



# Assessing the Capacity for Community-Based Counseling and Referral in the Ndola Demonstration Project

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y in  
Bioscience (B.A.)  
The University of Alabama at Birmingham

# **Assessing the capacity for community-based counseling and referral in the Ndola demonstration project**

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in collaboration with  
the National Food and Nutrition Commission  
the Ndola District Health Management Team  
the LINKAGES Project  
the Zambia Integrated Health Program  
Hope Humana  
with support from the United States Agency for International Development,  
Global Bureau and Lusaka**

**Population Council**

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## ACKNOWLEDGEMENTS

We wish to acknowledge the following people who participated in various stages of developing the data collection instruments and collecting, entering, analysing and interpreting the data, and report writing:

Julie Denison, Sam Kalibala, Winnie Lubasi and Naomi Rutenberg from Population Council (Horizons Project); Rosemary Musonda from TDRC, who was a consultant for Horizons; Helen van Houten, who edited the manuscript on behalf of Horizons; Anne Banda, Lynette Maambo, Ronah Maambo, Ernest Muyunda, Ricky Ndhlovu and Josephine Simantwa from DHMT; Mwate Chintu, Priscilla Likwasi, Ward Siamusanta and Ruth Siyandi from NFNC; Nomanjoni Ntombela, Beth Preble and Tony Schwarzwaldler from LINKAGES; Andrew Mlewa, Bruce Mukwatu, Grace Sinyangwe and Rose Zambezi from ZIHP; and Chomba Chimolula, Wendy Dunnett-Dagg, Jane Broen Jensen, Cosmos Mulenga, Poso Ngalande, Joseph Nguvulu and Gary Silcoot from Hope Humana.

We would also like to acknowledge the respondents to the interviews and focus group discussions as well as the staff and management of the organizations that participated in the study. The names of the organizations and their contact persons are listed at the back of the report.

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## ABBREVIATIONS AND ACRONYMS

AFB	acid fast bacilli, a tuberculosis sputum test
AIDS	acquired immunodeficiency syndrome
ANC	antenatal clinic
AZT	azidothymidine (Zidovudine)
BTL	bilateral tubal ligation
CCR	community-based counseling and referral
CHEP	Copperbelt Health Education Project
CSW	commercial sex worker
DHMT	District Health Management Team
ESR	erythrocyte sedimentation rate
FP	family planning
HBC	home-based care
HIV	human immunodeficiency virus
IEC	information, education and communication
MCH	mother and child health
MIS	management information system
MTCT	mother-to-child transmission
NGO	nongovernmental organization
NFNC	National Food and Nutrition Commission
NORAD	Norwegian Development Agency
PLHAs	people living with HIV/AIDS
PPAZ	Planned Parenthood Association of Zambia
RPR	rapid plasma reagin
STD	sexually transmitted disease
STI	sexually transmitted infection
TB	tuberculosis
TDRC	Tropical Diseases Research Centre
THPAZ	Tradition Healers Practitioner Association of Zambia
UNAIDS	United Nations Joint Programme on AIDS
USAID	United States Agency for International Development
VCT	voluntary counseling and testing
ZIHP	Zambia Integrated Health Programme

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## INTRODUCTION

A number of African countries stretching from Uganda southward to Zambia and Botswana have the highest HIV prevalence rates in the world. In this region, the prevalence of HIV in urban areas is estimated at 15 to 30%. In Zambia, HIV exists in 25 to 32% of the urban population and 8 to 16% of the rural. Recent data from population-based studies conducted in Ndola, Zambia, reveal a 28.4% HIV prevalence rate in the general population with more women (31.9%) than men (23.2%) infected with the virus (Musonda and others 1999; Sukwa and others 1999).

Similarly, sentinel surveillance studies among women attending clinics in Ndola in 1994 and 1998 have shown stable prevalence rates of 27.5% (Fylkesnes and others 1997, Zambia Ministry of Health 1999). Highest rates were in the age group of 25–29 years (34.6% in 1994 and 35.3% in 1998). Recent surveillance data show declining trends among young women (15–19 years) attending antenatal clinics in Ndola from 21% in 1994 to 15% in 1998. However, the implications of the HIV epidemic in Zambia on the health of childbearing women and their infants are very serious.

The rate of mother-to-child transmission (MTCT) of HIV in Africa varies from 21 to 43% (Gray and McIntyre 1999). These figures contribute to 600 000 newly infected infants born each year in developing countries (UNAIDS 1999). Most of the children acquire HIV before or during birth or through breastfeeding. The risk of transmission of HIV through breastfeeding has been estimated to be between one-third to one-half of overall transmission worldwide.

Proven strategies to reduce mother-to-child transmission include use of antiretroviral therapy by HIV-positive pregnant women as well as counseling on infant feeding and alternatives to breastmilk. To deliver these interventions, women must be provided with HIV voluntary counseling and testing (VCT), preferably as part of antenatal care. In settings where resources are limited, health workers face many challenges in trying to implement strategies to prevent mother-to-child transmission. Introducing HIV voluntary counseling and testing may burden antenatal and primary health care facilities lacking adequate resources. Modifying infant feeding practices may be difficult in areas where infant mortality rates are high and most families are poor. In addition, introducing antiretroviral therapy will challenge the health-care delivery system to provide access to treatment for infected parents and children. It is therefore urgent for researchers in sub-Saharan Africa to find easier and less costly methods of preventing mother-to-child HIV transmission.

In Zambia, 1996 Demographic Health Survey data indicated that 96% of women in urban areas received antenatal care from a doctor, trained nurse or midwife. Mother and child health (MCH) services can be used for health education and counseling on infant feeding. Presently, antenatal services do not offer routine counseling services either on maternal health and infant feeding or on HIV voluntary counseling and testing (VCT). For most interventions that are aimed at preventing mother-to-child transmission of HIV (MTCT), women must know their HIV status. A study done by

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Bhat and others in 1998 in Zambia showed that 81% of the women attending the antenatal clinic in the University Teaching Hospital in Lusaka would accept VCT on HIV. Recent discussions about preventing MTCT in poor countries have focused almost exclusively on ways to make VCT and antiretroviral treatment available. HIV VCT services are limited in Zambia, and most of the services that exist offer only general counseling and testing at a fee. The Ministry of Health of Zambia through researchers at the University Teaching Hospital in Lusaka in collaboration with the Norwegian Development Agency (NORAD) are piloting the implementation of VCT services in several districts in Zambia. Preliminary observations show high acceptance of VCT by the general public.

There is general concern in Zambia, as in many African countries, about mother-to-child HIV transmission through breastfeeding. This has made it necessary for the Ndola District Health Management Team in collaboration with the LINKAGES project and the National Food and Nutrition Commission to draw up a model for a community-integrated VCT and MCH project. The Ndola demonstration project is aimed at strengthening maternal and child health services, including encouraging women and men to go for VCT as well as providing HIV-positive and HIV-negative women with counseling, care and support on infant feeding. This project will be carried out in six health centres in Ndola: Kabushi, Kaloko, Lubuto, Masala, Mushili and Twapia, which provide antenatal, MCH services, and labour and delivery services for their respective wards.

The interventions proposed in this model include

- ◆ VCT for women attending the antenatal clinic
- ◆ infant feeding counseling for women attending the antenatal and MCH clinics
- ◆ VCT in the community for spouses or partners of women attending ANC and for other community members
- ◆ community-based HIV counseling and referral for mothers and their spouses or partners
- ◆ HIV/AIDS care and support for mothers and their families living with HIV/AIDS
- ◆ infant feeding counseling and support for mothers from mother-support groups in the community
- ◆ a referral network between these different services

Some of these interventions, such as counseling on infant feeding in relation to HIV, are relatively new in the Ndola community, and others, such as HIV/AIDS care and support, are being delivered to a limited extent. It is hypothesized that developing these new services and linking them to existing services that have been strengthened will lead to more pregnant women and other community members using the HIV and MCH services and will thus reduce infant mortality and morbidity due to HIV. To test this theory, research will be carried out to determine the feasibility and acceptability of an integrated MCH and VCT project in Ndola. This demonstration project will be based on strengthening and linking existing MCH and HIV services that various organizations in the Ndola community provide.

