Appendix: Multilevel Timeline of Key Events

<table>
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<tr>
<th>International</th>
<th>National (Uganda)</th>
<th>Local (Masaka-Rakai area)</th>
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<tbody>
<tr>
<td>1978 • Alma Ata Declaration: “Health for all by the year 2000.”</td>
<td>• Idi Amin invades Kagera Salient, Tanzania, and provokes war.</td>
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<tr>
<td>1979</td>
<td>• Idi Amin ousted.</td>
<td>• Tanzanian troops respond to invasion, crossing into Uganda from Kagera. • Masaka town razed by Tanzanian troops—chaos, looting, and rape.</td>
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<tr>
<td>1980</td>
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<tr>
<td>1981 • World’s first published report of AIDS, in United States.</td>
<td>• Civil War ongoing.</td>
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<tr>
<td>1982</td>
<td>• Civil War ongoing.</td>
<td>• Eighty-four cases of Slim registered in Masaka’s Kitovu Hospital.</td>
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<tr>
<td>1983 • Virus that causes AIDS discovered by Luc Montagnier—named LAV. • Recognition of AIDS in Zaire.</td>
<td>• Civil War ongoing. • Anne Bailey speaks in Kampala of an increase in Atypical Kaposi’s sarcoma in Zambia.</td>
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<tr>
<td>1984 • “Another” AIDS virus discovered by Robert Gallo—named HTLV-III.</td>
<td>• Civil War ongoing. • Wilson Carswell establishes that HTLV-III exists in Uganda.</td>
<td>• November: first official report of Slim in Rakai sent to Kampala, no action taken. • December: article about Slim in Rakai appears in the Star newspaper.</td>
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<tr>
<th>Year</th>
<th>International</th>
<th>National (Uganda)</th>
<th>Local (Masaka-Rakai area)</th>
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<tr>
<td>1985</td>
<td>• Civil War ongoing. • Slim the most common cause of death at Mulago national referral hospital in Kampala. • Ten percent of pregnant women attending Mulago HTLV-III-positive.</td>
<td></td>
<td>• February: investigative team from Ministry of Health concludes that Slim is typhoid. • October: seminal article published in the <em>Lancet</em> detailing Slim in Masaka. Slim and AIDS said to be different entities.</td>
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<tr>
<td>1986</td>
<td>• Consensus attained that LAV and HTLV-III are the same virus—renamed HIV.</td>
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<tr>
<td>1987</td>
<td>• Peter Piot argues for education as the “main thrust” for AIDS control worldwide. • AZT approved by the U.S. Food and Drug Administration for use against HIV.</td>
<td></td>
<td>• Donors’ conference held, $7.4 million pledged. • Kitovu Hospital starts screening blood for HIV.</td>
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| 1988 | | • AIDS awareness pamphlets, badges, and stickers being distributed; condoms not promoted. • Twenty-five percent of pregnant women attending Mulago hospital HIV-positive. | | (Continued)
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<tr>
<th>International</th>
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<tbody>
<tr>
<td>• Headquarters established in Entebbe for UK-funded Medical Research Programme (MRC) on AIDS, and U.S.-funded Rakai Project.</td>
<td></td>
<td>• MRC established in rural Masaka—HIV prevalence estimated at 8 percent.</td>
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<tr>
<td>• The AIDS Support Organisation (TASO) founded in Kampala.</td>
<td>• Ugandan singer Philly Lutaaya publicly declares his HIV-positive status.</td>
<td>• TASO opens its second office, in Masaka hospital.</td>
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<tr>
<td><strong>1989</strong></td>
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<tr>
<td>• Uganda already internationally recognized for its open AIDS policy.</td>
<td>• National-level recognition that knowledge of AIDS does not always lead to behavior change.</td>
<td>• National Catholic authorities confirm that condom use is “unacceptable.”</td>
</tr>
<tr>
<td>• International AIDS Conference in Montreal: recognition that most AIDS social and epidemiological research in Africa is descriptive, with insufficient attention to the evaluation of interventions.</td>
<td>• National Catholic authorities confirm that condom use is “unacceptable.”</td>
<td>• Nationwide Demographic and Health Survey conducted.</td>
</tr>
<tr>
<td><strong>1990</strong></td>
<td>• Thirty-nine percent of pregnant women attending Mulago HIV-positive; 1.5 million Ugandans estimated to be infected with HIV.</td>
<td>• HIV prevalence rates in Rakai shown to vary from 12 percent in rural villages to 35 percent in main road trading centers.</td>
</tr>
<tr>
<td>• International AIDS Conference in San Francisco: too much research in Africa is urban and convenience-based, ignoring heavily affected rural areas.</td>
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<tr>
<td>• Museveni speaks of “apocalypse” at International AIDS Conference in Florence.</td>
<td>• Museveni agrees to permit “quiet” condom promotion.</td>
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<tr>
<td>• Trial begins in Mwanza, Tanzania, to investigate effect of syndromic STD management on HIV incidence.</td>
<td>• Protector condoms make their Ugandan debut, with a modest, low-key advertising campaign.</td>
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<tr>
<td><strong>1991</strong></td>
<td>• USAID grants $12 million for HIV prevention.</td>
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<td>International</td>
<td>National (Uganda)</td>
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<tr>
<td>• First Antiretroviral drugs (ARVs) provided at Joint Clinical Research Centre (JCRC) in Kampala.</td>
<td>• Forty-four percent of STD patients attending Mulago hospital are HIV-positive.</td>
<td>• Idea for Masaka Intervention Trial (MIT) conceived, to investigate the effect on HIV incidence of (i) a behavioral intervention and (ii) syndromic STD management.</td>
</tr>
<tr>
<td>• WHO study suggests that 95 percent of 559 research projects identified in sub-Saharan Africa were “of no immediate relevance to the local populations.”</td>
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<td>• Masaka reporting more clinical cases of AIDS than any district outside Kampala.</td>
</tr>
<tr>
<td>1992</td>
<td>• Uganda AIDS Commission (UAC) established.</td>
<td>• Ninety percent of patients on Kitovu Hospital medical wards suffering from AIDS-related conditions.</td>
</tr>
<tr>
