
UGANDA DELIVERY OF IMPROVED SERVICES FOR HEALTH (DISH) EVALUATION SURVEYS 1999

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Executive Summary

This report presents findings from the 1999 Delivery of Improved Services for Health (DISH) Evaluation Survey and, where possible, compares reproductive, maternal, and child health knowledge and behavior, and the use of health services among a representative sample of men and women of reproductive age with similar samples measured in the previous 1997 DISH Evaluation Survey (DES), as well as the 1995 Uganda Demographic and Health Survey (UDHS). In addition, the report presents data on the availability of reproductive, maternal, and child health services, and (where possible) assess changes in the health service environment between 1997 and 1999.

The 1999 DISH Evaluation Survey gathered information from 1,766 women aged 15 to 49 years, 1,057 men 15 to 54 years, and 292 health facilities and 186 pharmacies and drug stores in eleven of the twelve districts of Uganda served by the DISH project, covering 30% of Uganda's population. The survey collected information to assess the reproductive health situation in these districts and the effectiveness of DISH project activities.

The objective of this report is to present the indicators that are used by USAID/Uganda and by the DISH project to monitor and evaluate the programs in Uganda. This report does not provide in-depth analyses to assess the impact of program inputs on population level outcomes as these will be addressed in further analysis studies.

Following an introduction (Chapter 1) and a brief description of the community survey respondents' background characteristics (Chapter 2), the report covers the reproductive health status of individuals in terms of IEC effort and exposure (Chapter 3), family planning (Chapter 4), maternal health (Chapter 5), child health and nutrition (Chapter 6), and sexually transmitted diseases and HIV/AIDS (Chapter 7). The last chapter details the health service environment as evaluated with findings from the DISH Facility Surveys (Chapter 8).

The key findings of this report and a brief discussion follow.

Information, Education, Communication (IEC)

- ◆ Men generally tend to be exposed to the range of reproductive health IEC messages in the media more often than women. This is likely related to the tendency among men to listen to the radio and watch television or videos more frequently than women.
- ◆ Women's and men's reported exposure to family planning IEC messages via radio, posters, and newspapers increased significantly over the four-year period from 1995 to 1999.
- ◆ Fewer women and men report hearing radio advertisements about socially marketed family planning commodities (Protector condoms and PillPlan oral contraceptives) in 1999 than in 1997.
- ◆ Significant increases in IEC exposure about antenatal care and about sexually transmitted diseases occurred between 1997 and 1999 for men and for women.
- ◆ Messages regarding child nutrition and breastfeeding, as well as regarding services for HIV testing and counseling, were heard by the majority of men and women surveyed in 1999.
- ◆ Over three-quarters of women and men had seen or heard of the "Yellow Flower" family planning logo and the more recently introduced "Rainbow over the Yellow Flower" family health logo in 1999.
- ◆ Listenership to the DISH-sponsored "Choices" reproductive health radio program, broadcast weekly on Radio Uganda, decreased among women and men over the period 1997-1999. The change follows shifts in the audience share away from this government radio station favoring newer alternative stations.

Family Planning

- ◆ Between 1995 and 1999, there was a marked increase in the use of modern contraception among men and women, including among married men and women. While the rate of increase slowed during the second two-year interval 1997-1999 among women, it remained high among men.
- ◆ Condom use increased much more rapidly than any other family planning methods between 1995 and 1999, and more so among men than among women. The condom was by far the most popular method for men, the choice of two-thirds of modern contraception users in 1999. While injectables were the most used method for women in 1999, condoms ranked a close second. In contrast, the pill declined in popularity for both sexes over the period 1995-1999.
- ◆ Adoption of long-term contraceptive methods (IUD, implants, and sterilization) remains low among women and men.
- ◆ Data from the 1997 and 1999 DES present a strong and consistent association between women's and men's exposure to DISH-sponsored family planning IEC messages and increased use of modern contraception.
- ◆ The proportion of women and men not already practicing family planning who reported intending to use a modern contraceptive method within the next 12 months increased significantly between 1995 and 1999.
- ◆ Women's first visits for antenatal care generally continue to occur during the fourth to sixth month of pregnancy. The proportion of women receiving ANC during the first three months of pregnancy has remained relatively stable, at around 20%, across surveys.
- ◆ Most women (84%) had received antenatal care from a nurse/midwife for their last pregnancy in the 1999 survey. The proportion having done so increased significantly since the time of the 1997 survey, returning to 1995 levels.
- ◆ Around half of women have knowledge that bleeding or lower abdominal pain are signs of pregnancy complications. Between 1997 and 1999 there was a significant increase in the proportion of mothers who could name at least three of four specified obstetric complications, largely related to greater awareness of bleeding as a danger sign.
- ◆ DISH IEC activities appear positively associated with increased knowledge of pregnancy complications among women according to 1999 data.
- ◆ Recognition of signs of pregnancy complications is much lower among men, with 28% reporting no knowledge of any sign in 1999 compared to 15% of women.
- ◆ Significantly more women received delivery care from nurse/midwives for their last birth preceding the 1999 survey compared to 1997 survey findings. Few deliveries (10%) are assisted by doctors, about the same percentage as observed in 1997.

Maternal Health

- ◆ Around three-quarters of women made at least three ANC visits during the course of their last pregnancy. There has been no change in this percentage between 1995 and 1999. One in twelve women interviewed in 1999 did not receive any antenatal care during the last pregnancy.
- ◆ Although there is a slight trend to an increasing proportion of births occurring at health facilities from 1995 to 1999, the increase was not significant.

Child Health

- ◆ The number of mothers who said six months is the ideal duration of exclusive breastfeeding increased sharply from 23% to 41% between 1997 and 1999. Almost as many fathers as mothers gave the same six-month ideal in 1999.
- ◆ Most children are breastfed during the first six months of life. While the number breastfed without supplement of other liquids or foods remains much lower, important increases are observed across 1997-1999 in the proportion of infants aged under six months breastfeeding exclusively.
- ◆ Women's knowledge of six months as the ideal duration for exclusive breastfeeding appears significantly associated with DISH IEC activities based on 1999 data. It may yet be too early to ascertain whether this has translated into significant change in six-month breastfeeding practices.
- ◆ According to the 1999 survey, few children 7-36 months of age consumed fruits and vegetables in the 24 hours preceding the survey indicating inadequate intake of micronutrient rich foods. However, about one-half of these children did eat meat, poultry or fish and about one-half ate beans or groundnuts on a daily basis.
- ◆ Only one-third of mothers in 1999 who had a child with diarrhea increased the child's fluid intake while slightly over one-half gave the child less food or stopped feeding completely.
- ◆ In 1999, 76% of children 12-23 months of age had received BCG, 53% had received 3 doses of polio, and 60% had received a measles immunization. These results were similar to those found in 1995. However, only 31% of infants in 1999 were considered to be fully immunized, primarily due to a decline in the percent of children receiving all three doses of DPT.

STDs and HIV/AIDS

- ◆ Although awareness of diseases transmissible through sex is almost universal, knowledge of signs and symptoms of an STD was not widespread in 1999.
- ◆ Infertility and miscarriage are the most widely known consequences of untreated STDs; a decline was observed between 1997 and 1999 in the number of women and men who know that STDs increase the risk of HIV infection.
- ◆ A significant increase in men's and women's knowledge of a place to obtain STD treatment occurred between 1997 and 1999. Despite this increase, there was no change in the percent of men and women with symptoms of an STD who sought professional treatment.
- ◆ Knowledge of abstinence and the use of condoms to prevent HIV continued to increase among men and women from 1995 to 1999.
- ◆ Ever use of condoms to prevent STDs or HIV increased significantly between 1995 and 1999 among men and women. Use of condoms varies by gender and by partner type. While few men and women report using condoms with a marital or cohabiting partner in 1999, 67% of men and 48% of women with a non-regular partner used a condom at their last sexual encounter.
- ◆ A significant increase in the proportion of men and women ever tested for HIV occurred between 1997 and 1999. Almost two-thirds of men and women who have not previously been tested for HIV expressed a desire to be tested in 1999.

