

Measuring the Effects of Prime-Age Mortality on Rural Households: Kenya, Mozambique, Rwanda, and Zambia

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Current Understanding of HIV/AIDS' Effects on Rural Households

- Macro-level studies: highly variable findings
 - Sachs: 35% decline in GDPs in highly infected countries
 - Others: less than 1/2% decline in annual GDP growth
- Growing number of studies in AIDS “hot spots”
 - not representative
- Little attention to counterfactuals
- Empirical understanding of how rural hhs respond to AIDS remains very weak

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Objectives

1. To Measure the response of households to prime-age mortality, using nationally representative household survey data
2. To determine the strategies used by households to respond to illness/death
3. To identify implications for design of agricultural programs and policies

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Methods

- Based on ongoing surveys, add demographic and mortality component
- Ask hhs about individuals who died over past 2-3 years, time, symptoms, illness, etc.
 - Control group
 - Afflicted group
- Using cross-sectional data, longitudinal data where possible
- Undertaken with agricultural sector funding

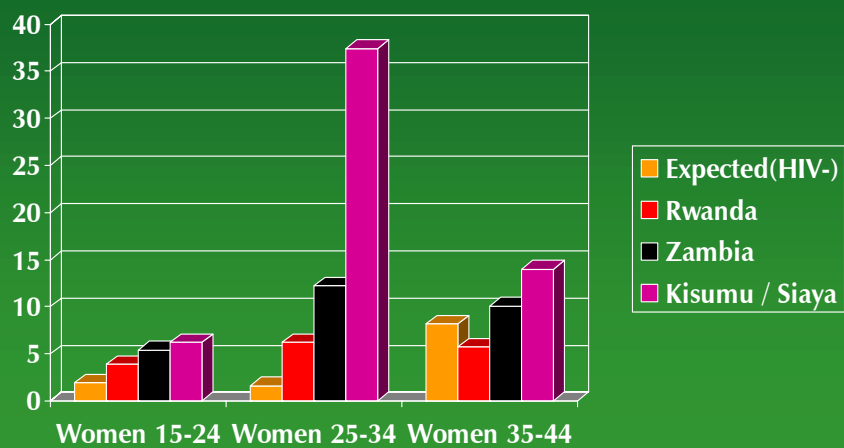
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Countries studied

- Kenya (1997 and 2000)
- Rwanda (2001, 2002)
- Zambia (2001)
- Mozambique (2002)

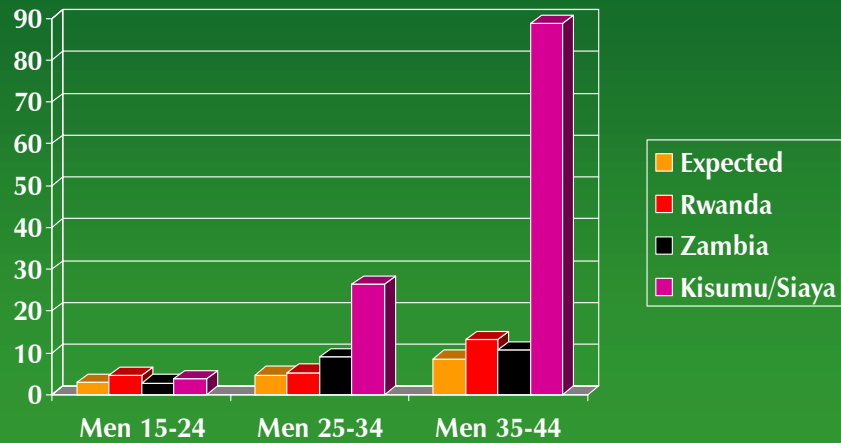
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Adult Mortality Rates – Women expected (based on HIV- rates) vs. actual



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Adult Mortality Rates – Men expected (based on HIV- rates) vs. actual



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- Strong correlation between provinces of high adult mortality and HIV-prevalence rates from sentinel site surveys

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Finding 1: Important Gender Differences in Prevalence of Adult Death (Kenya case)

- Afflicted Men
 - Tend to initially have higher incomes / education prior to death
 - About half were household heads
 - In Moz, Rw, Zm, we don't know initial conditions of hhs.
- Afflicted Women
 - Not correlated with income
 - Likely to be daughters in households
- However, many NGOs target low-income people (e.g., ag. wage laborers)
- IMPLICATION: Education Targeted to High-Income, High-Status Men