<td>• Idea for Masaka Intervention Trial (MIT) conceived, to investigate the effect on HIV incidence of (i) a behavioral intervention and (ii) syndromic STD management.</td>
<td>• MIT study design finalized.</td>
<td>• MRC study in preparation for MIT finds misconceptions about, and opposition to condoms.</td>
</tr>
<tr>
<td>• Ninety percent of patients on Kitovu Hospital medical wards suffering from AIDS-related conditions.</td>
<td></td>
<td>• Rakai project STD mass treatment study starts.</td>
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<tr>
<td>• Ninety percent of patients on Kitovu Hospital medical wards suffering from AIDS-related conditions.</td>
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<tr>
<td>1993</td>
<td>• $73 million World Bank-funded six-year STI Project starts.</td>
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<tr>
<td>• World Bank’s World Development Report focuses on role of health in economic development.</td>
<td>• UAC: “a virtual explosion of [AIDS research] activity” has taken place, but it is uncoordinated.</td>
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<tr>
<td>• MRC study in preparation for MIT finds misconceptions about, and opposition to condoms.</td>
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<td>• Rakai project STD mass treatment study starts.</td>
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<tr>
<td><strong>1995</strong></td>
<td>Mwanza STD trial results published: syndromic STD management found to reduce HIV incidence by 42 percent.</td>
<td>UAC: “there are no articulated national policies on AIDS control.”</td>
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<tr>
<td></td>
<td>• First public suggestion of an overall decline in nationwide HIV prevalence.</td>
<td>• Thirty-six percent of STD patients attending Mulago hospital are HIV-positive (down from 44 percent in 1991).</td>
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<tr>
<td></td>
<td>• Nationwide Demographic and Health Survey conducted.</td>
<td>• Median age for first sex found to be 16.3 among females and 17.3 among males.</td>
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<tr>
<td><strong>1996</strong></td>
<td>Development of triple combination ARV therapy, or Highly Active Antiretroviral Therapy (HAART), for treating AIDS.</td>
<td>Life Guard condoms appear on the market: eight U.S. cents buy three condoms.</td>
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<tr>
<td></td>
<td>• JCRC treating 1,000 patients with Antiretroviral therapy (ART); patients on HAART pay $1,000 per month.</td>
<td>• HIV prevalence rates at antenatal surveillance sites throughout the country now range from 2 percent to 15 percent.</td>
</tr>
<tr>
<td><strong>1997</strong></td>
<td>WHO Director General Hiroshi Nakajima warns that the new ARV regimens could draw policy makers’ attention away from HIV prevention.</td>
<td>Ugandan MP: “[A] comprehensive set of national [AIDS] policies is yet to be generated.”</td>
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| | • “Quiet” condom promotion scrapped; open promotion now permitted. | | (Continued)
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<tr>
<td>• Twelve hundred registered agencies implementing AIDS-related activities in Uganda.</td>
<td>• Study finds national AIDS expenditure between 1989 and 1998 to be $180 million (= $1.80 per adult per year), of which 70 percent is covered by donors.</td>
<td>• Rakai STD mass treatment study results published: no impact of intervention found.</td>
</tr>
<tr>
<td>1998 • UNAIDS proclaims “Prevention works.”</td>
<td>1999 • Controversial Life Guard condom advertisement appears, depicting fun and sexy lifestyle.</td>
<td>• Median age for first sex found to have risen since 1995: now 16.6 among females and 18.5 among males.</td>
</tr>
<tr>
<td></td>
<td>• Monthly cost of triple therapy has fallen to $500.</td>
<td>• HIV prevalence rates at antenatal surveillance sites throughout the country continue to fall. Now range from 1 percent to 12 percent.</td>
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<tr>
<td></td>
<td>• ACP estimates that 838,000 Ugandans have died from AIDS since the epidemic began.</td>
<td>2000 • Clinton administration describes AIDS as a threat to U.S. national security and to global stability.</td>
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<td></td>
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<td>• The number of condoms sold through MIT in the past four years is 1.5 million.</td>
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<td></td>
<td>• First indication of falling HIV incidence in any part of Africa found in MRC’s Kyamulibwa general population cohort.</td>
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<tr>
<td><strong>2001</strong></td>
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<tr>
<td>• UN Special Session on HIV/AIDS (UNGASS) held.</td>
<td>• DAI transformed into a wider Accelerated Access Initiative.</td>
<td>• Masaka district chairman Vincent Ssempijja meets Michael Weinstein, President of the U.S.-based AIDS Healthcare Foundation (AHF).</td>
</tr>
<tr>
<td>• In developing countries, 240,000 people receiving ART.</td>
<td>• Peter Muyenyi illegally imports cheap generic ARVs and forces the government to permit importation of the drugs.</td>
<td></td>
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<tr>
<td>• Cipla decides to produce generic ARVs, cutting the cost of triple therapy to $30 a month.</td>
<td>• AHF holds conference on HIV care and support in Entebbe. Promises to open Ugandan Cares ART clinic in Masaka.</td>
<td></td>
</tr>
<tr>
<td>• MSF starts pilot ART project in Khayelitsha, Cape Town.</td>
<td>• Established national-level actors skeptical about Uganda Cares’ chances of success.</td>
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| **2002**      |                 |                          |
| • Global Fund to Fight AIDS, Tuberculosis and Malaria founded. | • The term “ABC” first used as a description of Uganda’s approach to HIV prevention. | • Uganda Cares clinic opened in Masaka by First Lady Janet Museveni—promises free provision of ART and related services. Many people skeptical. |
| • Justin Parkhurst challenges the Uganda AIDS “success story.” | • Drug resistance noted in 65 percent of patients from DAI. | |
| • Colin Powell advocates for a condom-free approach to HIV prevention. | • Results-dissemination workshop held in Kampala for MRC’s MIT: no impact from interventions found, policy makers advised to continue business as usual. | |
| • International AIDS Conference in Barcelona: WHO Director General Gro Harlem Brundtland announces plans for massive global scale-up of ARV provision. | | |

