Short Communication

Microeconomic loans and health education to families in impoverished communities: Implications for the HIV pandemic

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Abstract

Poverty is among the root causes of death and poor health worldwide. Project HOPE's Village Health Bank (VHB) program is a public health intervention that combines integrated microcredit lending and health education. Groups of 18 to 25 women receive small loans, and biweekly, one-hour health education sessions. Since 1993, about 50,000 women in 949 VHBs have participated in seven countries in the Americas, Africa, and Southeast Asia, receiving more than US$25 million in loans and 8,445 hours of health education. Members of VHBs are charged modest interest rates that enable them to become self-sufficient (eg, able to cover all operating charges, including the costs of the health education staff, and the necessary loan capital to continue without infusion of outside resources). The VHB program produces substantial economic improvements for individuals and groups, and benefits in health knowledge and behaviors, including increased utilization of healthcare services. Data from Guatemala, Malawi, and Thailand demonstrate that VHBs in countries with high HIV prevalence have been comparably successful in spite of the enormous added burdens of chronic illness, deaths, and orphans in need of support. For example, in 2004, 48 percent of 266 VHB members in Malawi experienced at least one death in their household in the preceding year, and 67 percent housed one or more orphans with an average of two orphans per household. Because of the unique combination of increased household economic stability and improved health knowledge, the VHB program is now being adapted to families of people affected by HIV/AIDS, including orphans.

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Introduction

In spite of steady increases in the global standard of living since World War II, the World Bank reports that more than 1.2 billion people live in extreme poverty—more specifically, they subsist on less than US$1 per day.[1] Poverty is not only the lack of income, according to the 1997 United Nations Development Programme (UNDP) Human Development Report (HDR), but also encompasses deprivation in basic human development in areas such as opportunities, access to health services and safe water, education, and food.[2] And, the World Health Organization (WHO) recognizes poverty as the leading cause of death and poor health worldwide.[1] This interrelation of economic status and health was further reinforced by the most recent UNDP HDR, identifying 54 countries that are poorer now than in 1990, and showing that most of them are declining in human development and health indicators.[2] Thus, strategies to improve quality of life in developing countries must consider the relationship between poverty and health.

Since 1998, microcredit has been observed to benefit households economically affected by HIV/AIDS.[3] A common early concern was that financial interventions specifically targeting people with AIDS were not generally appropriate and depended on the ongoing ability of people to earn income.[4] Indeed, the early emphasis in the interaction of microcredit programs and the AIDS pandemic was that financial institutions operating in hard-hit regions can benefit by planning for the institutional risk posed by HIV/AIDS, rather than a multifaceted approach to implement the intervention in high HIV prevalence areas.[5,6] While microcredit programs generally are associated with economic benefits for participants, few have specifically addressed the health education of members and HIV-related health outcomes.

For the past 11 years, Project HOPE has addressed the overall household quality of life in developing countries through an integrated methodology incorporating targeted health education into a microcredit program.[7] The VHB program provides small loans to groups of

women to generate income through agriculture, sales of goods and services, and other activities. Health education is included to improve participants' knowledge of key concepts in health and disease prevention, and to improve family and community capacity for improved health.

This article presents economic and health education outcome data from Guatemala, Malawi, and Thailand. Data are also presented on the prevalence of chronic illness, mortalities, and orphans in VHB programs in Malawi. Because of the unique combination of increased household economic stability and improved health outcomes in regions of high HIV prevalence, the VHB program is now targeting people living with HIV/AIDS, as well as families caring for AIDS orphans and vulnerable children. The implications of these programs are discussed.

Methods

A VHB makes a single loan of approximately US$2,000 to a group of 18 to 25 women, which then disburses individual loans to members. The group, rather than an individual woman, is accountable for repaying the loans, and meets every two weeks to discuss loan management and repayment of loans. Each group elects a management committee to handle all operating roles, including disbursement of loans, collection of payments, administration, and management. Staff from Project HOPE trains the management committee, empowering the VHB to operate as a sustainable community institution.

Members of the VHB start with a single, small loan from US$80 to US$100 and, with each successful repayment, qualify for higher loan amounts. Members invest these loans into their personal business to generate profits that can be re-invested, used to purchase necessities, or saved. Members are also required to set aside a portion of their earnings as personal savings, which are consolidated by the VHB and deposited into a commercial bank account. Loans support a variety of income-generating activities, such as selling goods at market, producing or distributing goods or crafts, or operating a small food stand. As the women repay their loans (over four- to six-month terms), they benefit from the increased income and confidence in taking control over their lives, and qualify for higher loan of a higher amount, if necessary.

At the biweekly meeting, local Project HOPE staff provides financial assistance and capacity building, and presents a one-hour health education session. Although there is a core curriculum of educational sessions, additional topics are discussed based on the needs identified by the women and staff locally. Topics include early recognition of serious childhood illnesses, sexual health (eg, sexually transmitted infections (STIs) and HIV/AIDS), and promotion of personal health (eg, breast examination and cervical cancer screening). In some cases, women request health education in a specific area, such as domestic violence. Members of the VHB then take these health messages and educate their families and their communities

The life of each loan is about four months or eight education sessions. Over this time, members of the VHB are expected to repay their loans. At the end of each loan cycle, a member has the option of continuing with the program, or departing without further obligation to the VHB. Because of the small payment of interest, each VHB runs a slight profit, with two resulting benefits. First, members who stay involved with the VHB can receive larger loans over time. Second, there is more available capital to establish additional VHBs in a community. Ultimately, it is possible for the VHB to generate enough income to create a *sustainable* program that covers the loan capital and the costs of the health education and management staff.