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These organizations already work together through the district AIDS task force, and the District Health Management Team (DHMT). However, to plan the interventions it was necessary to get detailed information about the nature and types of services currently provided as well as the links between them. It was therefore deemed vital that before services were implemented, a quick diagnostic survey should be conducted to assess the existence of the key components of the interventions or the potential to create them. This survey was conducted in April 1999 by Horizons in collaboration with NFNC, DHMT, LINKAGES, ZIHP and Hope Humana. The survey extends the findings from the formative research carried out in Lubuto, Main Masala, Twapia and Kabushi Clinic areas of Ndola in December 1998 to January 1999 by the National Food and Nutrition Commission, Ndola District Health Management Team, LINKAGES and Support for Analysis and Research in Africa (SARA) (NFNC/LINKAGES/SARA/USAID 1999).

The diagnostic also sought to assess the specific HIV and reproductive health needs of women and their children. It explored the knowledge and attitudes in the community about HIV and perinatal transmission. It examined potential links between community and health system services and attitudes of the community regarding these services. The needs and gaps identified in the service structure will then be addressed as part of the intervention process of the proposed study.

## **METHODS**

### **Data collection**

In April 1999, trained field interviewers conducted a survey to compile an inventory of organizations working on HIV/AIDS/STD as well as ANC and MCH issues in the Ndola urban community. They held key informant interviews with service supervisors, who described referral links and collaboration over issues such as how training was provided among these organizations. In addition, focus group discussions with the AIDS task force, community members and people living with HIV/AIDS (PLHAs) were held to assess views and attitudes regarding various HIV and MCH issues. The data collection instruments and process are described below.

#### ***Inventory of community organizations***

An inventory of existing community structures that are relevant to HIV, MCH and infant feeding was compiled by visiting 57 organizations selected from lists the District Health Management Team, the AIDS task force, and the district AIDS coordinator made available. All relevant organizations within the six wards of Kabushi, Kaloko, Lubuto, Masala, Mushili and Twapia were selected; they formed about one-third of the sample. The rest of the sample consisted of organizations outside of the catchment area that the district AIDS coordinator purposively selected, based on their perceived relevance to the project. The selected organizations included HIV service organizations, community-based organizations, mothers' clubs, youth

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clubs, traditional healers, traditional birth attendants, private midwives, drug shops, counseling and testing organizations, and care and support organizations in Ndola.

Data were collected using a structured questionnaire,<sup>1</sup> administered to the managers of these organizations by trained interviewers. The information included name of organization and contact information, hours of operation, type and size of organization, geographic area served, services offered, target population and numbers served (monthly and annually). This detailed information is reported in a separate document, which is to be used as a referral directory in the Ndola demonstration project.

### ***Referral links***

To examine the types of links between these organizations, key informant interviews were conducted with managers of eight selected service organizations (Ndola Central Hospital, Arthur Davison Children's Hospital, Bwafwano Clinic, Zambia Police Clinic, Hope Humana, Mukango Medical Services Ltd, Prison Fellowship Zambia, CARE International) using a detailed questionnaire, tool II. These organizations were purposively selected from among the 57 organizations in the inventory to represent the following categories: public health sector, NGOs, private health care services and community support groups. Data collected included a description of services, types and nature of links, referral systems and record-keeping procedures. These data are reported in the section entitled 'Links between organizations', page 14.

### ***Focus group discussions with AIDS task force***

Focus group discussions were held with members of the district AIDS task force (six members attended) and with the community AIDS task force of Lubuto Ward (four members attended). The district task force consisted of service managers and supervisors of various HIV/AIDS-related organizations, both governmental and NGO. The community AIDS task force consisted of community volunteers such as service providers, community health workers, youth leaders and peer counselors. At the beginning of each focus group discussion, a draft outline of the proposed community VCT/MCH model was presented. Task force members were then asked to provide their perceptions of the community opinion of the relevance and acceptability of the proposed interventions. They were also asked to comment on the current accessibility of MCH services and HIV-related services, including condoms, counseling and VCT. The topics covered included views about the VCT/MCH model, and possible perceived weaknesses in knowledge or skills and perceived attitude. Participants in the focus group discussions were also asked about possible strategies for strengthening the existing facilities in Lubuto.

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<sup>1</sup> All of the instruments used during the assessment are available upon request from the Population Council.

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### ***Focus group discussions with people living with HIV/AIDS***

Focus group discussions were conducted with PLHAs, and key informant interviews were held with PLHA group leaders. For ethical reasons, all PLHAs who participated were members of an HIV/AIDS support group and thus were already comfortable with sharing their HIV status and discussing their personal issues in a group.<sup>2</sup> The focus group discussions aimed to get PLHA views on their care and support needs and the existing versus the desired responses of community members and service providers in meeting these needs. The views and experiences of PLHAs regarding their involvement in service delivery and planning were also sought. In addition, the key informant interviews addressed questions concerning the adequacy of current policies about HIV prevention and the care and human rights of PLHAs.

### ***Focus group discussions with pregnant women and community members***

One focus group discussion was conducted with five pregnant women attending the ANC clinic at Lubuto and another with a mixture of people including members of mother-support groups, community members and church leaders. The aim of these discussions was to understand community views about ANC, MCH, VCT and infant feeding issues.

## **Data entry and analysis**

Quantitative data were entered in the Epi-Info data management programme. Simple frequencies were generated regarding types of services offered by institutions and target populations as well as the numbers of people served. Focus group discussion notes were typed up and summaries made out of main themes that emerged for each group.

## **Limitations of the study**

A major limitation of this study was the sampling methodology, which was mainly purposive and depended on the opinion of the district AIDS coordinator, who decided which organizations were appropriate for inclusion in the survey. This was, however, necessitated by the wide variation among organizations, ranging from major hospitals to individual traditional healers, which made randomly selecting organizations inappropriate. Another limitation was that not all the organizations were able to supply all the information the questionnaires called for.

The respondent in an organization was in some instances a service provider and in others a manager. Possible biases may have occurred during interviews with key informants, depending on the position they held in a particular institution. As

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<sup>2</sup> Had any of the participants required support during or after a focus group discussion or interview, a counselor was available, but fortunately no such incident happened during the survey.

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expected, service providers tended to have service delivery data at their fingertips while managers were more familiar with funding information.

A further limitation was that for ethical reasons the study could interview and conduct focus group discussions only for PLHAs who were known to be comfortable with discussing their HIV status with other people. This necessarily limited the study to PLHAs attending care and support organizations, hence giving a biased view of the perceived needs of PLHAs and societal response to them. The needs and views of PLHAs who are participating in support groups are certainly not representative of the needs of many PLHAs in the community, some of whom do not even acknowledge that they have HIV/AIDS.

Finally, the study relied entirely on reported information, and no attempt was made to validate or qualify the claims of service managers. For example, while many sites are reported to be carrying out counseling, it was beyond the scope of this study to examine the nature and quality of counseling provided.

## **THE ORGANIZATIONS**

A key informant at each of the selected 57 organizations was asked to identify the organization as public, private, NGO, community-based, and so on, selecting the category deemed most suitable. Twenty-two organizations described themselves as being private, 8 as NGOs, 8 as public institutions, 7 as community-based, 6 as religious organizations, 5 as school clubs and 1 as a military camp. It should be noted, however, that there is much overlap between these categories as, for example, a religious organization could also be a community-based organization.

### **Medical care organizations**

The majority, 43/57, of the organizations provide general medical care services (table 1). Two major hospitals are situated within Ndola city. Ndola Central Hospital provides a whole range of health care services for adults including specialized treatment and services for pregnant women such as laboratory facilities, x-ray, counseling services and a pharmacy. The Arthur Davison Children's Hospital is a public facility that provides general and specialized health care services for children. Every major township of Ndola Urban has at least a health centre or a clinic that offers primary health care and MCH services. Sexually transmitted disease (STD) treatment is provided in 33 out of 57 sites. About 17% of the health centres in the district have basic laboratory facilities to test for malaria and syphilis, determine haemoglobin level and make other routine qualitative screening tests. All the health centres in the district have essential drug kits or a small dispensary. Indeed, 25 sites reported that they treated minor illnesses with simple drugs found in the essential drug kit.