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<tbody>
<tr>
<td>2003</td>
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<tr>
<td>• The U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) founded. Janet Museveni and U.S. Christian groups lobby for abstinence-only HIV prevention programs.</td>
<td>• Uganda receives $36 million from Global Fund for ARVs; announces its ‘3 by 5’ target of 60,000 people to be on ART by end 2005.</td>
<td>• After 12 months’ work, Uganda Cares has established its operating procedures. One hundred patients are on its books, and the decision is made to scale up.</td>
</tr>
<tr>
<td>• WHO launches ‘3 by 5’.</td>
<td>• National ART policy published.</td>
<td>• MRC’s MIT study results published: no impact from interventions found.</td>
</tr>
<tr>
<td>2004</td>
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<tr>
<td>• International scientific consensus that the fall in HIV prevalence in Uganda was primarily due to a reduction in sexual partners.</td>
<td>• National Condom Policy and Strategy published: condoms to be “widely and openly promoted.”</td>
<td>• Uganda Cares providing free ART to 802 patients—continues to expand.</td>
</tr>
<tr>
<td>• International AIDS Conference in Bangkok: Museveni ambivalent about condoms.</td>
<td>• Uganda receives $91 million of PEPFAR money.</td>
<td></td>
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<tr>
<td>• Concerns felt in WHO headquarters about feasibility of ‘3 by 5.’</td>
<td>• Value of condoms downplayed by State Minister for Information.</td>
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<tr>
<td>• WHO recognizes Uganda Cares as best practice for ART provision.</td>
<td>• Ministry of Health withdraws tens of millions of condoms.</td>
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<tr>
<td>2005</td>
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<tr>
<td>• The number of people receiving ART in developing countries is 1.3 million: ‘3 by 5’ target missed by 1.7 million, but momentum growing nonetheless.</td>
<td>• Uganda exceeds ‘3 by 5’ ART target: 67,000 people receiving treatment.</td>
<td>• Rakai study suggests primary cause of falling HIV prevalence was high mortality rather than falling HIV incidence.</td>
</tr>
</tbody>
</table>