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Finding 2: Effects More Severe on the Poor (Kenya)

- Very few significant effects detected for relatively wealthy households
- Effects on ag production and non-farm income were larger and more highly significant among the poor

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Finding 3: Effect on Household Composition Depends on Who Dies (Kenya)

- Head-of-household death → - 1.5 members
 - Major loss in adult labor, mostly older hh members leave
- Female head/spouse death → - 2.1 members
 - Young boys and girls leave the household
- Death of other adults → hh often gained new adult member; these hhs are less adversely affected

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Finding 4: Gender Effects of Mortality on Crop Cultivation (Kenya)

- Death of male head → - 0.9 acre to cash crops (e.g., sugarcane) (Kenya)
- Death of female head → - 1.8 acre to cereals, tubers (Kenya)
- Noticed shift to sweet potato, a crop that distributes labor more evenly (Rwanda)

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Finding 5: Effects of Death on Farm Production Sensitive to Gender, Position in HH (Kenya)

- Death of Male hh-head → 68% reduction in value of crop output
- Death of Female head/spouse → less dramatic but still negative effects
- Why Effects of Male Prime Age Mortality are Greater?
 - Loss of female ag. labor to caregiving
 - Loss of higher-return crops
- Death of other hh member – insignificant effects on ag.

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Finding 6: Strategies Adopted by Households After Mortality

- When male dies
 - Rely on neighbors / social networks (Rwanda, Moz)
- When female dies
 - Bring in hh members from off-farm (Rwanda)
 - Spend savings (Mozambique)
 - Cultivate less land, reduce weeding (Rwanda, Moz)

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Finding 6: continued

- Response to Long Illness:
 - Sell assets, hire labor (Moz)
 - Rely on neighbors (Rwanda)
 - Spend savings (Moz)
 - Reduce land cultivated (Moz, Rwanda)
 - Reduce weeding labor (Moz, Rwanda)
- In case of female illness
 - Send children to relatives (Moz, Rwanda)
 - Take children out of school (Moz, Rwanda)

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Finding 7: Loss of Off-Farm Income (Kenya)

- Effects not significant among households in the upper half of wealth distribution
- Among households in bottom half:
 - Death of Female Head/Spouse: not significant
 - Death of Male Head: -\$642/year

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Finding 8: Little Indication that Households are Able to Recover Quickly (Kenya)

- Economic shock for poor afflicted hhs is equally severe regardless of when male and female head mortality occurred between 1997 and 2000.

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Summary

- Adult mortality's greatest effects (Kenya) are:
 - On the relatively poor
 - When male head dies
 - When death is other than the hh head/spouse, the household is better able to draw back another household member to help the hh adjust
- Areas of high prime-age adult mortality coincide with areas of high HIV+ prevalence (Kenya, Moz, Zambia)

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Implications

- Need Special Targeting Assistance to Widows in Poor Households
- Institutional adaptation (e.g., widow inheritance)
-- not necessarily adapting in beneficial ways
- Targeting strategies aimed at widows may reduce economic need risky behaviors
 - e.g. Land tenure security for widows
 - Crop husbandry / management for women, e.g., how to liaise with outgrower companies
 - Working with/reinforce social networks, since widows tend to rely on those

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Implications - 2

- Focus on Labor-Saving Ag. Tech?
 - Adult Mortality also depletes capital and land
 - Most afflicted households (Rwanda, Moz) were not making use of labor saving technologies or crops
 - Many afflicted households still have very high labor/land ratios
 - Prioritizing labor saving tech may forego potential productivity gains
 - Is the “cassava response” due to AIDS?

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Resources are limited, so:

- **What is Appropriate Balance Between:**
 - Investing in Long-Term Productivity (e.g. education, ag. technology, market infrastructure)
 - vs.
 - Investing in Targeting assistance to AIDS-afflicted households and communities
- Synergies?

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Outreach working papers

- Working papers and presentations/discussions already held in Kenya, Rwanda; forthcoming in Zambia and Mozambique
- CDs with the stand-alone versions of the websites will be distributed at poster session of this workshop.

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