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**Table 1.** Health care services that organizations reported (n = 57)

Type of service	Reporting	Percentage
General medical care	43	75.0
Sexually transmitted infection management	33	57.0
General health education and counseling	25	43.0
Referral to next level	23	40.4
Treatment of minor ailments with simple drugs found in the essential drug kit	23	40.0
Drug provision by community health worker	16	28.0
Traditional healing	15	26.0
Routine urine test <sup>a</sup>	13	22.8
Malaria test	11	19.3
Syphilis test	10	17.5
STD tests (other than syphilis)	10	17.5
HIV home-based care	10	17.5
Haemoglobin testing	8	14.0
Pregnancy test	7	12.3
Erythrocyte sedimentation rate <sup>b</sup>	7	12.3
AFB (TB sputum test)	6	10.5
HIV testing	5	8.8
Pap smears	4	7.0
X-ray	4	7.0

<sup>a</sup> Routine urine tests are simple tests usually performed in primary health care sites as a broad screening test, which looks for the presence of cells, casts, protein or sugar in the urine, which may indicate a variety of illnesses. With Dipstix technology, a paper strip can be dipped into the urine and colour changes in different segments of the strip may indicate the presence of various substances.

<sup>b</sup> The erythrocyte sedimentation rate (ESR) is a non-specific blood test that if high usually indicates the presence of a chronic illness.

### Community-based organizations

While some of the sites visited are either typical primary health care service-delivery clinics or free-standing private services, quite a few organizations are situated in various locations within communities and workplaces of Ndola Urban District, and they provide a wide range of services. Sixteen organizations provide general medical care through community health workers and four provide home-based care for the chronically ill. HIV counseling without testing was reported by 25 organizations, couple counseling by 17, family counseling by 15, and premarital counseling by 10 (table 2). A number of the organizations visited facilitate support groups—peer education support groups 15, women's support groups 10, and men's support groups 4. Thirteen sites reported that they provide general social activities. Other forms of

**Table 2.** Counseling services that organizations reported (*n* = 57)

Counseling services	Reporting	Percentage
HIV counseling without testing	25	43.9
Family planning counseling	23	40.4
Couple counseling	17	29.8
Peer education support groups	15	26.3
Family counseling	15	26.3
Spiritual counseling	14	24.6
Social activities	13	22.8
HIV pre- and post-test counseling	12	21.1
Premarital counseling	10	17.5
Women's support groups	10	17.5
Men's support groups	4	7.0

psychosocial support reported include traditional and spiritual healing, reported by 14. However, it should be noted that the study was not intended to validate the reports of counseling by, for example, observing counseling sessions. In addition, in every community in Ndola there are neighbourhood health committees whose community health workers do outreach work such as growth monitoring by weighing the children. Thus the survey has demonstrated that within the Ndola community both a number and a variety of community-based services are relevant to VCT and MCH services. Education and counseling will encourage pregnant women to seek VCT and ANC services and will facilitate referral. The care and support structures will provide ongoing counseling and medical care to women who return to the community after receiving VCT at the ANC clinics. Such services will be vital interventions in the proposed Ndola demonstration project.

### Target populations

A good number of organizations provide services for women in general (29/57); 22 target pregnant women and 18 reported that they target mothers (table 3). Youth are targeted by 37 sites, children are a target population of 24 sites and orphans of 17 sites. Only 14 organizations specifically mentioned PLHAs as one of their targeted populations. However, 20 sites mentioned the chronically ill and 8 the terminally ill. Some of the organizations mentioning chronically and terminally ill clients did not mention PLHAs among their clientele. However, with the epidemic in Ndola so mature, it is very likely that many of the people in the chronically and terminally ill populations are PLHAs. Other organizations also reportedly target commercial sex workers (7/57) and truck drivers (4/57). Thus it is apparent that in Ndola organizations reach almost all population groups for HIV/AIDS and reproductive health interventions.

**Table 3.** Target groups that organizations reported (*n* = 57)

Target group	Reporting	Percentage
Youth	37	64.9
Men in general	30	52.6
Women in general	29	50.9
Children	24	42.1
General population	24	42.1
Pregnant women	22	38.6
Chronically ill patients	20	35.1
Mothers	18	31.6
Orphans	17	29.8
Families	15	26.3
People living with HIV/AIDS	14	24.6
Elderly	9	15.8
Religious groups <sup>2</sup>	8	14.0
Terminally ill patients	8	14.0
Commercial sex workers	7	12.3
Truck drivers	4	7.0

<sup>2</sup> Religious groups in this case refers to gatherings of a small group of members of a given church who meet out of formal church service to give each other social support over issues such as deaths and illnesses. These gatherings are an easy-to-reach target population for HIV/AIDS interventions.

## THE SERVICES

### HIV counseling and testing services

A number of organizations (25/57) reported providing general health education and counseling. However, only 5 reported HIV testing facilities. Only 12 institutions offer pre- and post-test counseling services while 25 provide general HIV counseling (table 2).

Most of the institutions that offer pre- and post-test counseling do not have HIV testing facilities. They refer clients to private institutions such as the Tropical Diseases Research Centre (TDRC) and private clinics. Among the institutions that participated in the survey, only Mukango Medical Services Ltd and Hope Humana have HIV testing facilities. The number of clients receiving HIV testing ranges between 6 and 10 per week for each institution. Ndola Central Hospital also reported having facilities for HIV testing, depending on whether HIV testing kits are available.<sup>3</sup>

<sup>3</sup> Ndola Central Hospital is now participating in the national programme on VCT, which is being funded by NORAD and spearheaded by University Teaching Hospital. This programme should increase the reliability of the supply of HIV tests.

A major organization providing HIV voluntary counseling and testing is the NGO Hope Humana. It has extensive expertise in VCT with one full-time counselor who was trained through the National AIDS Control Programmes counseling course. Hope Humana has experienced counseling staff who provide rapid HIV laboratory testing, as opposed to separate laboratory support. Quality control in laboratory testing is assured through collaboration with TDRC, which operates under Ministry of Health regulations. Clients receive pretest counseling, have their blood drawn and tested, and receive their results on the same day, unless a client requests that results be deferred. The vast majority choose to receive their results the same day. According to the current testing protocol, all samples are subjected to the Capillus test (a rapid HIV test); the negative results are given as is; the positive results are subjected to a second test using Multispot (another rapid HIV test) (Hope Humana 1998)

At the time of the survey, voluntary counseling and testing service was not offered in MCH clinics in Zambia, and MCH staff do not even discuss the issue of HIV MTCT in the course of antenatal visits. Most of the organizations that reported they provide antenatal or post-natal care services in Ndola do not have HIV testing facilities. The antenatal clinics at Ndola Central Hospital and Mukango Medical Services Ltd are the only ones that provide both pre- and post-test counseling and HIV testing. Even in Ndola Central Hospital, the HIV testing services and the ANC services are in different locations in the hospitals and are largely unrelated. The ANC clinics do not offer HIV tests to pregnant mothers unless they have symptoms that suggest AIDS, in which case they are referred to the VCT facility or to the home-based care programme of the hospital. Unfortunately, staff of the home-based care programme of Ndola Central do not discuss reproductive health and HIV (or infant feeding issues) with pregnant women who seek AIDS-related care and counseling from this source.

It is therefore apparent that there are two sites where HIV counseling and testing services are likely to be available. At Ndola Central Hospital, HIV counseling can be obtained as part of VCT and as part of the home care programme. At Hope Humana, HIV counseling can be obtained as part of VCT and as part of the ongoing support mechanisms Hope Humana has set up for PLHAs.

### **Antenatal and labour-delivery services**

A total of 18/57 (32%) of organizations reported that they conduct antenatal clinics (see table 4). However, only half (9/18) of these institutions that provide antenatal care have labour and delivery services for pregnant women. Out of the 9 labour services available, 5 are provided by government institutions such as Ndola Central Hospital, Ndola Urban District health centres and military health centres. The NGO Planned Parenthood Association of Zambia (PPAZ) has 3 such facilities and one private clinic provides labour services too.