**Abbreviations:** ACP, AIDS Control Programme; AHF, AIDS Healthcare Foundation; ART, Antiretroviral therapy; ARV, Antiretroviral drug; DAI, Drug Access Initiative; HAART, Highly Active Antiretroviral Therapy; JCRC, Joint Clinical Research Centre; MIT, Masaka Intervention Trial; MRC, Medical Research Council; PEPFAR, The U.S. President’s Emergency Plan for AIDS Relief; TASO, The AIDS Support Organisation; UAC, Uganda AIDS Commission.

Some events took place across the boundaries of one level, but they are categorized into just one level here for the sake of clarity.
Chapter 1

1. HIV incidence refers to new cases of infection, and is usually presented as the percentage of the uninfected population that is infected in a given year. HIV prevalence, by contrast, represents the proportion of the whole population that is infected at any given time, and which therefore includes people who were infected some time ago. Although HIV incidence is technically much harder to measure than HIV prevalence—hence the long lapse in Uganda between demonstrating falls in prevalence and demonstrating falls in incidence—it is the key indicator for determining current trends in infection rates.

2. The study evaluated two HIV prevention interventions: (i) behavioral change, through what is known as Information, Education, and Communication (IEC), and (ii) the treatment of sexually transmitted diseases.

3. I use the term “AIDS control” to include both the prevention of HIV infection and the treatment of people who have AIDS. I finished my main fieldwork session in late 2004, but have followed up certain issues during a number of subsequent working visits to Uganda.

4. A classical example of presentism is given by Fischer (1970), who writes about the so-called Whig history. He describes how certain eighteenth- and nineteenth-century British historians wrote history in a way that used the past to validate their own political beliefs. This interpretation was presentist in the sense that it did not depict the past in what could be described as neutral historical context, but instead events were viewed through the lens of contemporary Whig (or, as the party evolved, Liberal) beliefs.

5. An emic perspective describes behaviors and understandings in terms meaningful (consciously or unconsciously) to the actor. By contrast, an etic account is a description of behavior in terms meaningful to the observer.

6. The former Masaka district has, over the years, been subdivided into these three districts, so they can be seen collectively as the greater Masaka region. This covers an area of 9,400 square kilometers, and had a population of slightly over 1.4 million people in 2002. Over 80 percent of these people live in rural areas (Uganda Bureau of Statistics, 2002a).
Chapter 2

1. Much qualitative social science draws from the idea that phenomena should be studied in their own context, and that macrolevel processes and structures are mediated through local-level actors. In this sense these studies implicitly adopt a multilevel perspective. The discussion here, however, focuses on those studies that have explicitly taken this approach, methodologically and/or analytically.

2. Critical medical anthropology was born out of a wish to politicize medical anthropology, and it took a clearly defined left-wing position.

3. Sixty-two out of 80 top officials appointed to the Ugandan Ministry of Health during a restructuring exercise in 1997/1998 were physicians (Jeppsson et al., 2005:315).

4. Epidemiology is defined as “the study of the distribution and determinants of disease frequency” (Hennekens and Buring, 1987:3).

5. Randomization is intended to eliminate the chance of bias in one or other of the groups and also to distribute demographic, behavioral, and/or clinical characteristics of study participants as evenly as possible between study groups so as to permit comparability (Hennekens and Buring, 1987:188).

6. Inductive inference works in the reverse direction: observations are made, on the basis of which a plausible hypothesis can then be developed in order to explain what has been seen.

7. The RCT did not constitute the first ever use of either randomization or a control group in science. The psychologist C. S. Peirce introduced the idea of randomization into his experiments in the 1880s (Stigler, 1986); and the American educationalists Thorndike and Woodworth used a control group in their experiments on the use of training to improve mental function in 1901 (Thorndike and Woodworth, 1901). The revolution for medical science was to use the two ideas together in the same experiment.

8. Syndromic STD management is based on the principle that certain symptoms—which collectively constitute a “syndrome”—are generally associated with a particular group of organisms. For example, urethral discharge is a syndrome that is usually caused by either gonorrhea or chlamydia. When it is not feasible to identify which pathogen is causing the condition, as in many rural African settings, the syndromic management approach would involve treating both. Acting thus, it is relatively certain that the agent responsible will be eliminated.

