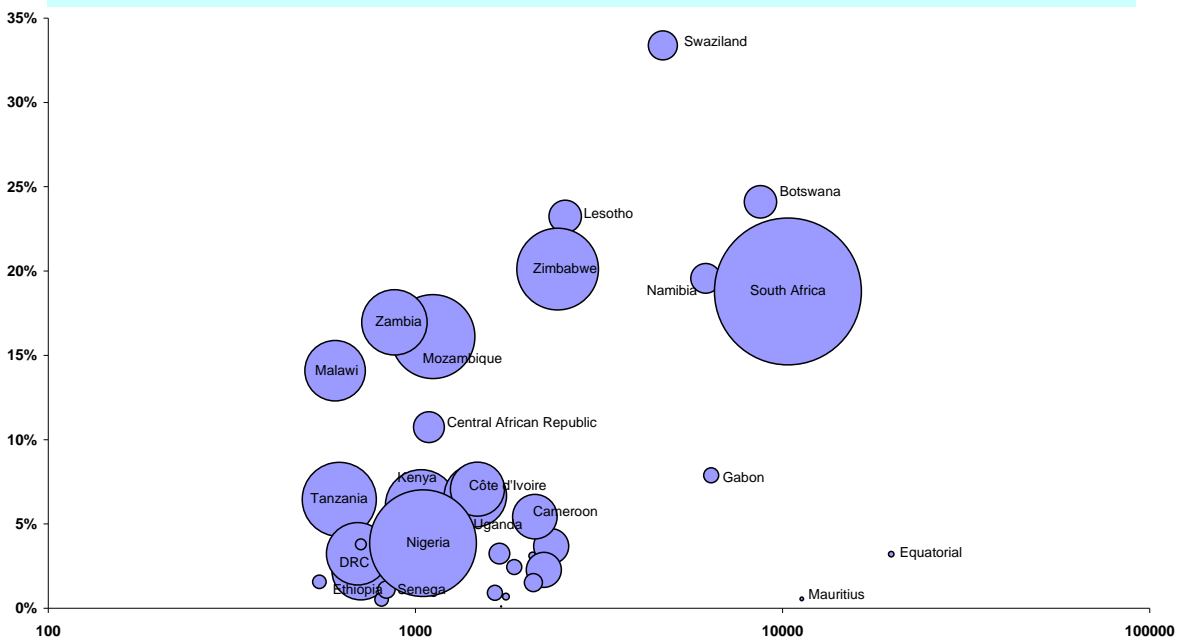
Change in Under-Five Mortality Rate in Selected Countries with High HIV Prevalence, 1990–2003



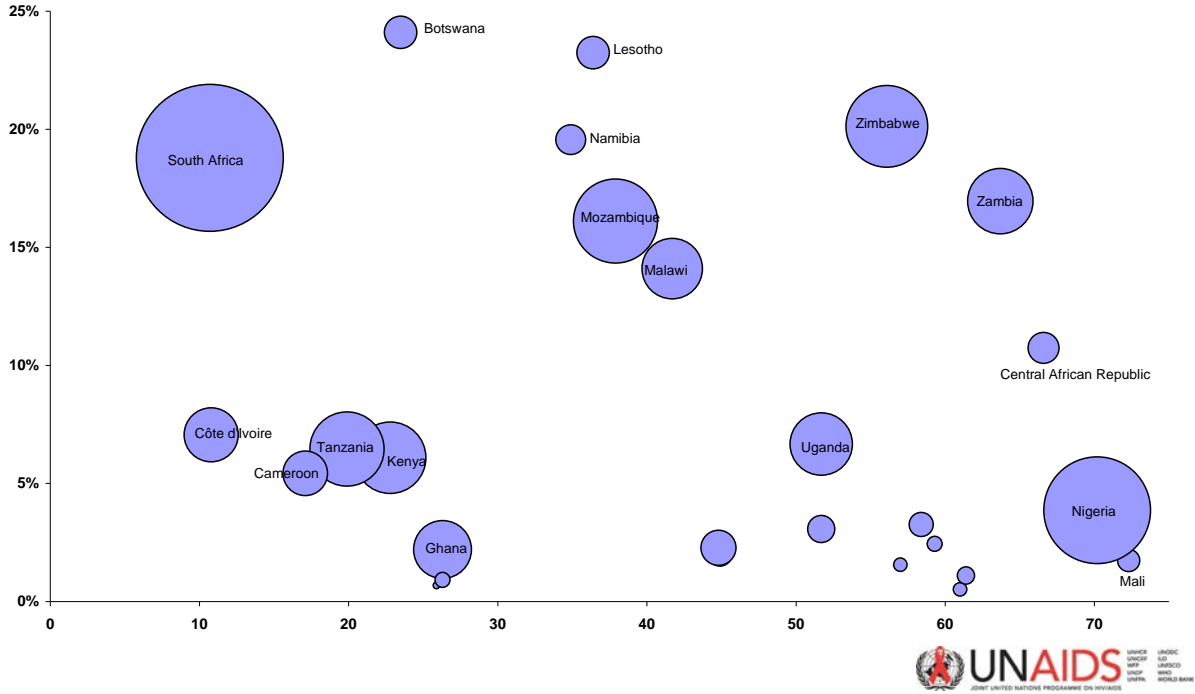
R. Hecht et al. Putting It Together: AIDS and the Millennium Development Goals. PLoS Medicine, 2005