Health Facilities

- ◆ Family planning services, STD treatment, antenatal care, and immunizations are all widely available in government health facilities in 1999. Emergency obstetric care is available in one-quarter of government facili-

ties, while HIV/AIDS testing is offered in over one-quarter of the facilities.

- ◆ The majority of private health facilities provide family planning and STD treatment, and about one-half offer maternal health services. Very few (less than 10%) provide immunization services according to the 1999 survey.
- ◆ Over 80% of government facilities had at least one DISH-trained staff providing family planning, STD treatment, maternal health, and child health services in 1999. Staff trained under DISH were also found in over 50% of NGO facilities and 20% of private facilities.
- ◆ Two types of contraceptives—pills and injectables—were continuously available during September 1999 in approximately three-quarters of government facilities. Other contraceptives were offered and were continuously available in only small percentages of government facilities.
- ◆ Stockouts of condoms and pills were much higher in 1999 than in 1997. In September 1999, over one-half of government facilities experienced a stockout of condoms and 23% experienced a stockout of pills. In contrast 12% of government facilities surveyed in 1997 had stockouts of condoms and 10% had stockouts of pills.
- ◆ Basic medical supplies for child health services, including Oral Rehydration Solution (ORS) packets, immunizations, and malaria drugs, were continuously available in over 80% of the government health facilities during September of 1999.
- ◆ Three-quarters of government facilities displayed the Rainbow over the Yellow Flower reproductive health signboard; almost 90% displayed a DISH family planning poster, and over 80% had posters advocating breastfeeding, HIV testing and counseling, and STD prevention in 1999.
- ◆ Socially marketed family planning methods are widely available. Of the drug stores and

pharmacies surveyed, 39% had the Pillplan brand of oral contraceptives, 23% had the In-jectaplan brand of injectables, and 56% had Protector condoms continuously available in September 1999.

Discussion of Findings

Over the course of the 1995 to 1999 period, the population residing in DISH districts has been characterized by several improvements in reproductive, maternal, and child health knowledge and practices.

The current use of modern family planning methods has increased significantly among all men and women between 1995 and 1999. The greatest increases were seen in the first two years of the project. Although use of modern methods continued to increase in the last two years of the project, the rate of increase had slowed, particularly in urban areas, and for women more so than for men. Much of the increase in family planning use is due to increases in use of the injectables and condoms, while there was actually a decline in the use of the pill during the last two years of the project. The decline in pill use and the slowing increase in use of other methods may be due, in part, to stockouts of family planning commodities at health facilities. There was little change in the percent of men and women using long-term and permanent family planning methods, not surprising as DISH I activities did not focus on promoting and increasing availability of these methods.

Among men, much of the increase in current use of modern family planning methods can be attributed to condom use. While the increase in the use of condoms is encouraging from the perspective of HIV and STD prevention, it is not clear whether men are consistently using condoms with their primary sexual partner for family planning purposes, despite the fact that many men report using condoms as their current family planning method. The use of other methods may be underestimated, as men may not always be aware that their partner is using a family planning method.

The gains in maternal health knowledge and behavior are fewer. Although the 1999 results indicate that there is a trend for pregnant women to

seek antenatal care earlier in the pregnancy, most women continue to make their first visit after the first trimester. While the majority of women attend the minimum recommended three antenatal care visits and almost all women make at least one antenatal care visit, this has been the case since 1995. There has been a slight trend toward an increasing proportion of women delivering at a health facility rather than at home; however, the increase is small and not significant. On a more positive note, there has been an increase during the last two years in women's knowledge of pregnancy complications.

DISH I program efforts in the area of child health were focused primarily on the promotion of six-month exclusive breastfeeding. Results from this report indicate that significant progress has been made in both mothers' knowledge of exclusive breastfeeding and in breastfeeding practices. As program activities in other areas of child health were not added until the second phase of the project, additional data on child health are useful for establishing baselines for monitoring and planning new interventions to be undertaken by the second phase of the project. Data collected in the 1999 survey indicate that improvements need to be made in the home management of childhood illness, particularly among children with diarrheal disease, and in increasing immunization coverage.

Another area where important strides have been made is in knowledge and practices related to the prevention of STDs and HIV. During the first four years of the DISH project, there were significant increases for men and women in knowledge and use of condoms for STD and HIV prevention. Condom use is particularly high during encounters with non-marital and non-cohabiting partners, encounters where the risk of infection is the greatest. In addition to greater use of condoms, HIV counseling and testing has become more widespread. An increase in the proportion of men and women who have ever been tested for HIV was seen, particularly from 1997 to 1999 when HIV testing was more widely available and promotion of HIV testing was occurring.

While DISH conducted a variety of activities in order to meet its program objectives, the activities that are most easily measured in population sur-

veys are those related to IEC. Findings from this report indicate that between 1997 and 1999, there was an increase in the proportion of men and women who report that they have been exposed to IEC messages, particularly on the radio. By 1999, the majority of men and women had heard radio advertisements about family planning, antenatal care, exclusive breastfeeding, STD prevention, and HIV testing and counseling. Based on the initial analyses presented in this report, IEC activities are associated with greater use of modern family planning, as well as increased knowledge of pregnancy complications, exclusive breastfeeding, and the use of condoms for STD/HIV prevention. While further analysis studies are required to definitively link IEC activities to changes in knowledge and behavior among men and women, these initial results are very encouraging.

DISH I also made tremendous efforts to train staff at health facilities to provide integrated reproductive health services. As a result, the majority of government health facilities and a significant proportion of NGO and private facilities have nurses and midwives that have received training in integrated reproductive, maternal and child health services. The availability of reproductive health services, most noticeably STD treatment services and HIV/AIDS counseling and testing, has also increased during the 1997 to 1999 period.

Although the DISH project works primarily with the public sector, results from the community and facility surveys indicate the important role of the private sector in providing health services in DISH districts. A large proportion of respondents in 1999 obtained services, such as family planning and sick-child care, from health facilities in the private sector. The majority of the private facilities surveyed were found to offer STD treatment and family planning, while about one-half offer antenatal services, delivery care, and HIV counseling.

In conclusion, positive changes related to reproductive, maternal, and child health have occurred in the DISH project districts between 1995 and 1999. In addition to an increase in availability of reproductive health services, there have been notable changes in knowledge and behavior, par-

ticularly in the areas of family planning, STD and HIV prevention and exclusive breastfeeding.

Chapter 1: Introduction

Uganda is located in the Africa Great Lakes region along the equator, in the heart of sub-Saharan Africa. It occupies 241,039 square kilometers and shares borders with Sudan in the north, Kenya in the east, Tanzania in the south, Rwanda in the southwest, and the Democratic Republic of Congo in the west. Uganda enjoys great access to bodies of water that include Lake Victoria and the River Nile, among others. The effects of high altitude and vast bodies of water combine to give Uganda a favorable tropical climate.