Chapter 3

1. In August 1972, President Amin declared what he called the Economic War, in which he expelled the 80,000 Asians living in Uganda, and set about expropriating their properties.

2. Hooper presents convincing evidence of a link between the route taken by the Tanzanian army’s 207th Battalion during the war, and subsequent very high rates of AIDS in particular parts of Rakai and Masaka.
3. The word “charming” refers to witchcraft.
4. A longitudinal cohort study conducted from 1990 onwards by the Medical Research Council in rural Masaka found that the median period between HIV infection and death was 9.8 years (Morgan et al., 2002). However, the dynamics of an infection recently introduced into a population are different from the dynamics of one that is well established (Lipsitch and Nowak, 1995). Pathogens can be much more virulent early on in an epidemic, which explains why, during the early 1980s, many people died from AIDS so soon after being infected.
5. *Mukene* are small fish, up to eight centimeters long or so, that are caught in Lake Victoria and then dried. They are widely eaten locally.
6. Fishing settlements along the lakeshore are known as landing sites. They attract women who sell sex, and they tend to have very high HIV prevalence rates.
7. Elections in December 1980 returned Milton Obote to power. The subsequent conflict between the Ugandan army and Yoweri Museveni’s insurgent National Resistance Army resulted in extensive violence and human rights abuses in many parts of the country.
8. Before the AIDS epidemic, African Kaposi’s sarcoma was responsible for 9 percent of all cancers affecting Ugandan males (Taylor et al., 1971), and it was endemic in the areas of the Congo River and Lake Victoria basins. It generally presented peripherally (i.e., on the limbs and other extremities), and it was usually amenable to treatment.
9. Between 1982 and 1986, a bitter debate raged over the name and identity of the causative agent of AIDS. Luc Montagnier’s lab at the Pasteur Institute in Paris isolated what he believed to be the agent, and called it LAV (Lymphadenopathy Associated Virus), while Robert Gallo’s lab at the National Cancer Institute in Bethesda, Maryland, had called his isolate HTLV-III (Human T-cell Lymphotrophic Virus type 3). They were eventually shown to be the same virus, which in May 1986 was renamed HIV (Human Immunodeficiency Virus) by an international commission on virological nomenclature. See Grmek (1990) for further discussion.
10. There had been a few previous reports of African AIDS patients—from Zaire, Chad, and Mali—presenting in European hospitals (Offenstadt et al., 1983; Vittecoq and Modai, 1983; Clumeck et al., 1985), and one of a Ugandan woman who had died in London in 1983 (Edwards et al., 1984). No cases had yet been reported of African AIDS cases in Africa.
11. Robert Gallo was the American virologist who, in April 1984, named the virus that causes AIDS HTLV-III (see also Chapter 3, note 9).
12. Unfortunately, I was unable to meet with either Dr. M or Professor B to ask for their recollection of events, or for the rationale behind their thinking at the time, so I felt it necessary to protect their anonymity by giving them pseudonyms.
13. Other members of the team included Bob Downing, David Serwadda, Nelson Sewankambo, and Roy Mugerwa.
14. With regard to the ethics of this and his subsequent AIDS research, Carswell explained that “in all people from whom we took blood, we said that we were
testing for Slim which was widely known as a very serious condition. A few people declined.” Carswell and his colleagues did not, however, have official permission to conduct the work. As he said, “this was a time of no effective administration. The Ethics Committee had not even met for about eight years.” Nonetheless, they did inform the authorities of their findings: “Over the critical 18-month period in which most of the initial HTLV-III work was carried out, there were three consecutive administrations. I personally spoke to each of the three succeeding Ministers of Health to keep them informed of the HTLV-III/AIDS situation. Each gave implicit consent to the work that I carried out.”

15. Data had been collected on four HTLV-III-related KS patients in the Uganda Cancer Institute at Mulago hospital between October 1983 and December 1984 (Serwadda et al., 1986). However, this study was not published until April 1986.

16. “Obote 2” is the name often given to Milton Obote’s second presidency, from 1980 to 1985, during which an estimated 300,000 people were killed during the “war in the bush” between the Ugandan army and Yoweri Museveni’s National Resistance Army. Obote was overthrown by Tito Okello in July 1985, who ruled over the warring nation for just six months before Museveni took power in January 1986.