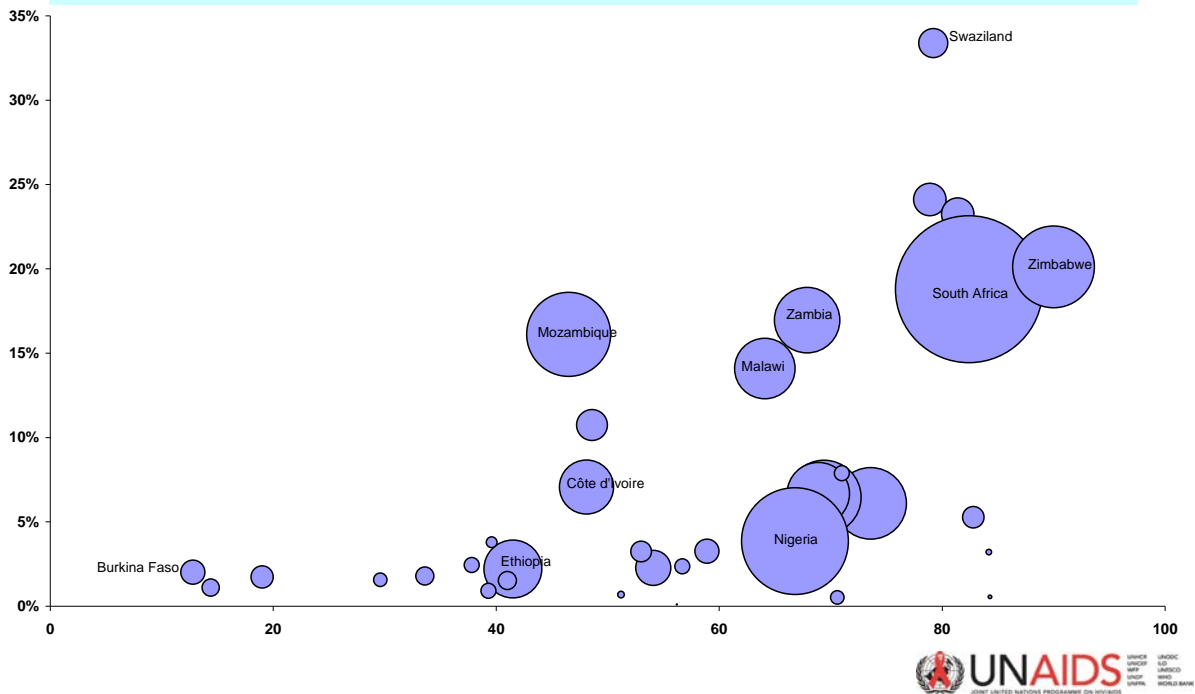
HIV and GDP per capita - SSA



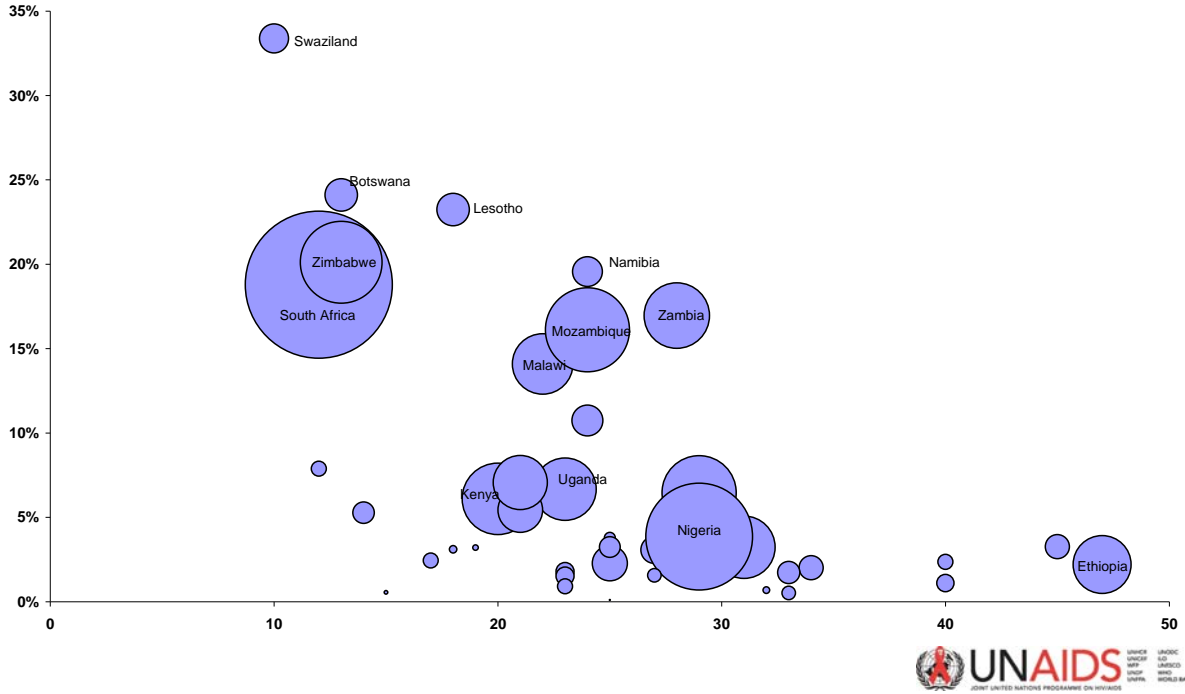
HIV and Income Poverty



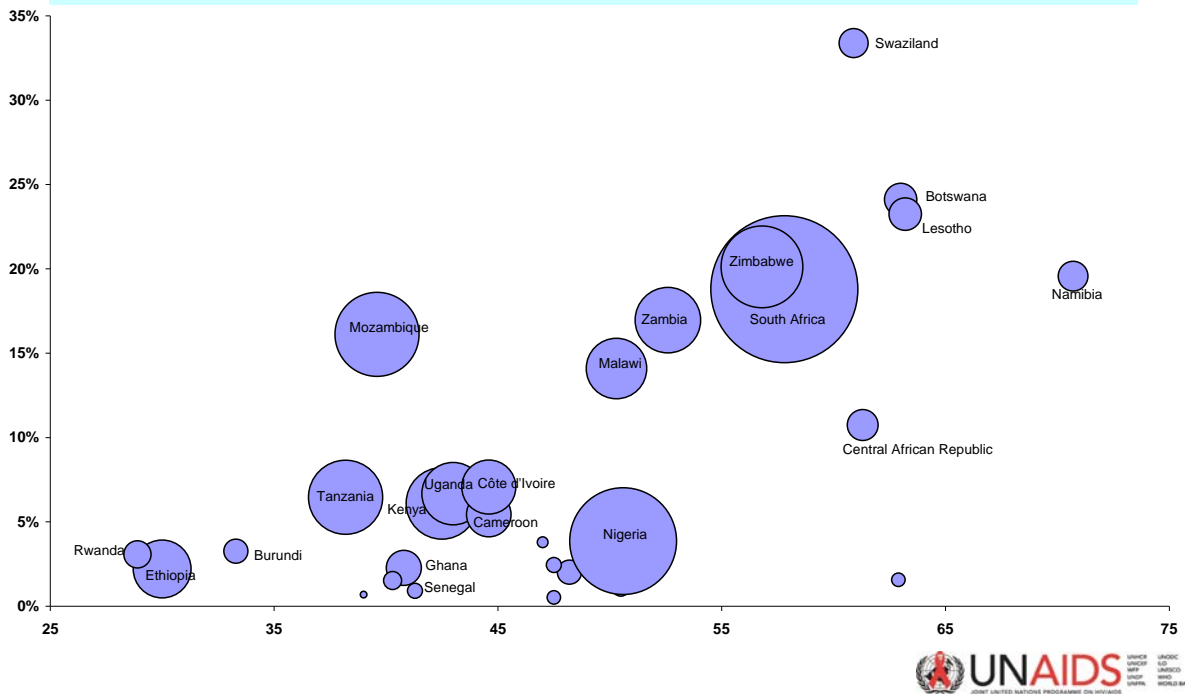
HIV and Literacy



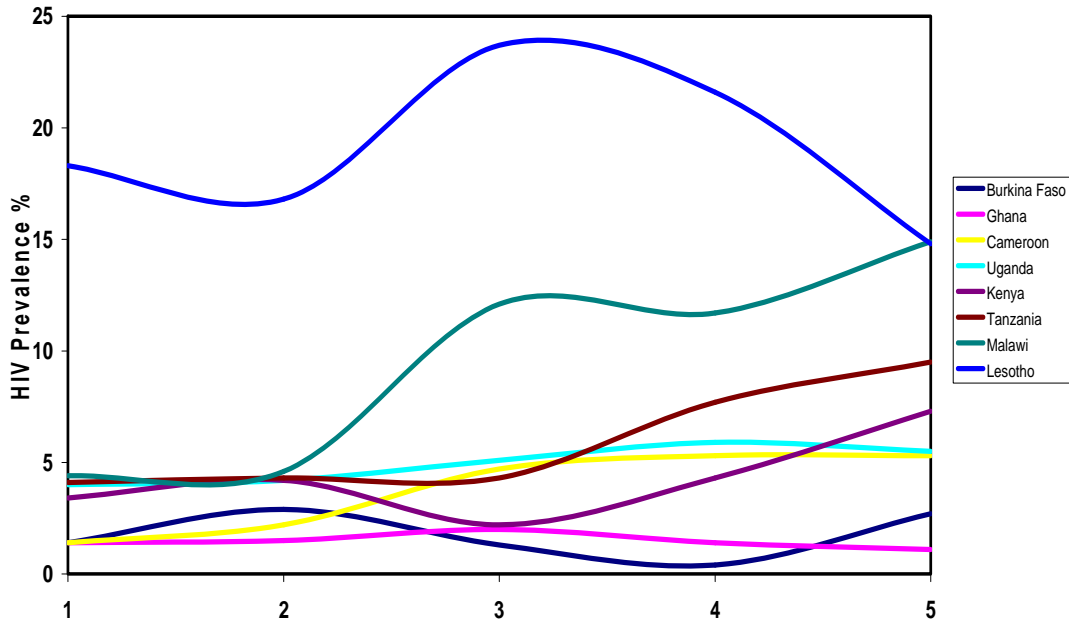