Results of the focus group discussions showed that a number of women give birth at home with the help of a family member or a traditional birth attendant. Indeed, the Zambian Demographic Health Survey of 1996 indicated that while over 99% of

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**Table 4. Maternal and child health services that organizations reported (n = 57)**

Service types	Reporting	Percentage
Condom distribution	27	47.4
General health education and counseling	23	40.4
Antenatal care	18	31.0
Maternal nutrition and infant feeding counseling	16	28.0
Family planning services and counseling	14	24.0
Post-natal care	12	21.1
Well-baby clinic	11	19.3
Vitamin A supplementation	10	17.5
Labour and delivery	9	15.8
Maternal home-based care	7	12.3
Mother-support groups	5	8.8
Emergency delivery	1	1.8

mothers in urban areas received ANC from a trained health worker, 24% of urban births still took place at home. Lack of transport and long distances were cited as the main deterrent to delivery in a health facility.

Whereas the essential package for ANC women attendees should include syphilis testing, only 10/57 organizations provide it, and of these only 6 provide ANC services as well. The 6 are Mukango Medical Services, Maple Grove Clinic, Indeni Petroleum Staff Clinic, Tel Nor Clinic, Zambia Flying Doctor Service and the Memorial Clinic. During antenatal and post-natal care at most clinics, STDs are managed mainly by a syndromic approach. However, 10 organizations reported that they provide STD tests other than for syphilis. Under special circumstances, women may be referred for testing to organizations with specialized STD clinics such as Ndola Central Hospital.

Another essential laboratory test for ANC attendees is haemoglobin analysis, but in the survey only 8 sites reported that they perform it. Some key ANC facilities such as Lubuto do not provide this test.

Maternal nutrition advice and infant feeding counseling are going to be key interventions during the demonstration project. It was observed that out of the 57 organizations visited, 16 reported providing some form of maternal nutrition or infant feeding counselling. Of these, 9 had data on numbers served and all were providing infant feeding counseling to fewer than 5 clients per week. As mentioned before, the scope of this study did not permit a qualitative assessment of the type of counseling provided, but such an assessment will be the subject of the monitoring and evaluation of the Ndola demonstration project.

The Lubuto Clinic is situated in Lubuto Ward, which has a population of 43,600 in a medium-income housing estate. The clinic provides ANC to the residents of Lubuto Ward only; but communities from five other wards use the labour and delivery

services. These other wards have health centres that provide ANC services but do not have delivery facilities; hence mothers are referred to Lubuto Clinic for delivery. The clinic has a new building that was donated by the Colgate-Palmolive Company. Staff include the sister in charge, 1 clinical officer, doctors visiting once a month, 2 registered midwives, 13 enrolled midwives, and 10 enrolled nurses. At the time of the survey, none of the staff had received training in HIV counseling and testing. They had basic counseling skills, which they used to initiate discussions on HIV, and then they refer patients to Ndola Central Hospital or to Hope Humana.<sup>4</sup> CARE is supporting a child health programme at the clinic and Irish AID is helping to strengthen the services at the clinic in general.

Lubuto Clinic provides ANC and maternity services and family planning and child health clinics in addition to ordinary curative services for the general population. The clinic serves approximately 800 clients per week for curative services; it averages 8 deliveries per day and 40 new ANC cases per week; ANC re-attendance is about 30 to 40 a day, and 14 a day accept family planning. A number of women who give birth in Lubuto Clinic will not have attended ANC there but in a neighbouring clinic. At the time of the study there was no lab in the clinic, and RPR syphilis testing is done by the nurses who were trained as part of the UNICEF Maternal Syphilis Project. But for haemoglobin testing and other essential ANC tests, the women are referred to Masala Clinic, a 15-minute walk away, where there is a lab. In Ndola District, apart from the hospitals, only three clinics have labs.

The clinic has a good management information system, which allows district health authorities to know the exact numbers served. The ANC and family planning clients take their records with them and return with them for the next visit.

Space is a big problem at the clinic. Women who give birth can not stay for more than 8 hours because of lack of space. The ANC women, those attending the well-child clinic and general out-patients share the same waiting room. Hence, when ANC women are given the opportunity for IEC—information, education and communication—they are afraid to ask sensitive questions because everybody is listening. Before HIV and MTCT education and counseling are integrated, it will be important to expand or reallocate space to provide privacy for the women attending the ANC.<sup>5</sup>

Clients pay K2500<sup>6</sup> per delivery, and they bring their own needles, syringes and gloves. The clinic provides some, but they do not have enough.

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<sup>4</sup> The Ndola demonstration project has since provided HIV VCT training to the staff of Lubuto clinic, and VCT services were initiated in May 2000.

<sup>5</sup> The Ndola demonstration project has since expanded the space to allow a separate waiting hall for ANC clients and more beds for mothers who have just given birth.

<sup>6</sup> The Zambian kwacha was valued at K2100 to US\$1 at the time of the survey.

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## Post-natal and infant feeding counseling services

Post-natal care services were reported in all the 9 institutions with labour and delivery services as well as in several other private clinics providing antenatal care. The exception is Ndola Central Hospital, which does not provide infant-feeding counseling in its post-natal clinics. The Arthur Davison Children's Hospital and CARE International do not provide post-natal services, but they reported providing infant-feeding counseling services. Overall, 10 organizations provided both post-natal care and infant feeding counseling: Army, Dr Ramani Surgery, Maple Grove Clinic, Military Camp, Mukango Medical Services, PPAZ, Sacred Hearts Sisters, Tel Nor Clinic, Twatasha Home-Based Care Support Group and Zambia Flying Doctors Service. Child health services were recorded in 24/57 organizations, which do not necessarily offer antenatal or post-natal care.

Eleven organizations with infant-feeding counseling services also provide well-baby clinics (under-5 clinics) for growth monitoring and immunizations. Only 5 organizations reported having mother-support groups, and most of these institutions have strong child care services. These include the Arthur Davison Children's Hospital, the District Health Centre for MCH (Bwafwano), PPAZ, and Household in Distress—a religious organization run by the Sacred Heart Sisters. The fifth organization reporting mother-support groups was Hope Humana, an organization working mainly with people with HIV/AIDS. Furthermore, 7 organizations that reported having maternal home-based care services provide staff to follow up and care for mothers at home who are unwell. These included Ndola Central Hospital, the District Health Centre for MCH (Bwafwano), PPAZ, the Sacred Heart Sisters (Household in Distress) and 3 private clinics. It is not clear whether maternal home-based care is provided only to mothers who are unwell or also to selected women needing help and counseling on infant feeding.

In Lubuto Clinic, the well-child clinic and ANC are available any time Monday to Friday, but most ANC clients prefer to come in the mornings before the sun gets too hot. About 1 out of 10 children are brought to the well-baby clinic by their fathers, and it is becoming a common practice for men to do this because they may have been retrenched and are unemployed while their wives are working in the market. A malnutrition clinic operates on Friday afternoons. The clinic used to demonstrate cooking but it no longer has the supplies. The kitchen only provides tea to the mothers in the labour ward. Presently, the nursing staff at the clinic visit patients' homes to demonstrate cooking, using the foods available in the homes. But many times the homes have no food.

In the clinic, general family planning services are available all days of the week; Norplant insertion is carried out on Mondays and Thursdays, bilateral tubal ligation on Wednesdays and loop insertion on Mondays.

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## **LINKS BETWEEN ORGANIZATIONS**

The information presented here was collected during interviews with managers or contact persons of the organizations visited.

### **Referral system**

Key informant interviews about service details and referrals were conducted with contact persons from 8 selected organizations (see section, p 4, on referral links under Methods). In general, it was observed that for specialized services organizations refer their clients to other organizations. Ndola Central Hospital, for example, attends to clients or patients referred from the district health centres in the community. If patients need HIV counseling, they are referred to a community-based organization such as Hope Humana. Laboratory tests for HIV/STD can be done at the hospital, and TDRC is able to provide confirmatory testing and quality assurance of tests. Individuals requiring home-based care are referred to various home-based care programmes run by Ndola Central Hospital, the Catholic Diocese health department or the district health centres.