17. These tests had worked by mixing blood with antibodies to HTLV-III, and if the virus itself was also present in the blood, then the virus and antibodies would combine to form a complex that would stick together. This could be seen, and would identify the sample as positive for HTLV-III. The problem was that the blood of people who were simultaneously parasitically infected—for example, with malaria—produced sticky complexes that were indistinguishable from complexes formed by HTLV-III; and since many people in rural Africa have malaria parasites in their blood, the result was a very large proportion of false HTLV-III-positive readings (Garrett, 1994:356).

18. Annual AIDS incidence rates were estimated in both studies by taking the number of AIDS cases presenting at the hospital during the investigation, assuming a similar rate for a 12-month period, and then extrapolating the 12-month estimate to the city’s total population (Kinshasa or Kigali). Given that many AIDS patients would not have made it to the hospital, both estimates were therefore low.

19. “S” was an official at the Ministry of Health.

Chapter 4

1. There are of course also the higher-level issues, such as gender and economic inequalities, that can lead people into risky situations, but these are not especially amenable to an individual-level intervention approach. While these issues are clearly of great significance, they are not, however, the primary focus of this chapter.
2. The word “partners” refers here to people living in polygamous relationships, a fairly common practice in Uganda, and especially so within the Muslim community.

3. Distribution of female condoms did not begin in Uganda until 1997, when just 3,600 were sold—as compared to over 16 million male condoms that same year (DKT International, 2006).

4. Democratically elected Resistance Councils (RCs) had been established by Museveni, from village level all the way up to district level. RCs were responsible for overseeing service provision of all types in their respective areas.

5. Bishop Ddungu explained that he occasionally made *ad limina* visits—or pilgrimages—to Rome to see the tombs of the Apostles, the Pope, and the four basilicas. Church business was also conducted during these visits.

6. Longitudinal epidemiological cohort studies involve following up a number of individuals in a specified population over a period of time.

7. MRC and Rakai Project research during the early 1990s consisted primarily of descriptive epidemiological work, with the two organizations’ social science departments also focusing on issues to do with stigma, marital instability, counseling, trust in condoms, and social support for people living with AIDS.

8. *Mzungu* is Swahili for “white person,” and is a widely used term in Uganda. *Bazungu* is the plural.


10. Observational evidence had emerged showing that HIV prevalence was lower in some populations among men who were circumcised—such as Muslims—as compared to their uncircumcised peers (Wagner et al., 1992). Circumcision was not definitively shown to be protective against HIV, however, until a series of three experimental studies—in South Africa, Uganda, and Kenya—were completed in 2007 (Auvert et al., 2005; Gray et al., 2007; Bailey et al., 2007).

11. Social marketing was established as a discipline in the early 1970s, with the recognition that the same marketing principles that are used to sell products to consumers could also be used to sell ideas, attitudes, and behaviors (Kotler and Zaltman, 1971). Social marketing was seen as a planned approach to social change, through the design and implementation of programs aimed at improving the acceptability and uptake of ideas and products.

12. See note 8 above.

13. Life Guard condoms made their debut in Uganda in 1996, with support from Marie Stopes International, a large NGO focusing on sexual and reproductive health issues.

14. The MRC’s MIT is the topic of Chapter 6.

15. STI = Sexually Transmitted Infection.

16. In 1995, 48 percent of Ugandans were aged 15 or more, and the average age of first sex was 16.0 for women and 17.6 for men (DHS, 1996:9, 78).

17. Most epidemiological HIV surveillance relies on convenience samples, such as pregnant women attending antenatal clinics. While these are invaluable for establishing epidemiological trends, they are biased—not representative of the general population—so it is difficult to estimate overall HIV prevalence rates.
By contrast, general population cohorts are made up of all the adults living in a given geographical area who are willing to take part in ongoing, longitudinal surveillance, and as such they are far more representative. They are also, however, expensive and technically complex to manage. The general population cohorts in Masaka and Rakai were at this stage the only ones studying AIDS in all of Africa.

