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**Timeline**

1998-2006

**Sample Size**

2,812 individuals in 120 villages (approximately)

**Data Repository**

<https://www.aeaweb.org/articles.php?doi=10.1257/aer.98.5.1829>

**Research Implemented by IPA**

No

# The Demand for and Impact of Learning HIV Status in Malawi

## Abstract

At the end of 2009, 22.5 million people were living with HIV in sub-Saharan Africa. The number of voluntary counseling and testing (VCT) facilities in the region has grown significantly over time, but utilization of the services has remained low. Researchers evaluated the Malawi Diffusion and Ideational Change Project (MDICP), which sought to explore the demand for, and the impact of, learning one's HIV status. While even very small incentives encouraged people to return for their HIV test results, rapid testing in the home had the greatest impact on program take-up. However, for most people, learning their HIV status did not substantially change long-term behavior.

## Policy Issue

At the end of 2009, over 33 million people were living with HIV, with sub-Saharan Africa bearing an inordinate share of the global burden. Ten countries in southern Africa are home to 34 percent of the global population living with HIV, and experienced 31 percent of all new HIV infections in 2009.<sup>1</sup> In order to curb the spread of the disease, many governments and international organizations have called for increased investments in HIV testing, under the assumption that individuals would act in their own self-interest to learn their HIV status and change their sexual behavior. Over the past few years, the number of voluntary counseling and testing (VCTs) facilities in sub-Saharan Africa has grown significantly and the cost of testing has been reduced dramatically, such that most testing is now free. However, utilization of these services remains low. Moreover, to date, little research has been done to

investigate the actual impact of learning one's HIV status on sexual behavior.

## Context of the Evaluation

Eleven percent of adults in Malawi are infected with HIV/AIDS, giving the country the 9th highest prevalence in the world.<sup>1</sup> Although the HIV prevalence rate in the sample area was considerably lower than the national rate, at 6.3 percent, it was comparable to, or greater than, the prevalence rate in much of sub-Saharan Africa. For comparison, in 2009, the HIV prevalence rate in Kenya and Sierra Leone was 6.3 percent and 1.6 percent, respectively.<sup>1</sup>

Although the national HIV prevalence rate has decreased over the past decade in Malawi, hundreds of people are still infected each day. In 2009, there were 73,000 new HIV infections in Malawi.[1] In the face of this epidemic, policymakers and NGOs face an urgent need to develop effective prevention programs, including voluntary counseling and testing (VCT) interventions. Although surveys in several African countries report that over two-thirds of individuals who did not know their HIV status would like to get tested, the proportion of adults who actually utilize the available testing services is much lower, below 15 percent in some areas. Even when individuals choose to have an HIV test, many do not return for their results. In clinics across Africa, only about 65 percent of individuals returned to learn their result after being tested.

## Details of the Intervention

Researchers evaluated the Malawi Diffusion and Ideational Change Project (MDICP), a collaborative project between the University of Pennsylvania and the Malawi College of Medicine. MDICP sought to explore the determinants of the demand for, and the impact of, learning one's HIV status. The evaluation was undertaken in approximately 120 villages in three districts of Malawi. Approximately 25 percent of households in each village were randomly selected. From these households, a total of 1500 ever-married women between the ages of 15 and 49 and their husbands were interviewed in 1998, 2001, 2004, and 2006. In 2004, a random sample of approximately 800 young adults (both married and unmarried) between the ages of 15 and 24 was added to the sample.

In 2004 and 2006, respondents were offered free door-to-door testing for HIV by trained VCT counselors who came from areas of Malawi outside the respondent's district but who were native speakers of the local language. After consenting to be tested, respondents were given pre-test counseling about HIV prevention strategies and a detailed explanation of testing techniques. The VCT program differed slightly between years.

In 2004, samples were taken through oral swabs and sent to a laboratory to be tested. Respondents were given randomly assigned vouchers for between zero and three dollars, redeemable upon obtaining their results two to four months later at a nearby VCT center. The location of the VCT centers was also randomized as to evaluate the impact of distance, and thus travel time, for participants on VCT attendance. The average distance to a center was 2

km, with over 95 percent of those tested living within 5 km. At the center, regardless of their test result, each respondent also received approximately 30 minutes of counseling on safe sexual practices, including abstinence and condom use. About two months after the tests became available, respondents were re-interviewed in their homes and given the opportunity to purchase condoms at half the subsidized retail price: five cents for a package of three condoms or two cents for a single condom.