HIV and Nutritional Status



HIV and Income Inequality



HIV prevalence by wealth status: MEN

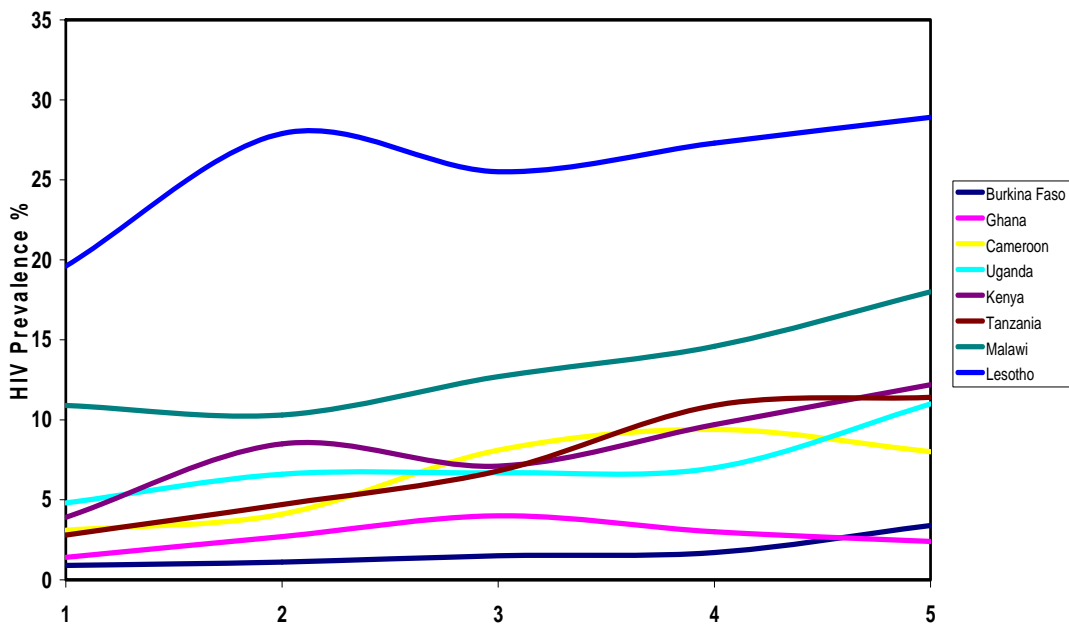


Mishra, Van Assche, Greener, Vaessen, Hong, Ghys, Boerma, Van Assche, Khan, Rutstein, 2007

