Challenges with managing HIV/AIDS and Tuberculosis in a society with high levels of inequality

Prof Geoffrey Setswe DrPH, MPH
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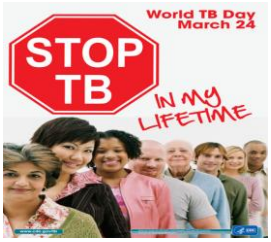
Introduction

- TB, a respiratory and infectious disease, has historically been associated with poverty and inequality.
- A number of studies indicate that two broad mechanisms explain the relationship between poverty and TB incidence: Poverty fuels TB and TB fuels poverty.
- South Africa has the largest economy in Africa but is one of the most inequitable societies in the world, illustrated by the disparity between private and public sector health-care funding.
- We explored 3 hypotheses:
  - how inequality contributes to TB in South Africa.
  - How inequality, particularly gender inequality, becomes a core factor in enhanced vulnerability to HIV infection.
  - How poverty/inequality affect ill health and death due to HIV/AIDS and affects the coping mechanisms of households affected by HIV/AIDS.



Sources: Research on Socio-Economic Policy (RESEP) at University of Stellenbosch.
http://resep.sun.ac.za/index.php/research-areas/tb-screening-and-treatment/tb-and-poverty/
Benatar SR & Upshur R (2010) Tuberculosis and poverty: what could (and should) be done. Int Journal of TB & Lung Dis 14(10): 1215-21

Dimensions of inequality

Inequality of access: barriers to services that support health and wellbeing. Includes barriers created through *cost, physically inaccessible services*, and through *services not being culturally appropriate* for all people living in SA.

Inequality of opportunity: barriers to the social, geographic & economic resources necessary to achieve and maintain good health such as *education, employment, income* and a *safe place to live*.

Inequality of impacts and outcomes: differences in health status between groups (for example in rates of death, illness or self-reported health) according to age, race, gender, geographic location, etc..

Sources: Brodie N. Factsheet: What is poverty? Africa Check at https://africacheck.org/factsheets/factsheet-what-is-poverty/
Victorian Health Promotion Foundation (2008)

The cycle of TB and poverty/inequality

• Poverty fuels TB

- TB is a disease of poverty… the poorer the community, the greater the likelihood of being infected with TB.
- A lack of basic health services, poor nutrition and inadequate living conditions all contribute to the spread of TB and its impact on the community.
- An absence of good quality health care facilities is common in poor communities…there is a longer delay between disease and cure, perpetuating the spread of TB.
- Poor nutrition weaken the immune system and increase the chances of infection with TB.
- Overcrowded and poorly ventilated home and work environments make TB transmission more likely.

• TB fuels poverty

- Studies suggest that the average patient loses 3 to 4 months of work time as a result of TB. Lost earnings can total up to 30% of annual household income.
- In economic terms, TB decreases the output of a labour force and consequently reduces its GDP.
- The burden of TB is estimated to swallow an economic toll of US$12 billion from the incomes of the world's poorest communities every year.

"*TB is a giant poverty producing mechanism*".
Jacob Kumaresan, Executive Secretary " of the Stop TB partnership Secretariat.

Source: StopTB. What is the relationship between TB and poverty.
http://www.stoptb.org/assets/documents/events/world_tb_day/2002/1Therelationship.pdf

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TB disproportionately affects the poor

- Low-income populations often lack access to health-care facilities and treatment and prevention options, which delays the diagnosis of TB by several weeks or months.

- Poor nutrition and co-infection with other diseases, especially HIV/AIDS, can lead to the development of active TB.
- Crowded living conditions, poor ventilation, and lack of access to clean water and sanitation all contribute to an increased susceptibility to TB.

- Increased probability of becoming infected with TB and of developing active TB are both associated with malnutrition, crowding, poor air circulation, and poor sanitation—all factors associated with poverty*.