The population of Uganda, some 21 million inhabitants, consists of many tribes that belong to four major groupings, namely the Bantu, Nilotics, Nilo-Himitis, and people of Sudanese origin. Administratively, Uganda is divided into 45 districts, which are further subdivided into counties, subcounties, parishes, and subparishes. A Local Council (LC) politically and administratively oversees an area at each of these levels. The top-most council, at the district level, is designated LC-V while the lowest is LC-I. The capital city is Kampala.

1.1 Demographic and Health Profile of Uganda

Uganda exhibits many of the characteristics of a pre-demographic-transition regime, with a high total fertility rate of 6.9 lifetime children per woman, and an elevated infant mortality rate of approximately 100 deaths per 1000 live births. Only 7.8% of married women were using a modern contraception, even though 91.6% of women reported knowing about family planning methods according to the 1995 Uganda Demographic and Health Survey (UDHS).

Moreover, comparative studies suggest that Uganda has one of the highest adolescent pregnancy rates in sub-Saharan Africa. Teenage pregnancy is associated with higher morbidity and mortality for both the mother and child. In addition, teenage pregnancy has been associated with truncated educational opportunities for the mother, which itself can have a spiral effect on the

socioeconomic status of the individual, her household and hence, the child.

Although recent reports from the Uganda Ministry of Health point to a declining trend in mortality, this society is still among those countries hardest hit by the AIDS epidemic. Life expectancy is 43 years and young adult mortality is high, primarily due to the AIDS epidemic. There has, however, been a marked decline in HIV prevalence during the past decade. HIV prevalence in urban areas has dropped from 30% of pregnant women in 1990 to around 14% in 1998 (Uganda Ministry of Health).

Evidence from the UDHS suggests that about a third of children in Uganda are stunted, a condition that reflects failure to receive adequate food intake over a long period of time and is also affected by repeated episodes of illness.

Financial and geographical accessibility pose major constraints to health service use in Uganda. The World Bank reports that the average per capita income in Uganda is 320 US dollars. Many Ugandans strain to afford their medical care bills, and even when they can afford to pay, distance and poor means of transport can hinder a client's access to health services.

In addition, many health facilities have no doctor or medical assistant on staff, and are operated by nurses and midwives, or nursing assistants. In many rural areas, nurses and midwives are poorly remunerated and the quality of services may be affected accordingly. Until recently, availability of some services depended on the day of the week, as different health services were offered on each day. This entailed rather limited opportunities for clients attending clinics to get a broad range of services, such as receiving family planning methods at the same time as treatment for sexually transmitted infections.

Since 1989, the Government of Uganda has made tremendous progress towards addressing national population and health issues, including reproductive health issues. In 1989, the government estab-

lished a Population Secretariat within the Ministry of Planning that coordinates all population policies and programs in the country. In 1994 and with the guidance of this secretariat, Uganda adopted its first population policy that emphasizes reproductive health. Within this institutional framework, the government has commissioned numerous reproductive health projects. Implemented by various organizations, most have adopted the recommendation of the 1994 International Conference on Population and Development to provide integrated reproductive health services. Among these projects is the Delivery of Improved Services for Health (DISH) Project.

1.2 The DISH Project

The United States Agency for International Development (USAID), through a bilateral agreement with the Ugandan government's Ministry of Health, funds the DISH project, one of the largest reproductive health programs in Uganda. Focusing on about 30% of the population, the project operates in 12 of the country's 45 districts, namely, Jinja, Kampala, Kamuli, Kasese, Luwero, Masaka, Masindi, Mbarara, Nakasongola, Ntungamo, Rakai, and Sembabule.

The DISH project aims to increase service utilization and change behaviors related to reproductive, maternal, and child health by

- increasing the availability of integrated reproductive, maternal and child health services
- improving the quality of reproductive, maternal and child health services
- enhancing the sustainability of reproductive, maternal and child health services
- increasing knowledge and perceptions related to reproductive, maternal and child health

The first phase of the DISH project ran from June 1994 to September 1999. *Pathfinder International* was contracted to oversee the implementation of DISH I. Collaborating partners were *The Johns Hopkins University Center for Communication Programs (JHU/CCP)*, *The University of North Carolina Program for International Training in Health (INTRAH)*, and *E. Petrich and Associates*. This report focuses on monitoring the results of this first phase of DISH.

The DISH project is currently in its second phase, running from October 1999 to September 2002. *The Johns Hopkins University (JHU)* is the prime contractor. Implementing partners are *The University of North Carolina Program for International Training in Health (INTRAH)*, and *Management Sciences for Health (MSH)*.

The DISH Project carries out the following specific activities in order to achieve its objectives:

- ◆ *Ongoing training of nurses and midwives to equip them with skills needed for providing integrated reproductive and child health services.* Integrated services refer to a scenario where one health care provider can offer a client in need the whole range of reproductive and child health services, preferably during a single visit to a health facility. Through INTRAH, the DISH project had initially concentrated training in the service areas of family planning, maternal and child health (MCH), and sexually transmitted diseases (STD) and HIV/AIDS. Between 1995 and 1999, DISH-I trained at least one nurse or midwife in almost all of the 600 public health units within the project districts staffed with a nurse/midwife. The project regularly supervised these service providers in collaboration with the district authorities.

Training will continue in phase two under the same partner, INTRAH, but with an expanded scope to cover new service areas, namely, Long Term Permanent Methods (LPTM), Emergency Obstetric Care (EOC), Post Abortion Care (PAC), and Integrated Management of Childhood Illnesses (IMCI). Under DISH-II, supervision is being conducted by district health teams, with technical and some financial support from the project.

- ◆ *Continued support of Community Reproductive Health Workers (CRHWs).* Under contractual arrangements between Pathfinder International and selected community-based non-governmental organizations (NGOs), DISH-I trained and supervised 539 NGO Community Reproductive Health Workers in selected areas. These workers, through family visits, provide integrated reproductive health services at the community level. Through

similar contractual arrangements, DISH-II will continue working with one community-based organization, the Family Life Education Project (FLEP), that covers Jinja, Kamuli, Iganga and Bugiri districts.

- ◆ *Continued building capacity in Health Management Information System (HMIS) and Logistical Management Information System (LMIS).* Under DISH-I, Pathfinder International participated in the development of the HMIS and the LMIS for the Ministry of Health and supported all of the 12 project districts to computerize, manage, and monitor these systems. The DISH project compiles data for project monitoring and evaluation purposes from these systems. DISH-I identified 80 facilities for collection of project monitoring and evaluation data. Staff at these facilities, referred to as DISH Data Collection Points (DDCPs), received special training from DISH in recording and reporting data. Under DISH-II, this activity will continue under the new project component, Health Management and Quality Assurance (HM&QA), implemented by MSH.
- ◆ *Continued building capacity in financial management.* Under DISH-I, E. Petrich and Associates focused training in financial management on fee-for-service (FFS) schemes. Four hospitals in the Jinja, Masindi, Nakaseke, and Kiryandongo districts benefited from this training. In addition, 40 FFS trainers, around four per DISH district, received training. Under DISH-I, this activity wound up in late December 1998, earlier than the other phase-one activities. Interventions in health finance will now continue in DISH-II under the HM&QA component.
- ◆ *Ongoing Information, Education and Communication (IEC) activities.* The DISH projects conduct IEC activities through the JHU/CCP to increase reproductive and child health knowledge and encourage positive reproductive and child health attitudes and behaviors. Seven multi-channel IEC campaigns on five topics were conducted between 1995 and 1999, including (1) promoting use of modern family planning methods, (2) pre-

venting HIV infection among youth, (3) increasing knowledge and improving practices in breastfeeding and infant nutrition, (4) increasing utilization of STD treatment and HIV counseling and testing services, and (5) improving maternal health practices. The JHUCCP will continue with such IEC activities in DISH-II under the project component entitled Behavior Change Communication (BCC).