Income Quintile



HIV prevalence by wealth status: WOMEN

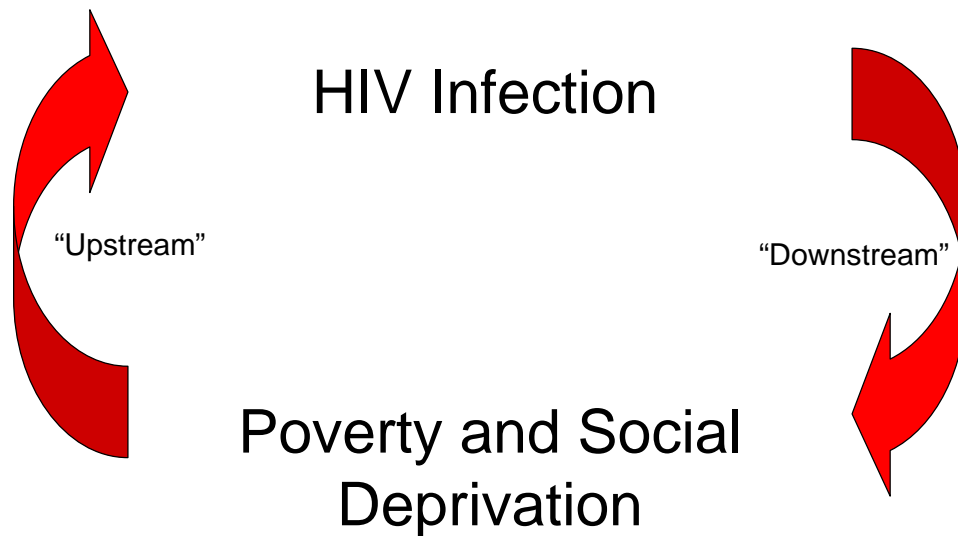


Mishra, Van Assche, Greener, Vaessen, Hong, Ghys, Boerma, Van Assche, Khan, Rutstein, 2007

Income Quintile



“Upstream” and “Downstream”



Economic Impacts of AIDS

- The macroeconomy
- Investment and FDI
- Firms and enterprises (workplace)
- The public sector
- Individual and household
- Human capital and long run impact