"*TB is the child of poverty – and also its parent and provider*."
– Archbishop Desmond Tutu

Sources: Global Health Advocacy Partnership. Ending the TB epidemic: TB and poverty. http://www.action.org/resources/item/tb-and-poverty
*A human rights approach to tuberculosis. http://www.who.int/hhr/information/A%20Human%20Rights%20Approach%20to%20Tuberculosis.pdf 5

TB affects the vulnerable…

In South Africa, TB tends to impact heavily on the poorest and most marginalised groups such as:

- migrant communities
- people with drink, drug or mental health issues
- homeless people and those in poor quality housing
- people with weak immune systems, due to HIV, other illnesses or age
- people with a history of prison.
- those who live and work in poorly ventilated and overcrowded conditions,
- those who suffer from malnutrition and disease – particularly HIV – which reduces resistance to TB
- those with limited access to healthcare – and just one person with untreated infectious TB can pass it on to 10-15 people annually.

…"*circumstances in which we grow, live, work, and age" and the "systems put in place to deal with illness" give rise to unequal, unfair distributions of population health*.
WHO Commission on Social Determinants of Health

Sources: TB Alert. TB and poverty. http://www.tbalert.org/about-tb/global-tb-challenges/tb-poverty/
Commission on Social Determinants of Health —final report, 2008. Available at: http://www.who.int/social_determinants/thecommission/finalreport/en/index.html. 6

Socio-economic status (SES) and TB in SA

Harling et al., (2008) looked at the social epidemiology of TB in SA and found that:

- The prevalence of self-reported TB is associated with lower individual-, household- and community-level SES in South Africa.
- Education was protective against TB, with a 10% reduction in the odds of disease for every additional year of education completed.
- Individuals who had worked in the mine in the past year had 40% reduced odds of recent TB, and 30% reduced odds of lifetime TB.
- Ever having worked in a mine was associated with a 2.3 times increase in the odds of lifetime TB
- Living in a household which had ever missed meals due to a lack of funds was associated with a more than doubling in the odds of TB.
- Living in a household with greater crowding was associated only with recent TB.
- Individuals living in areas of high inequality had an increased prevalence of TB

Harling G, Ehrlich R, Myer L (2008) The social epidemiology of tuberculosis in South Africa: a multilevel analysis. Soc Sci Med 66: 492–505. doi: 10.1016/j.socscimed.2007.08.026

Socioeconomic status and TB in SA

Research on Socio-Economic Policy (RESEP) at University of Stellenbosch found that:

- People in the poorest quintile are 9 times more likely to report that they are suffering from TB or associated symptoms than those in the top quintile.
- TB prevalence has a positive and significant association with urban location, age, being Black or Coloured, living in the Eastern Cape, Free State, KwaZulu-Natal or Northwest province (compared to the base case which is the Western Cape) … and overcrowded living conditions.
- More education, being female and living in Limpopo (rather than the Western Cape) significantly reduce the likelihood of having TB.
- TB sufferers from poor households are less likely to consult doctors and to utilise private care.

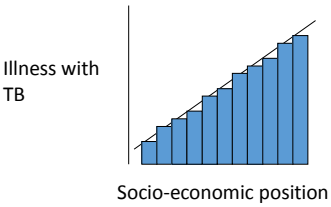
Source: Research on Socio-Economic Policy (RESEP) at University of Stellenbosch.
http://resep.sun.ac.za/index.php/research-areas/tb-screening-and-treatment/tb-and-poverty/

Socio-economic status (SES) and TB in SA

Data from the Australian Institute of Health and Welfare (2012) shows that:

- illness with TB follows a social gradient - the lower the socio-economic position, the worse the chances of getting infected with TB.
- The social gradient in South Africa is steep - the gap between the rich and the poor within each race group is widening and the Gini coefficient – a measure of inequality – has risen in all population groups in South Africa.
- The burden of disease thus reflects the social gradient in SA. For example, the average TB cure rate in the most deprived districts is 55.3%, whilst in the least deprived it is 71.4%. Even within districts, disease rates vary according to the economic status of the area (DHB, 2013).