- ◆ *Continued project management, monitoring, and evaluation.* As the prime implementor under phase one, Pathfinder International conducted the monitoring and evaluation component of DISH-I, based on the periodic measurement of selected key indicators in the project districts. The first assessment of DISH project impact using data from the 1997 survey showed remarkable increases in use of modern family planning methods, increased use of STD/HIV services, better knowledge about child nutrition, and moderate improvement in use of antenatal care and delivery services. Data sources for these and other indicators included the HMIS, contractor records, a national Demographic and Health Survey, and the DISH Evaluation Surveys (DES) carried out in 1997 and 1999.

Under phase two, the new prime implementor JHUCCP, will continue with management, monitoring and evaluation activities through a dual DISH-II Management unit and Monitoring and Evaluation (M&E) unit. A number of indicators for the M&E component will be compiled through data drawn from sources including a third DISH Evaluation Survey, HMIS, and special studies.

- ◆ *Activities through other collaborating agencies, through grants or work contracts.* Under arrangements initiated in the DISH project's first phase, the AIDS Information Center (AIC) carried out HIV testing and counseling; The AIDS Support Organization (TASO) conducted care and support services for people with AIDS; the African Medical Research Foundation (AMREF) trained doctors and medical assistants in STD syndromic management; and the Johns

Hopkins Program for International Education in Reproductive Health (JHPIEGO) provided pre-service training for health service providers. In addition, the Social Marketing for a Change (SOMARC), project carried out social marketing of family planning methods including condoms, oral contraceptives and injectables.

Arrangements with AIC and TASO as well as with JHPIEGO will continue under DISH-II. The Commercial Market Strategies (CMS) project will undertake social marketing of contraceptive methods as well as STD treatment kits.

1.3 Evaluation Surveys

A series of surveys has been designed to measure changes in reproductive, maternal and child health knowledge and behavior in DISH project districts. Results from these surveys are used both to monitor the progress of DISH activities and to evaluate project impact.

The 1995 Uganda Demographic and Health Survey (UDHS) provides a number of demographic and health indicators for both DISH districts and districts not covered by DISH. The timing and the sample of the 1995 UDHS are such that the survey provides baseline information. A follow-on UDHS in 2000 will provide updated information on the population in DISH districts and the comparison population.

Meanwhile, the DISH Evaluation Surveys provide interim information on the health status in DISH districts. These surveys collected information on the reproductive health status of individuals and

services in these districts. Two survey rounds have so far been conducted, one in 1997 and a second in 1999. Each round consists of a DISH Community Survey (DCS) of men and women of reproductive age, and a DISH Facility Survey (DFS) of selected health facilities.

The 1997 DISH Evaluation Survey gathered information from 1,697 women aged 15 to 49 years, 900 men aged 15 to 54 years, and 173 health facilities in 11 of the original 12 project districts. (The twelfth, Kasese district, was omitted from the survey samples because of fieldwork security problems). The community survey was conducted in a subset of DHS clusters using a similar (albeit smaller) questionnaire to ensure comparability of results with those obtained from the DHS. Field work was conducted from September to November 1997.

Covering the same sampling areas and using a similar questionnaire as was used in the 1997 DES, the second round of the DES was implemented in 1999 during the same months. This survey collected information from 1,766 women, 1,057 men, and 478 facilities (292 health units and 186 drug stores and pharmacies). This second round of the community survey was designed with a slightly modified male sampling scheme to provide a larger sample size of urban men. Sample weights have been used in all analyses to account for the cluster sampling design, modification in the sampling of urban males, and differential non-response rates. In 1999, a different facility sampling scheme was used to reach a greater number and variety of health facilities to better reflect the whole service environment.

Further detail about the design and sample of the 1999 DISH Evaluation Survey is provided in Appendix B. Questionnaires are included in Appendix C. Results from the 1997 DES are available in the technical report, "Uganda Delivery of Improved Services for Health Evaluation Surveys 1997."¹ Likewise, information on the UDHS can be found in the report, "Uganda Demographic and Health Survey 1995", published by the Government of Uganda's Statistics Department and Macro International.²

1.4 DISH Evaluation Survey Report

The primary objective of this report is to present and compare trends of selected reproductive, maternal, and child health indicators in DISH districts in order to monitor the progress of DISH I from 1995 to 1999. A secondary objective is to provide baseline data for DISH II for both program monitoring and planning. The focus of this report is on the reproductive, maternal, and child health indicators obtained from surveys that are used by USAID and by the DISH project to monitor and evaluate the program.

The 1995 UDHS and the 1997 and 1999 DISH Evaluation Surveys gathered information from representative samples of women aged 15-49 years and of men aged 15-54 years on their reproductive health knowledge, attitudes, and practices. Results from these three surveys from respondents living in DISH districts (except Kasese) are presented in this report. Results are often accompanied by tables or figures to illustrate changes in reproductive health outcomes over the course of implementation of DISH-I project activities.

¹ Copies of the 1997 DISH Evaluation Survey report are available via the Internet through the MEASURE Evaluation website <www.cpc.unc.edu/measure>, or upon request by writing to: Delivery of Improved Services for Health, Plot 20 Kawalya Kaggwa Close, Kampala, Uganda.

² Copies of the 1995 UDHS report are available upon request, by e-mail at <reports@macroint.com>, or by writing to: Macro International, Demographic and Health Surveys Publications Clerk, 11785 Beltsville Drive, Calverton, Maryland 20705, United States of America.

In comparing changes in findings between 1995 and 1999, statistical tests were conducted to assess whether reported changes among those surveyed reflect real changes, or whether differences seen are due simply to sampling variability. While some differences in outcomes may appear across surveys, this may be due to chance alone because of small sample sizes, rather than reliably indicating any real changes. For the present analyses, chi-square testing is used to determine whether observed changes over time are statistically significant. Results described as being significant indicate that the observed changes are likely to reflect real changes in the population with 95% certainty.

The focus of the analysis is on reporting changes in reproductive, maternal, and child health indicators from 1995 to 1999. In some cases, however, we have tried to link DISH program inputs, such as IEC efforts, with population level characteristics such as reproductive health knowledge or behavior. Further analysis studies are planned to better elucidate the impact of DISH program efforts, including facility level inputs, on population level outcomes.

Chapter 2: Characteristics of Survey Respondents

2.1 Age Distribution of Respondents

The 1995 Uganda Demographic and Health Survey (UDHS) and the 1997 and 1999 DISH Evaluation Surveys (DES) gathered information from representative samples of women aged 15-49 years and of men aged 15-54 years on their reproductive health knowledge, attitudes, and practices. Individuals' background characteristics, including age at the time of the survey, were also compiled.

Table 2.1 summarizes the surveyed populations living in districts served by the DISH project (excluding Kasese) by five-year age groups. The age distribution of these samples remained similar across the surveys. Respondents tended to be young, women more so than men. The addition of the 50 to 54 year-old age bracket spreads out the age distribution for men. About 45% of the women and 40% of the men were between 15 and 24 years old. Women above 40 years old constituted between 10% to 12 % of each sample while men of that age category constituted 15% to 18%.

2.2 Socio-Demographic Characteristics

In addition to age, survey respondents were asked for a number of socio-demographic background characteristics including place of residence, language, educational attainment, marital status, and fertility.