Macroeconomic Impact

- Lower aggregate labour productivity
- Lower savings and investment
- Variations on neoclassical growth models project slower macroeconomic growth (as much as 1-2% reduction in growth in the worst affected countries)
- Empirical studies find little evidence for an impact on growth so far (in GDP terms)

Investment Impacts

- Reduced savings and investment is a major channel for economic impact of AIDS in many countries
 - This is likely to result from household level impacts and from slower population growth
- The potential impact on foreign direct investment due to loss of confidence may be more important than the labour impacts

Impact on Firms and Enterprises

- Lower productivity from untreated HIV positive workers
- Higher medical expenses, where these are provided
- Replacing and training skilled employees who die
- Erosion of their customer base, as local customers and the local economy suffer.
- Positive publicity from positive action



Estimates of Firm Level Impact

Sector	Country	Size	Estimated HIV prevalence	Cost per AIDS death or retirement (multiple of annual compensation)	Aggregate annual costs (% of labor costs)
Retail	South Africa	500	10.50%	0.7	0.50%
Agribusiness	South Africa	7,000	23.70%	1.1	0.70%
	Uganda	500	5.60%	1.9	1.20%
	Kenya	22,000	10.00%	1.1	1.00%
	Zambia	1,200	28.50%	0.9	1.30%
Manufacturing	South Africa	1,300	14.00%	1.2	1.10%
	Uganda	300	14.40%	1.2	1.90%
	Ethiopia	1,500	5.30%	0.9	0.60%
	Ethiopia	1,300	6.20%	0.8	0.60%
Media	South Africa	3600	10.20%	1.3	1.30%
Utility	South Africa	>25,000	11.70%	4.7	2.20%
Mining	South Africa	600	23.60%	1.4	2.40%
	Botswana	500	29.00%	4.4	8.40%
Tourism	Zambia	350	36.80%	3.6	10.80%

Source: Jonathon Simon, Sydney Rosen, Rich Feeley, Patrick Connelly, "The Private Sector and HIV/AIDS in Africa: Taking Stock of Six Years of Applied Research"



Impact on Government

- Increased employment costs and falling productivity, as with the private sector
- Reduced revenue as economic growth slows, but increased expenditure demand as services must be scaled up
- Government's role in providing an "enabling environment" may be compromised

Individual and Household Impact

- Mortality and orphanhood
- Lower productivity and wage earning
- Loss of income from those who die
- Higher costs of medical care
- Higher costs of funerals

→ Deepening of poverty and malnutrition
Barriers to treatment access

Does AIDS Increase Poverty?

- It is difficult to attribute poverty changes to AIDS – there are many confounding factors
- Salinas and Haacker (2006) found that the impact on poverty in 4 African countries was likely to be greater than the impact on per-capita income
 - This is because HIV may be concentrated among households close to (but just above) the income poverty line



Long-run human capital effects

- Human capital is reduced directly through mortality and lower life expectancy
- Education outcomes are worse in areas with high HIV
 - Suggestion that investments are reduced because the potential returns are lower
- Education and health outcomes are significantly worse for orphans, who are increasing in number



Human capital and long-term impact

- Early work (Bell et al) suggested that accumulating human capital losses will cause a much greater macroeconomic impact in the long term
- Other methods (e.g. Solow growth models) incorporating human capital also expect much larger impact than current observation suggests

The Impact of ART

- Most projections and empirical investigations of impact do not account for the impact of ART
- ART clearly mitigates impact, but by how much and with what other consequences?

ART in Uganda

- ART offsets part of negative growth impact (1/3–1/2)
- ART provision does not pay for itself in economic terms, but can nonetheless be justified in social terms
- Extent of economic benefits of ART to a country depends on how programmes are funded
 - Domestic financing of ART is not sustainable and will have an adverse economic impact due to tax/borrowing implications
 - Budget impact is relatively small if HIV/AIDS programmes largely donor funded



Does Poverty increase HIV vulnerability?