19. VCT = Voluntary HIV Counseling and Testing.

Chapter 5

1. See Whyte (1992) for a detailed discussion of the nature of the professional and folk health care sectors in rural Eastern Uganda.
2. The three most commonly used classes of ARVs are (i) nucleoside reverse transcriptase inhibitors (NRTIs), (ii) non-nucleoside reverse transcriptase inhibitors (NNRTIs), and (iii) protease inhibitors. They all work by inhibiting the activities of particular enzymes that are necessary for viral replication.
3. Around 930,000 Ugandans were estimated to be living with HIV in 1997 (UNAIDS, 1998:65), of whom somewhere between 10 percent and 20 percent (93,000 to 186,000 people) would have been severely immunosuppressed and therefore clinically eligible for ART.
4. These included (i) antibiotics for treating STDs, (ii) drugs for OIs, and (iii) ARVs.
5. NDA = National Drug Authority.
7. See, for example, Dukers et al. (2001) for a description of this phenomenon in Amsterdam.
8. While extended life inevitably brings about “additional opportunities” for transmission, it is important to note that since ART reduces viral load, it also reduces an individual’s infectiousness per partner exposure. Thus an HIV-positive person who is taking ART is very unlikely to transmit HIV in any given sex act. The argument here, however, suggests that their extended life may well include a large number of these lower-risk sex acts, thus making them more likely overall to transmit HIV. By contrast, had they died swiftly of AIDS and in the absence of ART, they would have been quite infectious per putative sex act, but they would doubtless also have been feeling quite poorly, and thus would likely have remained relatively celibate. In addition, their period of elevated infectiousness (i.e., before their premature death) would have been short. Thus they would have been unlikely overall to transmit the virus at this late stage of their illness.
9. In May 2007, President Bush announced U.S. plans to spend a further $30 billion over five years in Africa and elsewhere to combat HIV and AIDS. The subsequent legislation—the Tom Lantos and Henry J. Hyde United States Global
Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008—actually authorized up to $48 billion for the period 2009 to 2013.

10. It is important to note that use of the term “Big Men” here does not in any way suggest that women have played no role in ART scale-up. However, apart from former WHO Director General Dr. Gro Harlem Bruntland (who first touted the idea of ‘3 by 5’), there have in fact been remarkably few women involved in the process at the most senior levels. This is mainly because the worlds of politics and finance tend to be male-dominated, and is not in any way an indication that women have not also been engaged and involved in the issue. Within the advocacy sphere, for example, women such as Ellen ’t Hoen (formerly of MSF, and now leading UNITAID’s efforts to launch an HIV patent pool that will keep down the cost of ARVs) have made a very significant impact.

11. DG = WHO Director General.

12. Dr. Yusuf Hamied is Chairman of Cipla, the Indian drug company that pioneered the production of cheap, generic ARVs.

13. CD4 cell counts are used as markers for determining a patient’s level of immunosuppression. Most healthy people have around 1,000 CD4 cells/mm³; WHO’s 2002 guidelines recommended that ART be initiated when the CD4 count drops to 200 (WHO, 2002b), by when people have often started to fall sick with AIDS-related diseases. Current guidelines call for earlier initiation of therapy, when the CD4 count reaches 350 (WHO, 2009b).

14. The various ARV providers in Uganda in late 2004 included the Ministry of Health; JCRC; various NGOs such as MSF, GTZ, TASO, and Mildmay; the Uganda Business Coalition and Uganda Cares; private-for-profit providers; and a number of research programs.

15. In the early-mid 1990s, David Ho’s research focus was the dynamic nature of HIV replication in infected people, which contributed to his groundbreaking work in the development of one of the three main classes of ARVs, protease inhibitors. He was named Time magazine’s Man of the Year in 1996.

16. The other co-organizers included the Community Health and Information Network (CHAIN), the Ugandan Business Coalition on HIV/AIDS, and the Ugandan Ministry of Health.

17. This is by no means to suggest that all public health scientists opposed rapid ART scale-up—there are many issues in international public health on which there is no collectively agreed view. Indeed, as explained above, it was public health and clinical scientists who provided the evidence from small-scale pilot projects that was then used to justify the arguments of the activists, politicians, and financiers pushing for scale-up.

Chapter 6

1. Garrett (1994:355–359) describes how Western scientists at this time would fly into African countries, take samples from AIDS patients—frequently without adequate informed consent procedures or ethical clearance—and then fly
home with the samples, only to publish their findings without any national coauthors, and without any attempt to obtain comments or clearance from the appropriate authorities.

2. This was an astonishingly prescient estimate. The UNAIDS report for 2000 estimated that 24.5 million Africans were living with HIV in that year—as opposed to the 25 million that had been predicted eight years earlier (UNAIDS, 2000).

3. As described in Chapter 4, the MRC’s Kyamulibwa cohort had been established in order to provide an understanding of changing HIV infection and associated mortality rates, as well as of sexual behavior patterns in rural Masaka.

4. Studies in neighboring Zaire had shown some STDs to act as powerful cofactors for HIV infection. For example, the presence of gonorrhea increased the chance of HIV seroconversion by 4.8 times, while chlamydia increased the chance by 3.6 times (Laga et al., 1993; see also Wasserheit, 1992). It was therefore hypothesized that treating such STDs could act as a means of HIV prevention.