Table 2.2 distributes respondents by the DISH districts where they reside. Some of the districts have been grouped together, both in order to ensure sufficient numbers of cases to give reliable estimates for the results, and to maintain comparability over time. (Since the sampling of the 1995 UDHS, three of the districts have each split into two separate units.) The table shows that the distributions by regions are generally comparable across the surveys for both sexes. Kampala is the largest district, and many of the respondents live in the southern DISH areas of Mbarara/Ntungamo and Masaka/ Sembabule.

Table 2.1
Percentage Distribution by Age Group of Respondents Residing in DISH Districts
(except Kasese) according to Year of Survey

Age Group	Women			Men		
	1995	1997	1999	1995	1997	1999
15 - 19	23.3	22.1	21.8	19.0	21.2	22.3
20 - 24	21.4	24.5	23.1	19.1	18.3	17.7
25 - 29	18.9	17.8	19.7	18.5	19.6	19.5
30 - 34	14.4	13.3	12.6	15.4	13.1	14.3
35 - 39	9.7	11.4	10.7	11.3	10.1	8.7
40 - 44	7.0	6.0	7.7	7.0	8.0	7.1
45 - 49	5.3	4.5	4.3	5.5	4.6	6.4
50 - 54	-	-	-	4.2	5.1	4.0
Total	100 (N=2316)	100 (N=1697)	100 (N=1766)	100 (N=663)	100 (N=900)	100 (N=1057)

The majority of respondents, over two-thirds, in each of the three surveys reside in rural areas. Conversely, no more than one-third live in urban areas. The urban population is heavily concentrated in Kampala. Jinja is the second most urbanized district, while the remaining districts are each predominantly rural.

The most common language spoken in areas served by the DISH project is Luganda, followed by Runyankole-Rukiga.

Education is grouped into three categories in this report: no formal education, primary, and secondary or over. Respondents with one to seven years of schooling are included in the primary education category, while those with more than seven years are considered to have secondary or higher education. Men fare better than women in terms of educational attainment, a situation that is hardly changing over the years. The proportion of women without any formal education (just under one in four across the surveys) is twice that of men (around one in eight). Conversely, men are substantially more likely to have reached the secondary or higher level.

The distribution of the male and female samples in terms of marital status did not change much across the years. About 67% of the women were currently married at the time of the survey, while slightly less than 60% of the men were married. Conversely, at most one woman in five had never

married, while a greater proportion of men (around a third) had never been married. The proportion of formerly married remained comparable over the years among men (ranging around 7-9%) and women (around 13-15%), although at a higher level among women.

Higher overall marital rates among women suggest that women may tend to get married at a younger average age compared to men. Moreover, the higher rates among women may be partly due to the practice of polygyny. Some 15% of men and just over 30% of women in DISH districts report their current unions as polygynous.

As seen in Table 2.2, the great majority of women surveyed had given birth to at least one child: 77% in 1999, essentially the same percentage as observed in 1997 and in 1995. This compares to around 60% of men who had ever fathered a child. The number of large families (five children or more) seems to be declining over time for both sexes.

The surveys also collected information concerning maternal and child health from women who had given birth in the three years preceding the survey. Around half of all women reported having given birth within the last three years: 47% in 1999. This was just slightly lower than the 52% observed in 1995 and in 1997.

Table 2.2
Percentage Distribution of Respondents by Selected Socio-Demographic Characteristics

Background Characteristic	Women			Men		
	1995	1997	1999	1995	1997	1999
DISH Area						
Jinja	7.4	6.4	7.2	7.3	6.8	8.5
Kampala	26.0	24.4	21.3	26.1	25.9	20.2
Kamuli	10.3	9.0	14.0	8.4	9.1	12.3
Luwero/Nakasongola	7.0	8.9	9.0	8.1	10.4	10.5
Masaka/Sembabule	16.8	17.9	18.8	18.4	16.6	18.8
Masindi	4.5	4.8	6.6	5.3	4.1	6.7
Mbarara/Ntungamo	20.1	21.1	18.2	19.2	22.0	18.1
Rakai	7.9	7.5	4.9	7.2	5.1	4.9
Total	100	100	100	100	100	100
Residence						
Rural	67.3	66.5	69.9	67.1	66.3	71.8
Urban	32.7	33.5	30.1	32.9	33.7	28.2
Total	100	100	100	100	100	100
Language Spoken						
Luganda	37.0	46.4	43.1	33.8	42.4	49.7
Runyankole-Rukiga	26.9	25.1	23.1	26.8	26.1	19.5
Runyoro-Rutoro	3.9	3.5	3.7	4.4	5.4	3.0
English	0.1	0.3	0.4	0.2	0.2	0.7
Other	32.1	24.7	29.7	34.8	25.8	27.1
Total	100	100	100	100	100	100
Education						
No Education	22.3	24.6	22.0	11.0	13.9	11.3
Primary Schooling	57.0	53.6	54.0	53.7	55.8	52.3
Secondary or over	20.7	21.8	24.0	35.3	30.3	36.4
Total	100	100	100	100	100	100
Marital Status						
Never Married	18.5	17.6	21.1	32.9	32.7	35.1
Currently in Union	67.3	67.4	65.7	59.6	58.6	57.8
Formerly in Union	14.2	15.0	13.2	7.5	8.7	7.1
Total	100	100	100	100	100	100
Children Ever Born						
Has no children	21.9	21.1	23.0	37.3	39.5	39.5
Has 1-2 children	28.5	31.3	30.0	19.7	20.9	21.7
Has 3-4 children	19.2	23.9	22.7	14.0	17.8	18.6
Has 5 or more children	30.4	23.7	24.3	29.0	21.8	20.2
Total	100	100	100	100	100	100

Figure 2.1: Percentage Distribution by Age Group of Youngest Child Born in the Three Years Preceding the Survey

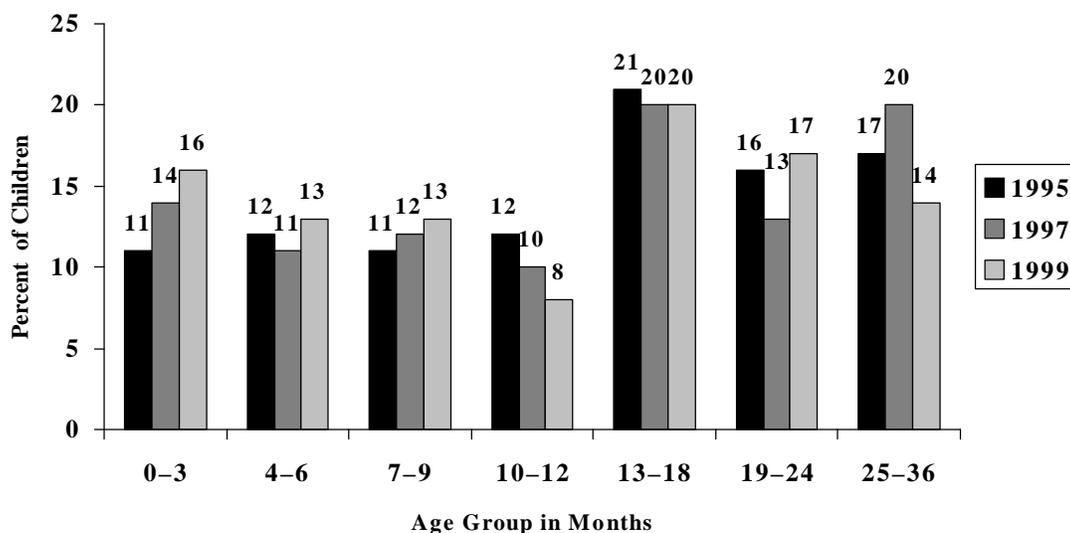


Figure 2.1 presents the age distribution of the youngest child born in that interval for each survey. There is little important difference in the age structure of these infants, except for a somewhat greater proportion of children aged 3 months or younger in the 1999 survey, versus a few less aged 25-36 months.