A common method of referral cited by all 8 organizations was using referral slips that the client or patient carried personally to the referral site. Sharing service records was not practised except by the two hospitals, Ndola Central and Arthur Davison Children's Hospital. The major hospitals reported to refer clients or patients to other organizations for counseling, home-based care, social support and sometimes for medications not available in the hospitals. Organizations referred to included the district health management team; the Catholic Diocese health department, which has home-based care programmes through which it provides medication, food and other material to the sick; and Hope Humana, mainly for VCT and continuous HIV counseling and support of the client. Other organizations also reported referring patients with complicated cases to hospitals and health centres for specialized treatment or medical and laboratory investigations including x-rays.

The two hospitals also were the only organizations whose referral system included phone calls and who designated staff to follow up on referred clients. Only one other, Mukango Medical Services Ltd, has designated staff who follow up on referred clients. The hospitals also reported having a system of sending referral notes back to other institutions or organizations as feedback. One of the home-based care (HBC) programmes, the Twatasha HBC Support Group, also reported having volunteers who make follow-up calls on clients. The other organizations depend on the clients or patients themselves to give them feedback.

The results obtained from this survey show that most organizations refer clients for specialized services. However, a structured referral system is needed to ensure a continuum of care for the client. Patients also need proper discharge plans and proper feedback mechanisms from home-based care and counseling services to hospital. One

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hospital suggested greater community involvement, such as through volunteers, to ensure that there is a continuum of care for patients and clients sent home.

It was further suggested that the referral system be improved, for example by standardizing the referral slips and the reporting methods. Other suggestions included regular meetings between organizations, networking, and greater involvement of neighbourhood health committees. There was also a need to have more staff or volunteers to conduct outreach services and give feedback to specific organizations or institutions requiring information about their clients. Others even suggested an ambulance service for patients and radio systems to enhance communication between organizations.

Apart from following up on referred clients, organizations were asked whether and how they followed up clients who receive their services. Four organizations reported some kind of mechanism for following up clients who benefit from their services, especially the home-based care programmes. The reported mechanisms included appointments for return visits to service sites and follow-up visits by providers to client homes. Respondents highlighted the need to improve the system with better transportation arrangements for the nurses or volunteers.

## **Training**

Ten organizations reported training links with other organizations. Ndola Central Hospital provides a basic 3-year diploma course for nurses and a 2-year certificate course for laboratory technicians. Hope Humana has been providing short training courses on HIV counseling and youth peer education. The health department of the Catholic Diocese and the Copperbelt Health Education Programme (CHEP) have been conducting in-house refresher courses on home-based care and courses on HIV/AIDS prevention and caring for HIV/AIDS infected and affected individuals. The District Health Management Team and Ndola Central Hospital have also organized a number of training workshops for the district health staff, which included the following areas:

- ◆ health education on HIV/AIDS prevention and care
  - ◆ STD management, mainly a syndromic approach
  - ◆ family planning, methods and how to insert loops
  - ◆ adolescent health
  - ◆ prevention of communicable diseases
  - ◆ management of diarrhoeal diseases
  - ◆ care for pregnant women
  - ◆ post-natal care, pelvic examination
  - ◆ well-baby clinics, immunizations, nutrition and infant feeding
  - ◆ management of malnutrition
  - ◆ reproductive health in general
  - ◆ home-based care
  - ◆ syphilis screening
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Courses varied in length from 2 days to 8 weeks. A number of training courses or workshops have been organized as a collaborative activity of several institutions, depending on their comparative advantages in skills. Typically for any given course, participants include staff from a number of organizations or institutions. Most of the courses and workshops have been funded by the hosting organization, and some have been sponsored by Irish AID. The Irish government has been supporting the maternity project at major health centres in the district and training midwives. However, the major funding partner for the district and some NGOs is the Zambian government through the Central Board of Health. A number of the government's bilateral partners have also been providing funds and organizing training workshops in various areas of their interest in collaboration with organizations in the district. In addition, the DHMT office and hospitals have been sending a few of their staff members for international courses in various specialties.

Regarding collaboration on training for the demonstration project, respondents cited CHEP in Kitwe, which has the potential to provide training for trainers on HIV/AIDS and to provide training materials. Other possibilities suggested include links with Kara Counseling in Lusaka for training in HIV counseling. Organizations such as TDRC were suggested to provide training in laboratory testing and also in monitoring and evaluating interventions.

To assure quality of care for MCH and infant feeding, Ndola Central Hospital and Arthur Davison Hospital are both able to provide in-service training of health centre staff. These trainees can in turn train community health workers as well as mother-support groups for infant feeding. However, well-coordinated training courses organized at district level are still needed, especially in HIV/AIDS/STD prevention and care, counseling, reproductive health, and maternal and child health. As mentioned above, DHMT has conducted several of these before but more are needed.

The major gap in the training programmes of most of the organizations interviewed is that they target only health-care workers. There is less emphasis on providing training to community groups or mother-support groups. Only the home-based care team has trained volunteers who can care for the chronically ill. Therefore organizations urgently need to have outreach training programmes on issues of maternal and infant care; infant feeding and hygiene; and general issues on HIV/STD prevention and family planning.

## **Laboratory**

The major hospitals and TDRC have been providing laboratory services for a number of organizations, which include the Catholic Diocese health department, the Ndola district health centres and some private clinics and NGOs involved in counseling and care services. However, some private clinics and NGOs also have facilities for some laboratory tests such as HIV and syphilis screening and pregnancy tests. The hospitals have x-ray facilities, and most institutions refer their patients for this service. The range of laboratory tests provided by major institutions include the following:

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- ◆ HIV
  - ◆ haemoglobin
  - ◆ sputum test for TB
  - ◆ syphilis
  - ◆ pregnancy

Clients are referred to these institutions for laboratory investigations, and specimens are collected and sent for investigation and analysis. Occasionally, especially from private clinics, blood or serum samples are sent by courier or brought by hand by the clients themselves or by nursing staff or doctors. Most samples are coded with an anonymous number, but some bear actual names and institution numbers, depending on the type of laboratory test being requested. Most of the institutions have record books for laboratory results in which patients' name and results are recorded. The test results of patients are also recorded on the request slip or client service records.

Laboratory services are now available at health centres and some counseling centres. However, quality assurance services need to be enhanced, using a reference laboratory like TDRC. One identified weakness is the need to have a proper confidential referral system for samples sent between the laboratory services and the care organizations and for reporting clients' laboratory results and storing their records.

## Record keeping

All eight institutions visited have a system for keeping records of clients who visit their facility. Most organizations have client record cards, a register book and client files that are either coded or with names. Only one organization has computerized client records. Some organizations also have different files for clients coming for different services. Although reports showed that these organizations keep all client records on file for a time, it was not clear for how long.

All 8 organizations recorded basic demographic data as follows:

- ◆ name
- ◆ age
- ◆ marital status
- ◆ sex
- ◆ employment status
- ◆ physical and mailing address
- ◆ family background, number of children, next of kin
- ◆ religious denomination
- ◆ medical history

Organizations that provide general medical and laboratory services also keep the following records:

- ◆ complaint or problem
  - ◆ findings of physical examination
  - ◆ clinical management
  - ◆ laboratory results
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- ◆ diagnosis
- ◆ type of medication
- ◆ date of discharge

This study also showed that most organizations keep their records in cabinets that are lockable or in a room that is kept locked.

Service managers and providers have access to client information, but at Zambia Police Clinic, only the manager has access. At Hope Humana, the attending service provider has access to client information, at Mukango Medical Services Ltd the manager and the attending service provider have access, and at Ndola Central Hospital only service managers have access.

Most organizations provide informal in-house awareness about keeping records, but the staff of the home-based care programme were reported to have received formal training on keeping records in a course organized locally. Also, one of the service managers reported having received training in record keeping in the United States of America, with course content covering management, ethics, confidentiality, referral procedures and follow-up procedures.

The reported purpose of recording client information was to keep a medical record of the client that could be used for follow-up visits, for legal purposes, such as if courts or police require detail of services provided to an individual, for demographic surveillance, monitoring and evaluation. In addition, the information was viewed as a way of being accountable for resources and for future planning.

## **HIV/AIDS ISSUES IN THE COMMUNITY**

The data here are derived from focus group discussions held with members of the AIDS task forces, PLHAs and community members and pregnant women. Data were also collected using key informant interviews with PLHA leaders.