The social gradient of illness with TB



Sources: Australian Institute of Health and Welfare. Australia's health 2012. Australia's health series no.13. Cat. no. AUS 156. Canberra: AIHW.
And HST. District Health Barometer athttp://www.hst.org.za/uploads/files/dhb0708_secA.pdf

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HIV/AIDS does not affect South Africans equally

- In 2012, HIV prevalence was highest among sexually active adults aged 25+ (19.9%)
- Overall, the HIV incidence is higher in females than males in all age categories.
- In 2012, HIV incidence was highest among females aged 15-24 (2.54%) and 15-49 (2.28%).
- The HIV incidence among females aged 15-24 was 4X higher than that of males in this group (2.54% vs 0.55%)

Trends in HIV prevalence by age, 2002-2012

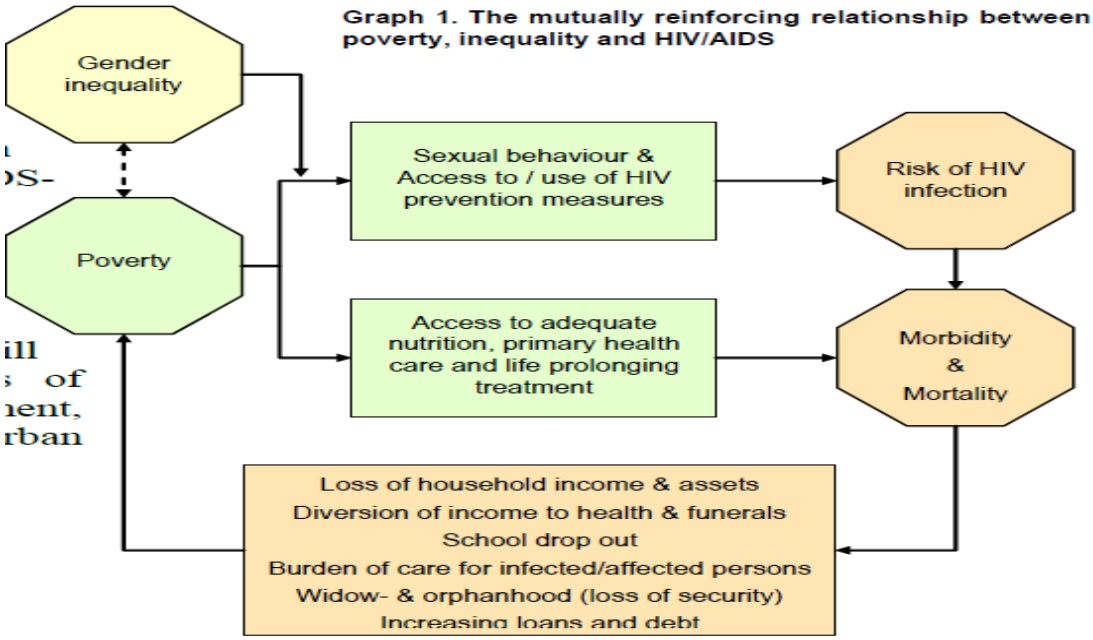
Age group	2002	2005	2008	2012
2-14	5.6	3.3	2.5	2.4
15-24	9.3	10.3	8.7	7.1
25+	15.5	15.6	16.8	19.9
15-49	15.6	16.2	16.9	18.8
2+	11.4	10.8	10.9	12.6

HIV incidence rates by age, 2012

Age Groups	HIV incidence % (95% CI)
Age ≥ 2years	
Total	1.07 (0.87 – 1.27)
Male	0.71 (0.57 - 0.85)
Female	1.46 (1.18 - 1.84)
Age 15-24 years	
Total	1.49 (1.21 – 1.88)
Male	0.55 (0.45 - 0.65)
Female	2.54 (2.04 - 3.04)
Age 15-49 years	
Total	1.72 (1.38 – 2.06)
Male	1.21 (0.97 - 1.45)
Female	2.28 (1.84 - 2.74)