In 2006, the VCT program was adjusted slightly in an effort to improve take up. First, before testing began, village meetings were held to explain the purpose of the home visit and allow community members to see a first-hand demonstration of the testing technology. In 2006, respondents' HIV status was measured using a rapid blood test, which provided much quicker results than oral swabs. After 15 minutes, with the help of VCT counselors, respondents were able to read the test results themselves – one visible red line indicated a negative HIV test result, while two lines indicated a positive result. Subsequently, the respondent accompanied the counselor to the nearest pit-latrine to dispose of all test-related devices.

## Results and Policy Lessons

### 2004 Program

*Impact of Monetary Incentives and Distance:* The demand for HIV test results among those who received no monetary incentive was fairly low, with only 35 percent of those tested collecting their results. However, monetary incentives were highly effective in increasing result-seeking behavior. On average, respondents who received any cash-value voucher were twice as likely to go to the VCT center to obtain their HIV test results as those who received no cash incentive. Although the average incentive was worth about a day's wage, even the smallest amount, about one-tenth of a day's wage, resulted in large attendance gains. Distance also had a significant impact on the likelihood of obtaining HIV test results. Those living more than 1.5km from the VCT center were 3.8 percentage points, or 6 percent, less likely to collect their results than those living within 1.5km.

*Peer Effects:* The presence of social networks had a significant impact on the likelihood of learning one's HIV status. Specifically, a 10 percentage point increase of the percentage of neighbors (approximately 2.4 individuals) learning their HIV test results increased the probability of learning HIV results by 1.1 percentage points. This effect was greatest for neighbors living within close geographic proximity and for those living further away from the HIV results centers. In contrast, religious networks had no significant impact on learning HIV results.

*Impact on Sexual Behavior:* Learning HIV status did not significantly affect condom purchasing behavior for most people. Overall, 24 percent purchased at least one condom; among those who purchased any, the average number purchased was 3.7. Among sexually active individuals, on the other hand, receiving an HIV positive diagnosis significantly increased the likelihood of purchasing condoms. However, the overall magnitude of the effect was small. On average, sexually active individuals who learned they were HIV-positive purchased only two more condoms than HIV-positive individuals who did not learn their

results.

*Impact on Subjective Beliefs and Economic Behavior:* Although learning HIV results had a short-term effect on subjective beliefs about the likelihood of HIV infection, it had no long-term impact. Accordingly, obtaining either HIV-positive or negative results had few significant effects on longer-term economic behavior. Two years after receiving their results, there were few significant differences between HIV-positive and HIV-negative individuals in propensity to save, amount worked in the past 6 months, income, or expenditures.

## 2006 Program

In 2006, 92 percent of respondents agreed to be tested, of whom 98 percent received their results. This compares to the VCT program in 2004, where 91 percent of respondents agreed to be tested, but only 69 percent of all respondents ever received their results, and only 34 percent of respondents receiving no monetary incentives collected their results. Semi-structured interviews with a subset of the sample and observational data suggest that the large proportion of respondents who consented to be tested in both 2004 and 2006 was likely due to respondents' strong preference for door-to-door testing, because it was convenient and confidential. Door-to-door testing removed the obstacle of travel, which is time-consuming and costly, and provided much more privacy than a hospital. The VCT counselors also came from areas outside of the sample villages and were, therefore, not familiar with the respondents prior to testing.

Both of these factors – convenience and confidentiality – can also help to explain the significant increase in the proportion of respondents who received with results in 2006. In addition, respondents reported that they highly preferred the rapid blood test. The rapid test ensured that their results had not been tampered with and/or confused with someone else's; it also eliminated the anxiety of the waiting process. Respondents also favored the rapid blood test because it convinced them of the accuracy of their test result. The red line(s) on the test kits allowed respondents to see their test result with their own eyes, rather than having to trust that the counselor was reporting the correct results. Furthermore, the method of disposing the test kits in front of the respondent was also seen as an advantage, as it ensured that the evidence of the test itself was removed permanently.

## Sources

<sup>1</sup> UNAIDS (2010) "UNAIDS Report on the Global AIDS Epidemic."

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