### **Knowledge and attitudes towards HIV/AIDS infection**

The results of focus group discussions with pregnant women attending antenatal care, women's support groups, and selected community and church leaders showed that the community was knowledgeable about HIV/AIDS transmission through sexual contact. The ANC women could be assumed to be representative of the ordinary pregnant woman in the community, but the rest of the focus group discussion participants were leaders and hence likely to be better informed than the general public. The participants acknowledged the burden of the HIV/AIDS epidemic and its devastating effect on their lives. Indeed, one of them said, 'HIV/AIDS confuses and disturbs our lives'. The Ndola District task force identified a wide variety of individuals who they felt were at risk in their community. These included youths between the ages of 18 and 25 and other youth at large, 'sugar daddies', truck drivers, businessmen, girls attending boarding schools, and commercial sex workers.

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In almost all the focus group discussions, the members were able to describe one or more symptoms of AIDS, which included chronic diarrhoea, skin rash, chronic cough, loss of weight and being chronically ill. Others also mentioned amenorrhoea in women, persistent malaria or fever, and loss of hair as symptomatic of HIV infection. Most of the discussion participants knew about mother-to-child transmission of HIV infection through breastfeeding, in utero and at birth. However, most of the participants were not very clear about the mechanism of HIV transmission in utero. Most of them said that it was through blood exchange between mother and infant. A few mothers said that transmission during labour might be due to carelessness of the traditional birth attendant or the midwife nurse during delivery. Other possible modes of HIV transmission in the community that were mentioned included blood transfusion and the use of contaminated razor blades for tattooing babies after birth, unsterile needles for injections and unsterile instruments at barber shops.

The focus group discussion participants were asked to cite ways they would suspect that an individual had HIV infection. Lack of growth, 'failure to thrive' or death of a newborn baby were all perceived as signs of HIV infection in the mother. The community also perceived the death of a person followed by death of the spouse within a short period as a definite sign of HIV/AIDS in that family.

### **Stigma in the community**

Results of focus group discussions with the district task force and people living with HIV/AIDS (PLHAs) and interviews with key informant revealed a number of incidents where community and family members stigmatize HIV-infected individuals. Some PLHAs lose their friends, are isolated, are not given enough food by their families and occasionally are given separate eating utensils from the rest of the family. Some churches also discriminate against members who are known to be HIV positive. Discrimination was found more likely if the HIV-infected person was economically dependent or poor. In addition, some PLHAs reported being discriminated against in the workplace and some had lost their jobs. Overall it was felt that there are no strong laws or policies to protect HIV-positive persons from discrimination.

Although stigma in the community was reported, some members of the district task force felt that communities and families have been changing their attitudes toward PLHAs. Mainly the large number of families that have lost loved ones because of HIV/AIDS-related deaths has brought this about. Some members of the task force also felt that the lack of food reported was not because the HIV/AIDS sufferers were being denied food by their families but was a sign of the economic hardship that families and the community at large are facing. A few PLHAs reported receiving material help in the form of food, clothing and spiritual care from the home-based care services of the Catholic Diocese of Ndola. Some PLHAs also mentioned that they belonged to support groups for positive living and to income-generating projects and organizations.

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## **Voluntary counseling and testing**

### ***Knowledge, views and acceptability of VCT in the community***

A good number of pregnant women, community members and leaders, including some members of women's support groups, were not familiar with the term 'voluntary counseling and testing'. A few participants thought that VCT meant blood testing for HIV, without counseling. Only one member of the home-based care support groups knew about VCT and details of procedures involved in VCT such as pre- and post-counseling and testing. However, after the interviewers' explanation of what VCT meant, members of the focus group discussions identified some of its advantages and disadvantages (see list below). Participants also recognized the importance of VCT and thought it would be acceptable in the community. They felt there was need for publicity through IEC—'information, education and communication'. Some members also suggested that VCT be made available and free of charge at health centres in the district, and within the community at MCH and family planning clinics, churches and homes of community leaders responsible for counseling.

Perceived advantages of voluntary counseling and testing:

- ◆ It will help prevent HIV infection during labour and delivery of babies.
- ◆ People are able to know their HIV status and may practise safer sexual intercourse, reduce transmission of STD infections and stop engaging in risky behaviour.
- ◆ People are likely to seek medical treatment early if they know their HIV status.
- ◆ People are able to plan their life and the future for their children.
- ◆ Pregnant women and nursing mothers are able to plan how to feed their newborn babies.
- ◆ It will help prevent future unwanted pregnancies.
- ◆ It will enable infected persons to leave a will.

Perceived disadvantages of voluntary counseling and testing:

- ◆ After learning one's HIV status, a person may die quickly, because of community stigma, from depression or suicide; some members viewed VCT as a death sentence.
- ◆ VCT could bring on domestic violence when a person learns that one's partner is infected; women especially are subject to this type of violence.
- ◆ Some may take on a vengeful attitude upon knowing their status and start infecting other people deliberately.

### ***Voluntary counseling and testing for pregnant women***

Pregnant women, women's support groups and some community leaders participating in focus group discussions also identified IEC as a tool for encouraging women to seek VCT. They further suggested that IEC could be done through women's clubs or organizations (in the community or the church). One-to-one discussions were also

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encouraged as a method of promoting VCT. Many participants felt that private VCT facilities were needed in the community. Almost all discussion groups supported the idea of having VCT facilities as part of ANC or post-natal care. However, some people felt strongly that knowing one's HIV status during pregnancy was an extra source of stress for a woman who may already be stressed by pregnancy, and they felt that VCT should be provided after delivery in the post-natal clinics. The importance of encouraging men to seek VCT and participate in health education talks was also emphasized. Women suggested that, through their spouses or partners, men be called or given written notice by health centre staff to go for VCT.

Perceived advantages for pregnant women to seek voluntary counseling and testing:

- ◆ Women will be able to know their HIV status and the health of their newborn baby.
- ◆ Women will try to prevent mother-to-child HIV infection by adopting alternative feeding methods.
- ◆ Women will be able to find out their HIV status if their husband has HIV-related illnesses.
- ◆ Women may choose to use condoms to prevent HIV/STD.
- ◆ Women may put themselves on a good diet.

### **Community views and knowledge of antenatal clinics**

All members of the community participating in the focus group discussions highlighted the importance of ANC. They appreciated the need to attend the clinic in the first trimester. Some commented that women who did not attend the clinics were lazy and ignorant and entertained myths and fears about palpation of the womb and other procedures that the midwife nurse carried out. They also observed that some ANC attendees were afraid of some of the nursing staff at clinics because of their attitude towards women who might not have good, clean garments, especially underwear.

Perceived advantages of attending antenatal clinics:

- ◆ The clinic monitors the health and growth of the unborn baby.
- ◆ The clinic monitors the mother's blood pressure.
- ◆ The mother receives health education and knowledge about nutrition.
- ◆ The clinic measures haemoglobin levels and detects any infections or abnormalities.
- ◆ The mother learns about the position of the baby in the womb.

### **Community views on the role of traditional birth attendants**

Traditional birth attendants were reported to have a major role in helping women to have an easy delivery of the baby. They refer complicated pregnancies to health centres or hospitals. It was noted that other members of the family such as

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grandmothers and aunts also act as traditional birth attendants when necessary during child delivery. Traditional birth attendants were also involved in helping women, including those who end up delivering their baby in a health facility, to prepare for labour using herbal remedies as follows:

- ◆ Herbs are rubbed on the stomach and pelvis to the enlarge birth canal.
- ◆ Herbs are taken orally to promote a quick delivery.
- ◆ Herbs and soaps are used as lubricants for the perineum.

### **Knowledge, attitudes and views on infant feeding**

Thanks to many years of hard work in promoting breastfeeding, in Ndola, like in most African settings, breastfeeding is the order of the day for every baby. The community is, however, aware that women may not breastfeed their babies for various reasons, which include being a working mother, being ill or having sores on the nipples, or not having enough breast milk because of hunger. The community also felt that some women do not breastfeed their babies for cosmetic reasons or because they feel they are rich and can afford formula feed. This was looked at as a sign of pomposity or a false sense of prestige. Other participants regarded women who do not breastfeed their babies as being promiscuous or engaged in prostitution.