Evaluation

To document increased incomes, socioeconomic profiles are developed for members when they join the program, and later re-evaluated after the fourth loan cycle, usually in about one year. The profiles include indicators that are sensitive to income trends, such as income and savings changes. Loan repayment rates are calculated by the ratio of payments to loans, quarterly and annually. Baseline and fourth cycle economic outcome data from the VHB programs in the Guatemala, Malawi, and Thailand are presented in this analysis.

In order to assess changes in health status, surveys are conducted on new members and a comparison group of members in the program for at least one year. The survey of health knowledge, attitude, and beliefs include questions regarding HIV and STI knowledge and behavior, and access to primary healthcare. To date, collected data have been limited to self-reported information. These health outcome data are compared for VHB programs in the three countries. Chi square analyses were performed on fourth cycle results in comparison to baseline, and statistical significance was defined as $p < 0.05$.

To assess the potential impact of HIV on recent VHB programs in a country with a high prevalence of the disease, a convenience survey of 266 VHB members in Malawi was conducted during January 2004. Questions were asked about the composition of households associated with VHBs within the past year, specifically the presence of adults with chronic illness, deaths, and orphans and vulnerable children.

Results

Since 1994, 949 VHBs with approximately 50,000 members have been formed in seven countries (Table 1).

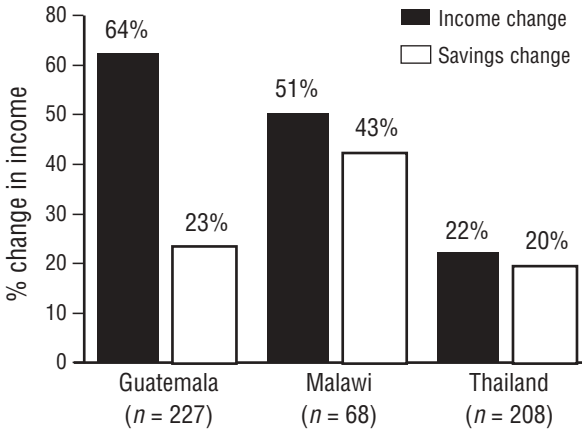
Table 1. Status of Project HOPE's VHB programs (June 2003)

	*Ecuador**	*Honduras*	*Malawi*	*Guatemala*	*Peru*	*Dominican Republic*	*Thailand*
Year started	1993	1993	**1998**	**1999**	1999	2001	**2002**
# of VHBs	289	151	**184**	**102**	128	56	**39**
# of participants since inception	18,026	12,760	**6,929**	**4,333**	5,072	1,697	**925**
Total # of loans provided since inception	63,049	55,198	**13,884**	**10,518**	10,234	3,082	**1,450**
Average loan size	$174	$155	**$130**	**$162**	$168	$100	**$112**
Loan losses to date (as % of $ loans provided)	0.2%	1.8%	**0.2%**	**1.2%**	1.1%	1.5%	**0%**
# of educational sessions provided in past 12 months	N/A	825	**4,164**	**1,321**	1,077	507	**561**

* Status as of the hand-over to local partner (12/01)

The average loan size was US$130, and the overall loan repayment rate was 98.8 percent. These members received over US$25 million in loans. During the same period, over 8,455 health educational sessions were conducted with the VHB participants. Economic and health data from Guatemala, Malawi, and Thailand are highlighted below.

Figure 1. Change in income and savings in Project HOPE VHB programs (Guatemala, Malawi, and Thailand): Comparing same participants (end year 1) with 1st cycle (new)



Economic outcomes

The socioeconomic impact of the VHB programs after one year of operation in Guatemala, Malawi, and Thailand is shown in Figure 1. Analysis is confined to participants with baseline and fourth cycle data available in each country. Improvements in household income after four loan cycles ranged from 22 percent to 64 percent, and savings improvements ranged from 20 percent to 42 percent.

Health knowledge outcomes

Health knowledge outcomes are presented in Table 2 for participants in whom baseline and fourth cycle data were available in each country. As noted above, such cycles are separated by about one year. Small, but significant, gains in health knowledge and/or behavior were consistently observed, and were comparable in all three countries.