Data

- Cross-sectional cross country analyses (DHS)
- Longitudinal seroconversion studies
- Longitudinal household surveys
- Studies linking other interacting factors (mobility, gender, malnutrition) with HIV risk

Outcomes

- High risk behaviors
- HIV prevalence (% of population estimated to be HIV +)
- HIV incidence (number of *new infections*/year)
- Prime age adult mortality (15-59 years of age)



HIV *Incidence* and Wealth Status

- **3 prospective seroconversion studies**
 - Lowest male HIV incidence among wealthiest asset tercile (Lopman et al, Manicaland)
 - Lowest incidence in middle tercile (Barnighausen et al, KZN)
 - No association (Hargreaves et al, Limpopo)
 - Limitation: High attrition rates



Role of other socioeconomic factors

- Education associated with less risky behaviors and lower HIV incidence
 - Age and economic asymmetries
 - Gender inequality
 - Low social cohesion (e.g. slums)
 - Mobility
- } Positively associated with HIV +ve status
- Women engaged in some form of self-employment less likely to die in prime age (MSU and Kadiyala)



Some Conclusions

- Economic status in itself is *not* a strong predictor of HIV status in Africa....
 - Prevention must cut across **all socioeconomic strata** of society
- No simple explanation
 - Poverty is part of the story, but not the key
 - Pathways and interactions are complex
 - Predisposing factors are different for different groups
- Tailor interventions to the specific drivers of transmission within different groups
 - Education; women's economic independence

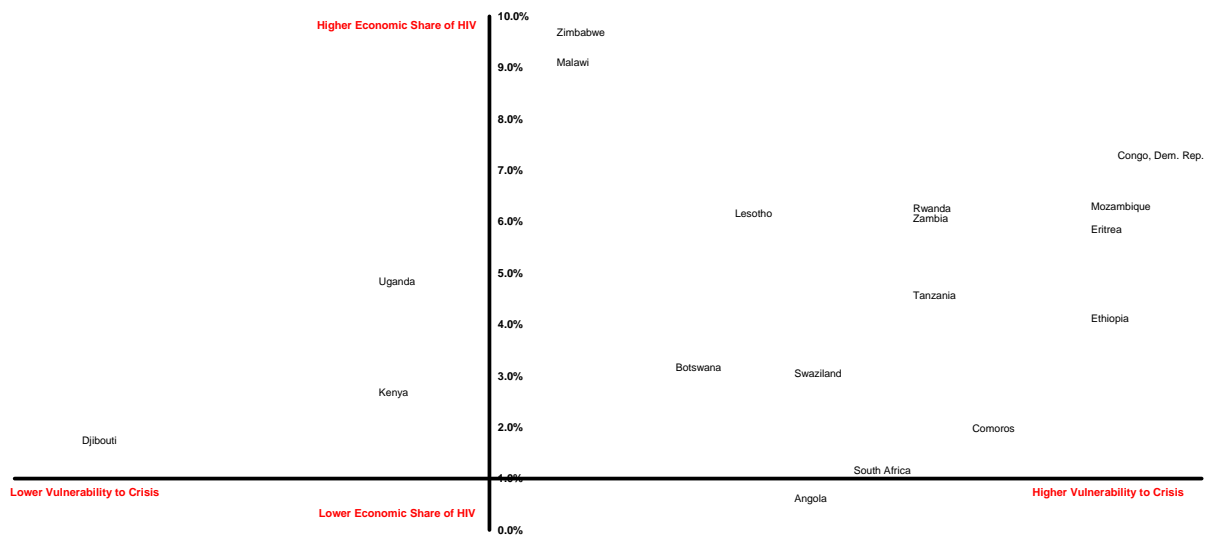


Development and HIV

- Expanding treatment programmes is vital to maintain economic participation and mitigate economic impacts
- Development plans and projects must factor in the possible interactions with HIV
- AIDS is a long-wave event, and it is vital to sustain the financing for programmes in the long run.



Vulnerability of Programmes



AIDS and Development Planning

- Long term AIDS strategic plans need to be prioritised, evidence based and costed
 - Ambitious and feasible
 - Aligned with national development plans and budgeting frameworks (PRSP and MTEF)
 - Coherent - focused on 3 ones principles
 - National level ownership and accountability
 - Meaningful participation of civil society