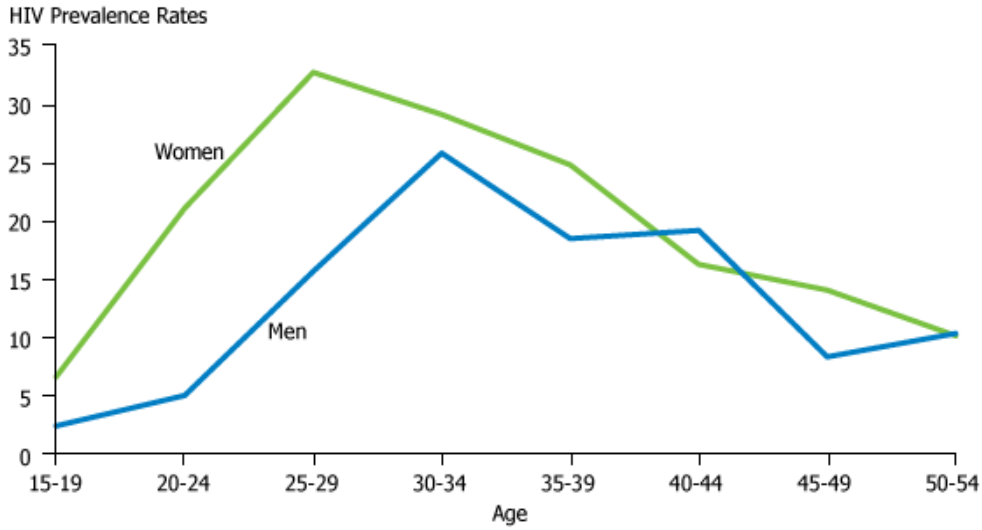
Source: SABSSM 2012

Graph 1. The mutually reinforcing relationship between poverty, inequality and HIV/AIDS



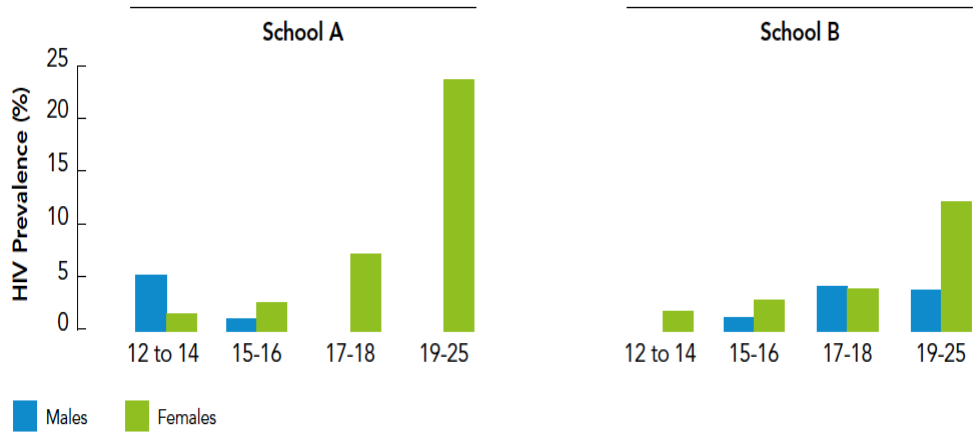
Source: van Donk M (2002) HIV/AIDS and urban poverty in South Africa. Isandla Institute.