Prevalence of chronic illness and orphans, and effects on VHBs in Malawi

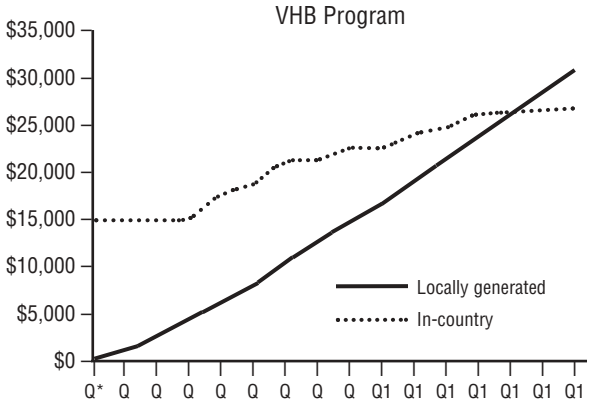
There were chronically ill adults in 147 of 266 households (56 percent), with a total of 246 of affected adults and an average of 1.7 per affected household. Forty-eight percent (128) of the households reported at least one adult death in the past year, with a total of 200 deaths, and an average 1.6 deaths per affected household. One hundred and sixty-four of the households (69 percent) reported caring for one or more orphans, with 266 households caring for a total of 499 orphans and an average of 1.9 per household. It is probable that the majority of these illnesses, deaths, and orphans are due to HIV/AIDS, although the percentage remains unknown. As this was a single cross-sectional survey conducted in Malawi, no comparative data are available for Guatemala and Thailand.

Table 2. 2003 Improvement in health knowledge outcomes in VHB members — Malawi (*n* = 68), Thailand *n* = 227), and Guatemala (*n* = 208) — Cycles 1 and 4

Health indicator	*Malawi*	*Thailand*	*Guatemala*
% participants knowing HIV-prevention strategies	+ 10%*	+ 13%*	+ 12%*
% women with knowledge of three STI signs	+ 8%*	+ 13%*	+ 14%*
% women seeking care when signs of STI present	+ 17%*	+ 14%*	+ 27%*
% women who access primary care for child health	+ 12%*	+ 11%*	+ 29%*

* $p < 0.05$

Figure 2. Schematic representation of quarterly trends in external (in-country) support and locally generated revenues. At the point of their intersection, the VHB program becomes self-sustaining.



*Each 'Q' and 'Q1' in the X axis represents three months.

Discussion

Long-standing poverty and its related conditions are having a devastating impact on the world's most impoverished people. The combination of lack of income, education, employment, and health opportunities represent exceptionally challenging problems in the developing world. While many efforts have attempted to address each of these problems, it is becoming increasingly clear that more ambitious and combined efforts must be undertaken.

The VHB program produces significant and sustainable economic improvements for individuals and groups, such as increases in personal income and family savings. These data are consistent with outcomes reported by other microcredit lending programs that operate without specific linkages to health education. For example, Snodgrass *et al* reported an increase of 22 percent in income in India, Peru, and Zimbabwe over two years of microcredit lending programs.[8]

The VHB program also improves health knowledge for community-level groups of 18 to 25 people in Guatemala, Malawi, and Thailand. By combining health education with incremental increases in family income, the VHB program may significantly address the combined impact of poverty in the developing world.

In both Ecuador and Honduras, the VHB program has become financially self-sustaining (eg, the interest paid on the loans covers operating expenses), as shown in Figure 2.[9] The potential for financially self-sustaining programs suggests that the VHB program represents a cost-effective intervention. The experience with VHB programs in seven countries in Africa, Asia, and the Americas suggests the broad international applicability of this intervention.

Project HOPE's six-year experience with VHBs in Malawi has resulted in the participation of almost 7,000 women. Interestingly, the outcomes in terms of loan repayments, economic impact, and health knowledge in Malawi are comparable to countries with lower HIV prevalence. This finding is important because of the dramatic impact of HIV/AIDS in Malawi. Half of the surveyed households contained one or more ill adults, and two-thirds of them contained orphans, with an average of two orphans per household. This is a staggering burden, and yet the microeconomic intervention by the VHB programs has been equally successful in Guatemala, Malawi, and Thailand. These data suggest that the VHB program may potentially play a vital role in targeting people living with HIV/AIDS, and families caring for orphans.

The rationale for using the VHB program to support people living with HIV/AIDS is consistent with the early lessons from the AIDS epidemic in North America. Specifically, health outcomes improve when the basic needs of people living with HIV/AIDS (eg, food, housing, income, transportation to needed services, and supportive counseling) are met.[10,11] In Malawi, the VHB program has improved family nutrition, reduced hunger, and helped attendance in schools among children, including orphans, in addition to the economic and health benefits.[12]

However, modifications may be required for VHB programs targeting people living with HIV/AIDS and orphans. For maximum effect, the VHB program must target more than one individual. At least three key individuals are needed for household stability: 1) the intended target of the intervention (eg, the person living with HIV/AIDS or the orphan); 2) the caregiver for that individual; and 3) the household's wage-earner. In some cases, one individual may occupy more than one role. In regions in which heads of households are often themselves children, these modifications will need careful evaluation.

Finally, there is the possibility that the VHB model can lead to sustainable increases, not just in personal or household income, but also in community income. If true, VHB programs may provide some protection against the economic devastation of communities in areas with the highest HIV prevalence rates. New measures of community viability are needed to test this possibility. By providing village households with sustainable income to actively participate in HIV care and prevention, VHB programs may help to create sustainable communities that are struggling against the synergistic global threats of poverty and HIV disease. ■

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