Although the focus group members were aware of HIV transmission from mother to child through breastfeeding, a few women PLHAs felt that it was abnormal behaviour in an African culture not to breastfeed a baby. One woman said that she would continue to breastfeed her babies in the future despite having lost her last-born child at the age of one year. In contrast, other PLHAs had strong views against breastfeeding and felt that HIV-positive mothers should be given support to use alternative feeding methods. They acknowledged the fact that some mothers were poor and could not afford formula milk. It was proposed that such mothers be encouraged to breastfeed for 6 months then start feeding babies on local foods. These conflicting views reflect the strong emotions this subject elicits in the communities and the need to address it both in the community and with individuals.

Alternative infant feeding methods available in the community were listed as follows:

- ◆ Wet nursing. Identified as a common practice by a number of families, especially in the past, this practice appears to be falling out of favour, or has already done so because of fear that the wet nurse herself might be HIV infected.
- ◆ Formula feeding by bottle, cup or spoon. There was no mention of any dangers that bottle feeding may cause babies.
- ◆ Cow's milk by cup.
- ◆ Soups.

Specific infant feeding methods used after the death of a mother were as follows:

- ◆ Wet nursing by a member of the family. But see comment above.
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- ◆ Thin porridge made of cornflour and fresh cow's milk or porridge made of groundnut or soya bean milk, depending on the age of the baby.
- ◆ Soup using a spoon.
- ◆ Fruit juice.

There was also a general observation that some mothers feed their babies on fresh cow's or goat's milk, especially in villages. Women who use alternatives were able to feed their babies at night with warm milk if they owned a thermal flask. Others would just give cold milk or other available prepared foods.

### **Mother-support groups for counseling on infant feeding**

The survey showed that only 5/57 organizations provided support groups for mothers. It was not clear how many of these groups were involved in providing counseling and support to nursing mothers about feeding their infants. The focus group discussions of ANC women and community leaders said traditional marriage counselors, called 'bana chimbusa', gave advice to mothers on infant feeding; Hope Foundation, CARE International and the Catholic Women's League were listed as facilitating mother-support groups.

None of the focus group participants had ever heard of breastfeeding support groups. However, most of the participants were supportive of home visit and mother-support groups. They believed that these would encourage women to attend post-natal care services. Visits would also be important for providing health education, and post-natal problems and infant feeding problems could be detected earlier to avoid complications. Others, however, felt that neighbours would associate a post-natal visit by a maternal home-care team with HIV/AIDS and stigmatize the mother.

### **Knowledge and attitudes about family planning and condom use**

The majority of participants and community leaders knew about contraceptive pills, injectable contraceptives, loops, natural family planning and traditional methods. It was felt that men's support for their wives to use family planning varied. Some men were not supportive, but others liked to space their children for economic reasons. The common feeling was that male condoms were more readily available than female condoms. Most women had no access to female condoms and many said that they had never seen one. The majority of the focus group participants knew that using condoms was good for preventing STD/HIV and for family planning. However, there was a general feeling that it was not easy for women to negotiate condom use with their partners.

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## **CONCLUSIONS AND RECOMMENDATIONS**

### **Organization services and links**

The survey indicates that resources exist within Ndola to support the development of high-quality VCT services in MCH settings. For example, the current collaborative arrangement between Hope Humana and TDRC to assure quality in HIV testing could be replicated with other organizations, as TDRC could train and supervise their counseling staff in rapid HIV testing. Similarly, Hope Humana counseling staff could train and supervise staff members of other organizations who provide general HIV counseling in HIV pre- and post-test counseling.

Presently there are links between organizations working on HIV/STD and MCH in Ndola. A number of organizations are linked through referral of clients for services. These links should be strengthened and formalized. The Ndola Catholic Diocese health department has an infrastructure of community volunteers. Its programme could be strengthened and expanded if it were run in collaboration with other organizations. Community volunteers are vital for community mobilization in response to the HIV/AIDS epidemic. Volunteers could be instrumental in increasing awareness of VCT among the public and in community groupings such as churches. The church-based organizations may be able to provide continuous support to clients returning from VCT centres.

These links can also be used to address in part the major resource problems these organizations face. Funding is a big problem for most institutions. Arranging to share resources, avoid duplication and share information about funding is one possible strategy for addressing this problem.

In-service training for staff involved in recording keeping is required. Computerized record keeping would be preferred if resources will allow it.

### **Community knowledge and attitudes**

It is encouraging to note that there was a high level of awareness about HIV infections and the mode of transmission, which included knowledge of mother-to-child transmission through breastfeeding. The issue of breastfeeding and HIV transmission was a major concern in the communities, where almost all mothers were expected to breastfeed their babies.

- ◆ Knowledge about HIV/AIDS transmission and recognition of signs and symptoms of infection by the community participants were very good. In spite of this, a significant number of instances of stigma such as isolation at home and discrimination at work and church were cited in the focus group discussions. There is still, therefore, a need for community counseling and IEC that addresses stigma.
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- ◆ The community is aware of mother-to-child transmission of HIV in utero, at birth and through breastfeeding. IEC needs to make people understand the probability of an HIV-infected mother having an HIV-free infant and factors that may influence or increase the probability of HIV transmission from mother to child including the natural history of the disease, prevention of opportunistic infections, and the importance of nutrition. Also, while there appears to be good understanding of the advantages and disadvantages of breastfeeding for an HIV-infected mother and possible chances for a child to survive in relation to alternative feeding, the negative comments of PLHA women in the focus group discussions indicate that choosing not to breastfeed remains difficult.
- ◆ 'Voluntary counseling and testing', VCT, is new terminology in the community, probably because there are very few facilities in Ndola and Zambia as a whole that offer VCT to the community or persons who are well. Traditionally, HIV counseling and testing have mostly been provided to individuals with HIV/AIDS-related problems and their spouses, especially patients and families requiring home-based care services. It is therefore urgent to have VCT services in communities and at health centres that are easily accessible to the community at large. Such services will enable persons who wish to know their HIV status to seek VCT without having to register at the hospital or health centre as a patient. Hope Humana is one organization that provides VCT at a community level. Unfortunately, as it is situated in a low-density residential area where affluent members of the community live, most members of the community do not have access to it. A VCT service is needed in the high-density areas of Ndola such as Lubuto. There are also suggestions to have VCT at churches or religious congregations. It seems a number of people feel more comfortable being counselled by religious leaders. This has to do with trust, confidentiality and spiritual support. In addition, most of the volunteers providing home-based care belong to religious organizations. A feasible solution could be to train religious workers in HIV pre- and post-test counseling skills and to establish referral links for specimens with HIV testing facilities.
- ◆ The community attitudes towards VCT for pregnant women were generally positive. Indeed, it was stated that one of the advantages of VCT was that if women learned their HIV status was positive, they would protect their babies by choosing breast milk substitutes. It was also felt that men should go for VCT or accompany their spouses or partners.

### **Strengthening of antenatal clinics and post-natal care services**

- ◆ Antenatal services need to be strengthened and made more user friendly. The present facilities for ANC are presently adequate in certain areas of Ndola Urban District. However, with the anticipated demand for more women to come for ANC and VCT, there is an urgent need to expand the existing
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infrastructure in response to the extra counseling services needed. Presently, the health centres are small and overcrowded because they also have to provide other primary health care services including immunization for children, STD treatment and family planning. It is expected that women attending the antenatal clinic who wish to receive VCT will spend more time at the facilities. The facilities therefore need to have a more relaxing atmosphere and have an area for refreshments while women await their results. A negative attitude of health staff was mentioned as deterring some women from attending ANC. It is therefore important that staff knowledge, attitudes and skills be strengthened so that ANC care is of good quality and staff can address issues of mother-to-child transmission of HIV and infant feeding.