2.3 Visits to Health Facilities

In order to better understand the health behavior of individuals, surveyed women were asked whether they had visited a health facility for any reason in the previous 12 months. Nearly two-thirds (62%) interviewed in 1999 reported they had. This marked a significant increase since the time of the 1995 UDHS, when only one-half had. Table 2.3 presents the distribution of respondents by whether they had recently visited a health facility according to the DISH district where they live. Most districts showed increases in the percentage of women visiting health facilities between 1995 and 1999, particularly Kampala, Kamuli, and Luwero/Nakasongola. Although some changes are observed in the areas of Masaka/Sembabule and Masindi, they are not

statistically significant due to the small sample sizes.

In addition to interviews with women and men of reproductive age, the DISH Evaluation Surveys each included a facility survey component. These facility surveys independently compiled information on the general characteristics, services provided, staff training, availability of commodities and supplies, and IEC activities for a sample of health facilities servicing DISH districts. The 1999 survey also included a module for pharmaceuticals and drug shops. Results from the DISH Facility Surveys are presented in detail in Chapter 8.

Table 2.3
Percentage of Women Having Visited a Health Facility for
Any Reason Within the Previous 12 Months by DISH
District

DISH Area	1995	1997	1999
Jinja	75	44	77
Kampala	53	62	71
Kamuli	56	70	66
Luwero/Nakasongola	39	62	62
Masaka/Sembabule	50	56	61
Masindi	39	64	59
Mbarara/Ntungamo	47	42	48
Rakai	35	71	47
Total	50.2	56.9	62.0

Chapter 3: Information, Education and Communication

3.1 Summary

The 1995 DHS and the 1997 and 1999 DISH Evaluation Surveys collected information on women's and men's exposure to information, education and communication (IEC) reproductive health messages via various media. The DISH surveys also obtained data on specific DISH-sponsored IEC messages in order to assess whether these campaigns are reaching their intended audiences, as well as information on the population's mass media habits (radio listening, television and video viewing) in order to understand which groups are reached through various channels.

The main observations include

- ◆ Men generally tend to be exposed to the range of reproductive health IEC messages in the media more often than women. This is likely related to the tendency among men to listen to the radio and watch television or videos more frequently than women.
- ◆ Women's and men's reported exposure to family planning IEC messages via radio, posters, and newspapers increased significantly over the four-year period from 1995 to 1999.
- ◆ Fewer women and men report hearing radio advertisements about socially marketed family planning commodities (Protector condoms and PillPlan oral contraceptives) in 1999 than in 1997.
- ◆ Significant increases in exposure to IEC messages about antenatal care and about sexually transmitted diseases occurred between 1997 and 1999 for men and for women.
- ◆ Radio messages regarding child nutrition and breastfeeding, as well as regarding services for HIV testing and counseling, were heard by the majority of men and women surveyed in 1999.

- ◆ Over three-quarters of women and men had seen or heard of the "Yellow Flower" family planning logo and the more recently introduced "Rainbow over the Yellow Flower" family health logo in 1999.
- ◆ Listenership to the DISH-sponsored "Choices" reproductive health radio program, broadcast weekly on Radio Uganda, decreased among women and men over the period 1997-1999. The change follows shifts in the audience share away from this government radio station to newer alternative stations.

3.2 DISH Activities in IEC

Since 1995, the DISH Project has launched multi-media campaigns on various health topics. Prior to the 1997 DISH survey, the project implemented two campaigns—one promoting family planning services at the sign of the "Yellow Flower" logo, and a simultaneous "Safer Sex or AIDS" campaign encouraging safer sex practices among youth to prevent HIV transmission. In 1997, the project assisted the Ministry of Health to design, distribute and publicize the "Rainbow over the Yellow Flower" symbol to identify health facilities offering a full range of family health services, including family planning, antenatal and postnatal care, immunizations, STD management, and HIV counseling.

With the new symbol in place, the project launched two new campaigns in 1998 directing couples to the Rainbow logo for antenatal care and STD treatment. The maternal health campaign promoted early and repeated antenatal care during pregnancy, and recognition of four warning signs of serious obstetric problems. The STD campaign educated men to treat STDs properly. Both campaigns were launched in March 1998, and were at their highest level of intensity with both community-based and mass media messages until November 1998, when all but the radio spots were discontinued.

In March 1999, the DISH Project introduced two new campaigns—one promoting newly established HIV counseling and testing services and the other renewing efforts to increase contraceptive use. Both campaigns employed a combination of community level, print and electronic media. At the time of the 1999 DISH survey, these two campaigns were still in their intensive phases.

In June 1999, the project launched a final campaign promoting exclusive breastfeeding for the first six months of life and appropriate introduction of complementary foods thereafter. Messages were disseminated through radio and print materials only.

Most campaigns included a mix of radio, television, print and community education activities such as drama performances, video shows, community meetings, and sporting events as well as training and client education materials such as flipcharts and cue cards. All materials are produced in three or four languages. The project also produced a weekly radio program called “Choices”, starting in November 1996, which integrated messages from each campaign.

3.3 Mass Media Habits

To design effective communication interventions, it is important to know the media habits of various audiences. The 1995 UDHS and 1997 and 1999 DISH surveys asked about frequency of listening to the radio, and the 1999 survey asked additional questions about frequency of viewing television and films or videos. In addition, both the 1997 and 1999 DISH surveys asked respondents which radio stations they listened to most; and the 1999 survey asked which television stations respondents viewed most often.

3.3.1 Radio Listening Habits

The majority of men and women surveyed listen to the radio on a daily basis and an increase in frequent radio listenership has occurred since 1995, particularly for men (Figures 3.1 and 3.2). In fact, in 1999, 73% of women and 87% of men listened to the radio at least once a week. However, over twice as many women as men reported that they rarely or never listen to the radio.

Figure 3.1: Percentage Distribution of Women by Frequency of Listening to the Radio

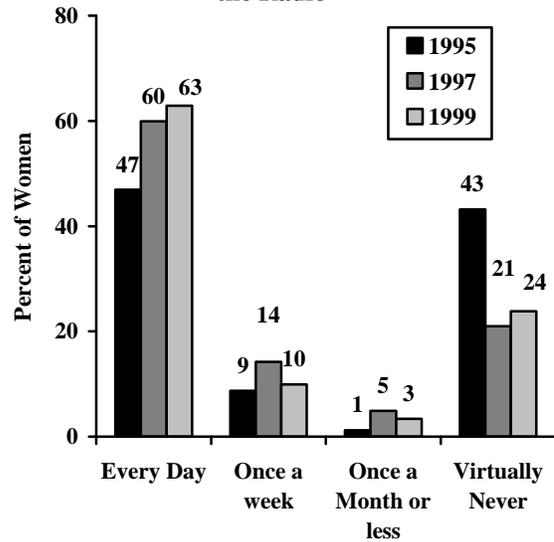


Figure 3.2: Percentage Distribution of Men by Frequency of Listening to the Radio