More recently, convincing evidence has emerged that male circumcision can be protective against HIV infection (Auvert et al., 2005; Gray et al., 2007; Bailey et al., 2007); and ARVs are now widely used in the prevention of mother-to-child HIV transmission. Universal voluntary HIV testing with immediate antiretroviral therapy has also been proposed as a strategy for the elimination of HIV transmission (Granich et al., 2009).

5. See Chapter 2, note 8, for an explanation of syndromic STD management.

6. The key players in the Mwanza team and the MRC Programme on AIDS in Uganda were all closely connected to the London School of Hygiene and Tropical Medicine, and were all well acquainted with each other.

7. A Ugandan Parish is an official administrative unit, comprised of between 5 and 15 villages.

8. Treatment algorithms are standardized guidelines used by clinicians for treating specific conditions and syndromes.

9. A community randomized trial is a form of randomized controlled trial (as defined and discussed in Chapter 2), in which communities—rather than individuals—are randomly assigned to either the intervention or the control group.

10. As per internationally accepted ethical standards, informed consent was required from all study participants, and nobody was obliged to take part.

11. WHO/GPA, UNAIDS, and MRC all funded the MIT to different degrees at different points in its life.

12. MIT paid staff included a project leader, five people working on IEC, two on STDs, two on community development, a large survey team, four data entry officers, a laboratory technician, several drivers, two administrative staff, and two security staff with a dog to protect the office and compound.

13. Longitudinal (or follow-up) data had been collected from 13,500 people—meaning that they had been surveyed and bled more than once, and could therefore contribute to the calculations on HIV and STD incidence. A further 7,000 or so had been seen just once, which meant that they could not contribute to these calculations, but they could still provide demographic and other data.
14. ABC = Abstinence, Be faithful, and use Condoms. See Chapter 4 for detailed discussion.

15. Costs were estimated in 2001 dollars, and included only the implementation of the intervention. Research costs—such as serological tests, as well as salaries and transport for scientific staff and the survey team—were not included in this figure.

16. It is also worth mentioning that a further analysis of the MIT dataset—at individual level rather than community level, an important epidemiological distinction—showed that there had in fact been a significant reduction in HIV incidence, specifically among women who had attended the intervention activities (Quigley et al., 2004). However, the impact of these findings, which add yet another layer of complexity to the issue, was substantially less than that of the initial paper. A Google Scholar search of Quigley et al. (2004) in December 2009 found that it had been cited in just 20 other scientific papers, as compared to the main MIT paper (Kamali et al., 2003), which had been cited 165 times.

17. This consensus was derived through epidemiological analysis of the three study populations, which showed that there was (i) more high-risk behavior and (ii) higher rates of bacterial—and therefore treatable—STDs in Mwanza than in the two Ugandan cohorts. Thus there was more room for reducing incidence rates in Mwanza, and inherently, therefore, a greater chance of a positive result (Rutherford, 2002:85).

18. This hypothesis was subsequently rebuffed in a *Lancet* article that argued that “although there is a clear need to eliminate all unsafe injections, epidemiological evidence indicates that sexual transmission continues to be by far the major mode of spread of HIV-1 in the region. Increased efforts are needed to reduce sexual transmission of HIV-1” (Schmid et al., 2004:482).

19. Volunteers were given up to 10,000 Uganda shillings—around $6—for one day’s assistance in guiding the survey team to particular households in the study parish.

20. The respondent is referring to paid MRC staff.

21. The bleeder was a member of the survey team who took blood samples from study participants.

22. A *panga* is a long-bladed machete widely used in Ugandan agricultural work.

23. Many people in the villages can not read or write.

24. Given the difficulties that would certainly have been faced at these meetings if the full epidemiological picture from the trial had been given, MRC staff only provided village-level HIV prevalence data obtained during the three survey rounds. Since there had been a fall in prevalence throughout the study area, this could easily have been interpreted in most villages as indicating intervention success.

**Chapter 7**

1. One important exception to this was a groundbreaking RCT conducted between 1997 and 1999 in Kampala to evaluate the effectiveness of an ARV,
nevirapine, as a means of reducing mother-to-child transmission of HIV. The study showed that nevirapine could lower the risk of transmission during the first 14–16 weeks of life by nearly 50 percent in a breastfeeding population (Guay et al., 1999), and it had a significant impact on policy for preventing mother-to-child transmission. This particular arena of AIDS control has, however, fallen outside the remit of this book.

2. One observer has written of the “complexity of the field and the degree of disagreement within it; nobody has yet come up with a single comprehensive definition of ideology acceptable to all concerned” (Eagleton, 1994:20).

3. Pragmatism in philosophy is a principle of enquiry first put forward by Charles Sanders Peirce in the 1870s, and which acted as a forerunner to logical positivism.


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