- ◆ Several district health centres in Ndola have facilities for delivery services. This service is also provided by midwife nurses or doctors at private clinics. Any complications arising during labour are usually referred to Ndola Central Hospital. However, a large number of women still give birth at home with the help of family members and traditional birth attendants. Lack of transportation has been cited as one of the reasons for the low percentage of women who give birth in health facilities—a major problem that is beyond the scope of this project. However, it is felt that the perceived poor quality of the delivery services at the public health facilities might be another reason that women do not want to give birth in them. Quality should be improved through staff training and provision of supplies as well as strengthening the infrastructures. Education of the community and counseling of pregnant women during ANC and in mother-support groups should also highlight the importance of facility delivery. Women who give birth away from health facilities should be encouraged and referred to the health services for post-natal care. This will enable the women and their babies to benefit from counseling on infant feeding and to receive the necessary support based on their informed choice of method for infant feeding.
  - ◆ Presently all women giving birth at the hospital and health centres are given notice to attend post-natal care one or two weeks after delivery, but only a small proportion reportedly attend within 6 weeks of delivery. Post-natal services present an excellent opportunity to counsel mothers in HIV, family planning and infant feeding, and their attendance should be encouraged.
  - ◆ Counseling on infant feeding should be well defined, and members of women's groups should be trained in the counseling skills required to support mothers with new infants. The counseling should encourage and support all HIV negative mothers and those with unknown HIV status to exclusively breastfeed for the first 6 of months of the baby's life, and counselors should give more information on nutrition and well-being of the mother and baby. After counseling, HIV-positive women should receive support for the alternative feeding options they may choose. Although community members in Ndola appear to acknowledge the potential usefulness of mother-support groups in
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infant feeding counseling, these groups do not seem to be well developed in the community. Women in the community need to be trained to provide this support. Technical assistance could be provided by midwife nurses or retired nurses in the community. It is also possible to form mother-support groups from women's religious groups. The support groups need to be trained in basic infant feeding methods, hygiene and nutrition. They should also be able to detect problems and report or refer cases to the health centres.

- ◆ Home-based care and support for the chronically ill is a well-developed NGO activity in Zambia. Experiences gained in HIV-related home-based care should be used to strengthen maternal home-based care for the women who may be unwell after childbirth. This would also provide opportunity to counsel mothers on infant feeding and give them support as appropriate.
  - ◆ DHMT has a crucial role in planning and coordinating all health activities in the district. In the Ndola demonstration project, its role is to give technical assistance to community-based organizations by providing training in such subjects as home-based care and counseling. In addition, DHMT can provide leadership in forming referral networks among CBOs.
  - ◆ In general, Ndola as a community seems ready for counseling in infant feeding, HIV community-based counseling, testing, and referral. The Ndola demonstration project will test this assumption. The present infrastructure at the Lubuto Clinic, which has been expanded, the support services at Hope Humana, and the planned training activities and formation of mother-support groups should be adequate to enable women to undergo voluntary counseling and testing so that they can make informed choices regarding HIV and pregnancy. The most challenging issue is whether mothers who test positive will choose to breastfeed or to adopt alternative feeding practices. Related to this is the issue of involving their spouses and encouraging them to seek VCT services in the community.
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## APPENDIX—Organization inventory

No.	Organization	Contact information	Physical location	Classification
1	All VHC	Box 72890	60 Kariba Road, Kansenshi	private
2	Army	tel: 610253/5	Tugargan Camp Hospital	public
3	Arthur Davison Children's Hospital	Box 240227; tel: 640125/7, 640162/4; fax: 640206	Boundary Road	public
4	Broadway Clinic	Box 71943; tel: 660890	Broadway Road	public
5	CARE International	—	5th floor, Bank of Zambia, Butako Ave	NGO
6	CARE International— peer counseling	Box 71943; tel: 660141	New Masala	NGO
7	Child Care and Adoption Society	—	—	NGO
8	Chilengwa Primary Hope Club	Box 71745; tel: 660137	Chilengwa Primary School	school club
9	Christian Task Force (Prisons)	Box 70332; tel: 680424	Kansenshi Prison	religious
10	Christian Task Force	Box 250101; tel: 614312	56 Kabinga Ave	religious
11	Dr Ramani Surgery	Box 71254; tel: 615847 (o), 615724 (h)	4049/8 Shinde St	private
12	Health Neighbourhood	Box 71779	Kawama	private
13	HNC Bwafwano		CHT4044 Chifubu	NGO
14	Hope Humana	Box 70505	10 Luneta Road, Northrise	NGO
15	Indeni Petroleum	Box 71869; tel: 655191, 655177	Bwana Mukubwa area	private
16	Kayele Basic School	Box 71744	Kayele Basic School	school club
17	Lubuto Pupil Parent Joint Club	Box 71578; tel: 660120	Lubuto Secondary School	school club
18	Maple Grove Clinic		Broadway	private
19	Masala Secondary Anti- AIDS Club	Box 230062 Skyways; tel: 660104	Masala Secondary School	school club
20	Memorial Clinic	Box 72221 fax: 614333	48 Chintu Road	private
21	Military Camp (Kalewa)	tel: 640101/5	Kalewa Barracks	military camp
22	Ministry of Agriculture	Box 70232	opposite Civic Centre	public
23	Ministry of Labour and Social Security	Box 71573; tel: 614211	Mateko St	public
24	Mukango Medical Services Limited	Box 290004; tel: 613658, 612806; fax: 613779	69 President Ave	private
25	Mushili/Kaloko HBC	Box 250168; tel: 641017	Mushili Catholic Church	community
26	Ndola Central Hospital	tel: 611585/9; fax: 612204	Kansenshi	public
27	Northern Breweries	Box 70091; tel: 611094; fax: 614266	Misundu Road	private
28	Planned Parenthood Association of Zambia (PPAZ)	c/o Kabushi Clinic; tel: 660143	1476 Kabushi	community

No.	Organization	Contact information	Physical location	Classification
29	PPAZ	c/o Kabushi Clinic; tel: 660143	2995 Kabushi	community
30	PPAZ	c/o Kabushi Clinic; tel: 660143	59A Kabushi compound	community
31	Prisons Fellowship	Box 240070; tel: 612495; fax: 621743	C12 Vitanda St	private
32	Rotaract (Young Rotarians)	Box 240277		community
33	Sacred Heart Sisters Households in Distress	Box 70284; tel: 640290	56 Chinika Road	religious
34	Street Children Association of Zambia	Box 71023; tel: 610158 (o), 660584 (h)	Dominican Convent (St Filo Bina)	NGO
35	Swarp Spinning Limited	Box 71846 Skyways; tel: 650821; fax: 650110	Nakambala Crescent, Industrial Area	private
36	Tel Nor Clinic	Box 72362; tel: 614053, 620625; fax: 620625	Buteko Ave	private
37	Traditional healer	—	1626 Masala	private
38	Traditional healers	—	2230 New Mushili	private
39	Traditional Healers Practitioner Association of Zambia (THPAZ)	—	3426 Mushili	community
40	THPAZ	—	2229 Nkwazi	private
41	THPAZ	—	0287 Overspill Nkwazi	private
42	THPAZ	—	2945 Nkwazi	private
43	THPAZ	—	6121 Nkwazi	private
44	THPAZ	—	Town Centre, President Ave	private
45	THPAZ	—	1674 Masala	private
46	THPAZ	—	53 Bwana Mkubwa	private
47	Twatasha HBC Support Group	Box 70244; tel: 613146; fax: 615884	Chipulukusu	community
48	Watch Your Life Movement for Youth	Box 71174	Lubuto Apostolic Church in Zambia	religious
49	Window of Hope Club	Box 71747	Liyuni Middle Basic School	school club
50	Women Mission	Box 70042; tel: 72285	New Masala UCZ	religious
51	Youth Foundation for World Peace	Box 72035; tel: 610849; fax: 614440	Provident House, Broadway	NGO
52	Youth Movement for Economic and Social Justice	c/o Luydy Siyame, Box 2897; tel: 621470	Gravell House, Buteko Ave	NGO
53	Zambia Flying Doctors Service	Box 71856; tel: 611417/9, 640201; fax: 618228, 614054	Northrise	public
54	Zambia Police	Box 70013; tel: 615476	Zambia Police Camp	public
55	Zamtel Clinic	Box 71630	Provident House, Broadway	private
56	Zesco Clinic	Box 71334; tel: 810641, 610625; fax: 610646	—	private
57	Zion Spirit	—	1691 Masala	religious