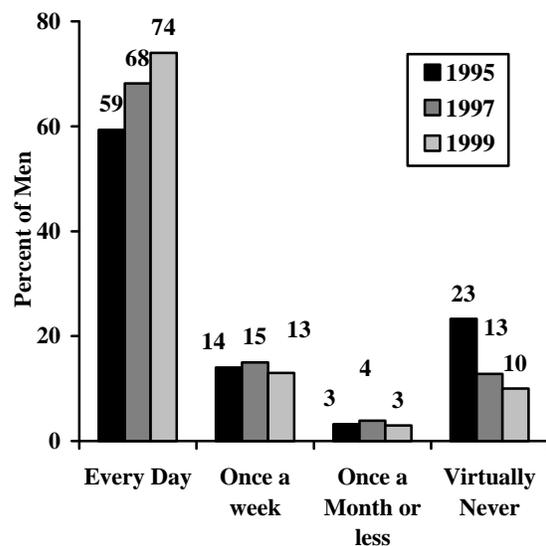
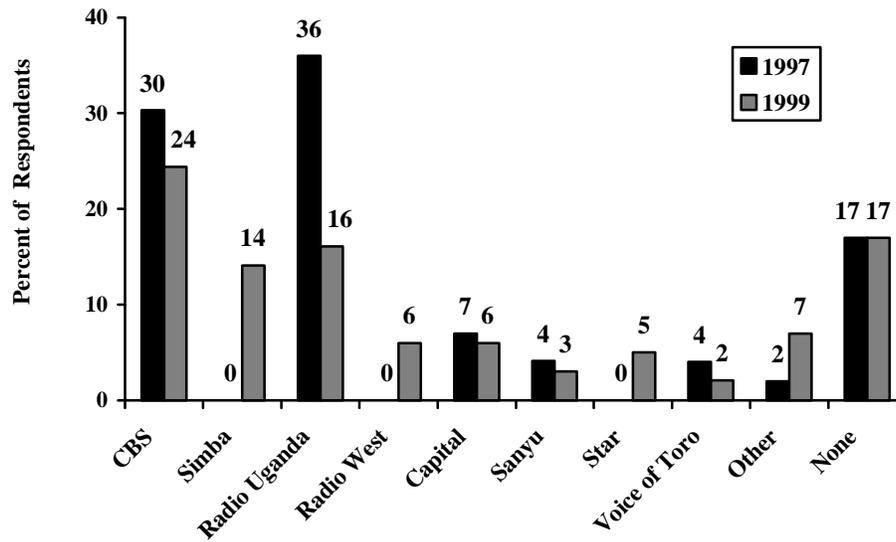


Figure 3.3: Percentage Distribution of Respondents by Radio Station Listened to Most Frequently



With a rapidly increasing number of radio stations in Uganda, it is important to know which stations attract the largest listenership and the audience characteristics for each so that radio messages can be scheduled for maximum reach and frequency.

Between the 1997 and 1999 surveys, the number of radio stations doubled to nearly a dozen. Figure 3.3 presents data for the radio stations listened to most frequently. According to the 1999 DES, the three most popular stations among men and women in the survey districts were Central Broadcasting Services (CBS), an FM station operated by the Kingdom of Buganda; Radio Simba, a relatively new privately owned radio station; and Radio Uganda, the government shortwave station. With the increasing number of alternative radio stations since 1997, listenership to Radio Uganda has declined sharply. In the surveyed districts, Radio Simba has taken much of its audience from Radio Uganda and CBS listeners.

The characteristics of women who reported usually listening to the same three most popular stations—CBS, Simba, and Radio Uganda—varied (Figure 3.4). While Radio Uganda catered to predominantly rural and less educated audiences,

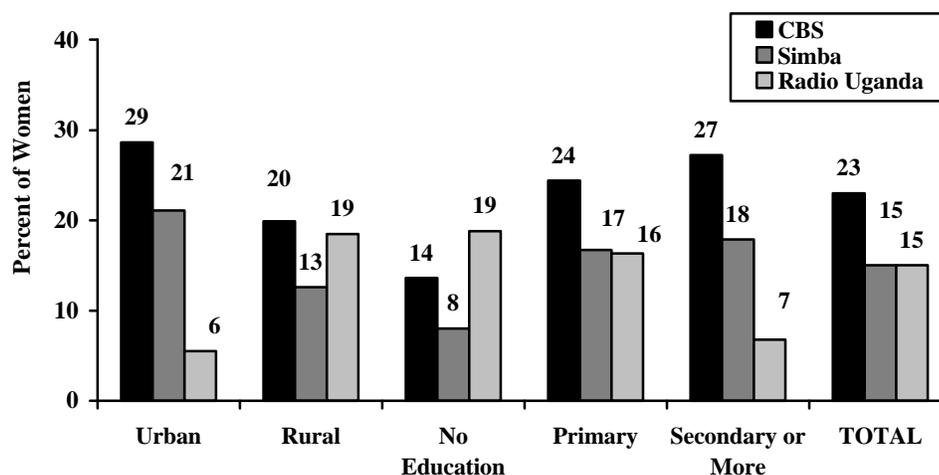
Radio Simba and CBS were more popular among educated and urban women, especially the latter station.

Moreover these stations are also differentiated by language. Radio Uganda had its largest audience among Runyankole speakers; while Radio Simba and CBS were most popular among Luganda speakers. Patterns were similar for female and for male listeners.

It should be noted that these results do not fully capture radio listenership because the DISH surveys only collected data regarding the single radio station that a respondent listened to most frequently. Many individuals undoubtedly listened to more than one station, but no information is available on each station's entire audience.

The most popular time for listening is in the early evening, around 7 to 9 p.m. For a more complete table of results regarding radio listening habits among respondents to the 1999 DES, including a detailed demographic profile of the audiences by the most popular stations, as well as listening times, see Appendix A.

Figure 3.4: Percent of Women Who Usually Listen to Select Radio Stations by Residence and Education, DES 1999



3.3.2 Television and Video Viewing Habits

Television, films and videos are powerful media that have become more widely available in Uganda over the past years. In order to plan an appropriate mix of media for behavior change communication campaigns, it is important to know how wide an audience and what types of audiences are reached by these media. For the first time, data were collected on television and video viewing habits during the 1999 DISH survey.

Between 1995 and 1999, the number of local television stations increased from one to four. There are also a number of international stations that broadcast in Uganda. Moreover, according to market surveys, the number of television sets in Uganda jumped four or five times over that period.

As seen in Figure 3.5, however, fewer than one in six respondents surveyed in the 1999 DES watch television on a daily basis, and 78% of women and 69% of men rarely or never watch television.

Among those respondents who do watch television, over 61% cited UTV, the government-run station, as the station they watch most frequently. Another 18% most often watch the new private station Wavamunno Broadcasting System or WBS, while 13% watch the private station Sanyu and 7% watch other stations. Urban residents and those with more education watch television the most frequently. The most popular viewing times are in the evening; very few respondents indicated they watch television before 7 p.m. For detailed information on the demographic characteristics of television audiences by the most popular stations and by viewing times, see Appendix A.

In 1999, 49% of men and 26% of women had seen a video or film in the previous 12 months. Figure 3.6 shows locations where men and women most commonly viewed videos or films. Interestingly, while women were most likely to view videos and films in private homes, men were most likely to view them at video clubs (small theaters where videos are shown).

Among both men and women, videos are more likely to be viewed by urban than rural audiences; and viewership increases with age and educational level.