HIV disproportionately affects women in South Africa



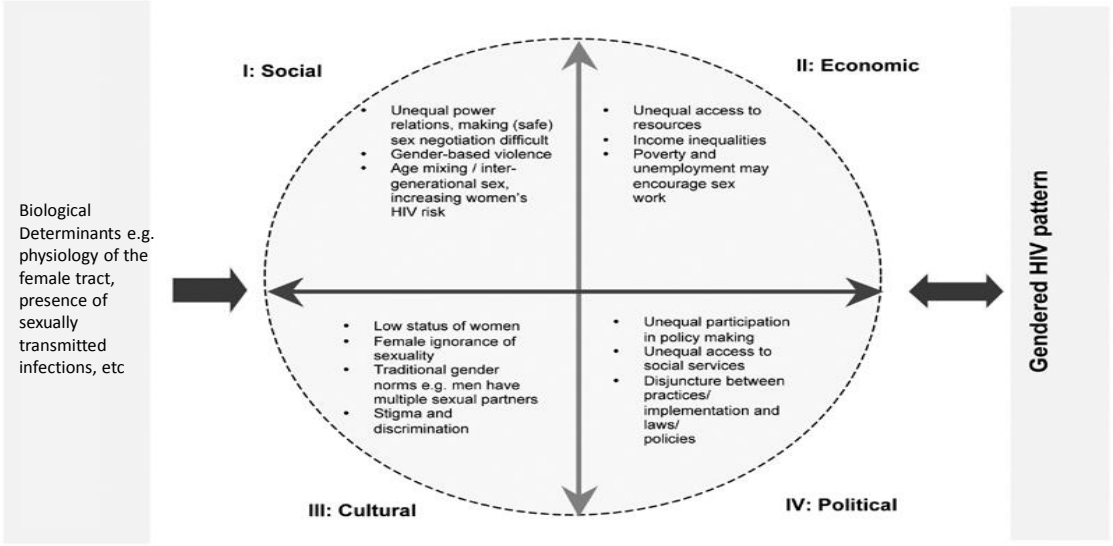
Source: South African National HIV, Behaviour and Communication survey (2012 & 2008)

Case study 1: HIV prevalence among boys and girls in 2 schools in rural Kwazulu-Natal, SA, 2012



Source: UNAIDS, (2014) The gap report

Factors Contributing to the Gendered Pattern of the HIV Epidemic



Source: Adapted from Popay et al, 2008

HIV disproportionately affects key populations in South Africa

- New HIV infections were highest among sex workers (5.5%) and their partners (19.8%), followed by MSM (7.9%) and their partners (9.2%) and People Who Inject Drugs (PWIDs) (1.1%) and their partners (1.3%).
- Overall, key populations had an estimated proportion of new infections of 14.5% which increased to 30.3% with their partners/clients.

	% new HIV infections, group only	% new infections, group & their partners & clients
Sex workers	5.5%	19.8%
PWID	1.1%	1.3%
MSM	7.9%	9.2%
Total	**14.5%**	**30.3%**

Source: Stats SA (2015) The Millenium Development Goals Report: Goal 6 report.

Poverty-driven sex work and HIV/AIDS in SA

- The fact that South Africa, one of the countries worst affected with HIV/AIDS is among the most economically developed in the region contradicts the poverty-AIDS argument (Table below).
- However, poverty does seem to be the crucial factor in the spread of HIV/AIDS through sexual trade. Extreme poverty compels most of the young women to indulge into risky behavior that can easily bring money and resources for survival. Poverty-driven sex work or sexual transactions carry the risk of unprotected sex;
- In the absence of alternative opportunities to earn a livelihood for themselves and their households, millions of women in SA sell sex.
- In 2016, there were >1million sex workers in SA (Setswe et al., 2016)

Poverty level 2006		National HIV prevalence 15-49 yrs		No of PLHIV
GDP per capita (US$)	**% of pop below UN poverty line $1/day**	**2003**	**2005**	**In millions**
13 000	50	18.6	18.8	5.5

Source: Mbirimtengerenji ND (2007). Is HIV/AIDS Epidemic Outcome of Poverty in Sub-Saharan Africa? *Croat Med J*; 48(5): 605–617.

Challenges for TB/HIV

- People with TB and HIV face similar problems of stigmatisation, fear and discrimination, therefore have shared needs for counselling, care and support.

- TB and HIV are common in socio economically stressed communities;
- Affect the same age group of general population: the young and economically active group.

Summary

- It is evident from research that in South Africa:
  - TB disproportionately affects the poor and marginalised people as compared to the rich.
  - The poorer you are, the more vulnerable you become to TB.
- The gravity of the HIV/AIDS epidemic is linked directly to social and sexual inequality, including the disempowerment of women.
- Gender inequality is a core factor in enhanced vulnerability to HIV infection.
- The increased focus and unparalleled emphasis in addressing the social determinants of HIV/TB will significantly reduce morbidity and mortality

Baaie dankie
Obrigado
Asante sana
Ke a leboga
Ngia bonga
Tatenda

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