3.4 Exposure to IEC Messages

Between the 1997 and 1999 DISH surveys, the project produced multi-media messages on family planning, antenatal care, breastfeeding, STD treatment and prevention, and HIV counseling and testing. The campaigns employed community activities, radio spots, and videos shown on television, at video clubs and by video vans. Posters, flip charts for service providers, and a “Health Matters” newsletter were distributed to health facilities. Newsletters were also distributed through the newspapers and during community events. All materials advised couples to visit health facilities with the “Yellow Flower” or “Rainbow over the Yellow Flower” for information and services. In addition, from 1996 through 1999, the project produced and broadcast a weekly radio program in three languages called “Choices” that integrated family health messages.

In order to assess the extent to which men and women were reached by campaign messages, respondents were asked whether or not they had heard, read or seen messages on these topics, or listened to the “Choices” program, during the six months prior to the interview. In addition to DISH activities, other national programs and campaigns on similar topics may be partly responsible for levels of exposure, particularly in the area of family planning IEC messages before the inception of the DISH project.

3.4.1 Family Planning IEC

To promote family planning services, the DISH project implemented a two-phase multi-media campaign. The first wave of DISH-sponsored activities and materials took place between 1996 and the end of 1997. The second phase of the campaign was launched in early 1999 and was in full swing when the 1999 survey took place.

Figure 3.5: Percentage Distribution of Women and Men by Frequency of Watching Television, DES 1999

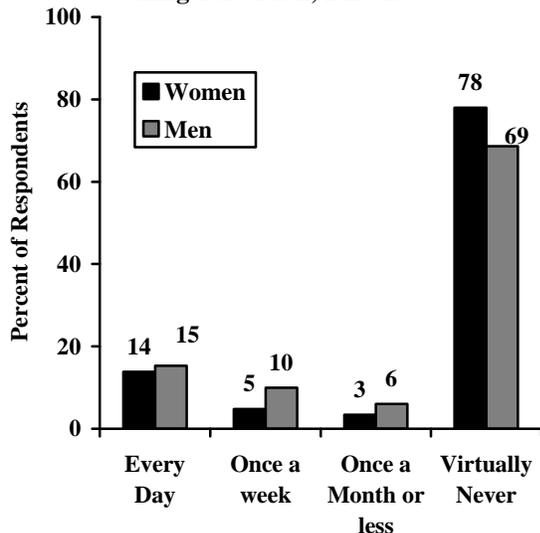


Figure 3.6: Percentage Distribution of Locations Where Men and Women Usually Watch Videos or Films, DES 1999

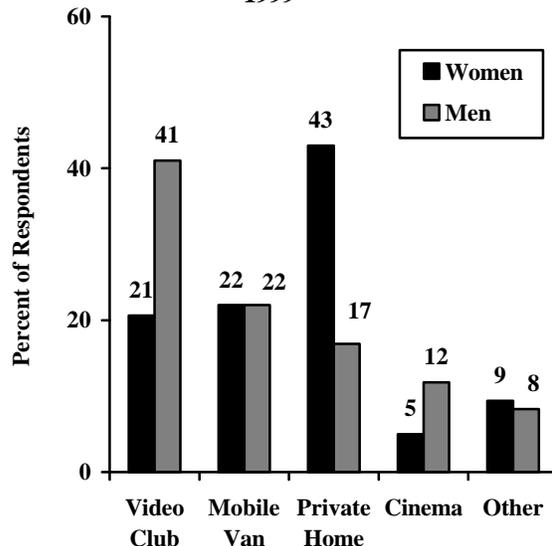


Figure 3.7: Percentage of Women Reporting Exposure to Family Planning Messages in the Last 6 Months via Various Media

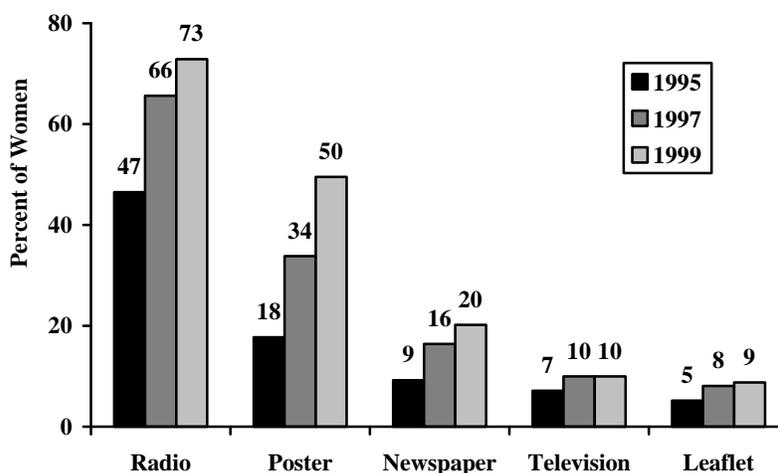


Figure 3.7 shows the percentage of women who report being exposed to family planning IEC messages via the different media during the six months before the survey. From 1995 to 1999 there was a significant increase in reported exposure among women via radio, posters, and newspapers. As presented in Figure 3.8, a similar trend can be seen for men. Moreover, the greatest increases in exposure for men were seen during the latter two-year period 1997-1999, where significant increases were noted via most media: radio, posters, newspapers and television. Overall, men were more likely to have heard these messages than women, not surprisingly, as men in general tend to listen to the radio and watch television more often.

The DISH surveys further collected information on specific family planning messages heard on the radio. Although general exposure to family planning IEC messages had increased between 1997 and 1999, as seen in Figure 3.9 fewer women had heard messages for socially marketed family planning methods. There was a small decline in the percent of women who had heard an advert for Protector condoms, and a significant

decline for Pillplan oral contraceptives. Less than one woman in five had heard an advert for the new Injectaplan brand of injectables in 1999. While messages for family planning services were more commonly heard, by nearly half of women, there was no significant increase over the period 1997-1999.

As with women (Figure 3.9), there was a significant decline in the percentage of men having heard Pillplan adverts between 1997 and 1999 (Figure 3.10). The percentage who recalled hearing adverts for Protector condoms or for family planning services remained relatively stable over the period.

Figure 3.8: Percentage of Men Reporting Exposure to Family Planning Messages in the Last 6 Months via Various Media

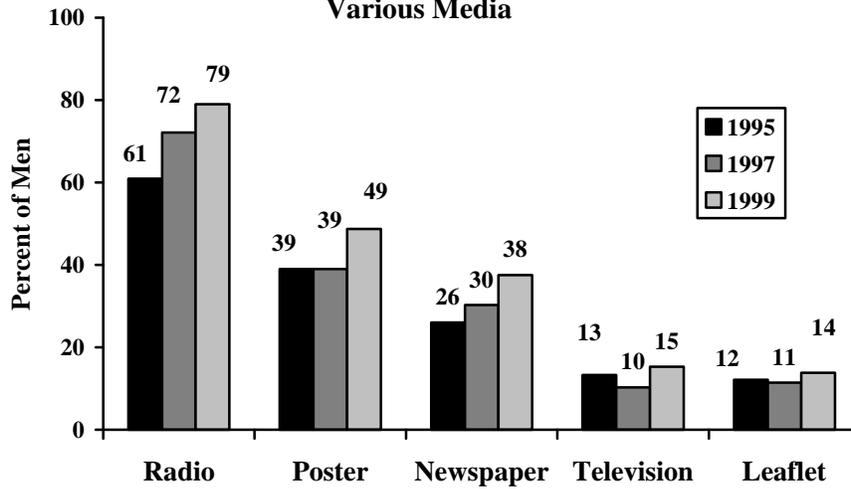


Figure 3.9: Percentage of Women Having Heard Specific Family Planning IEC Advertising on the Radio

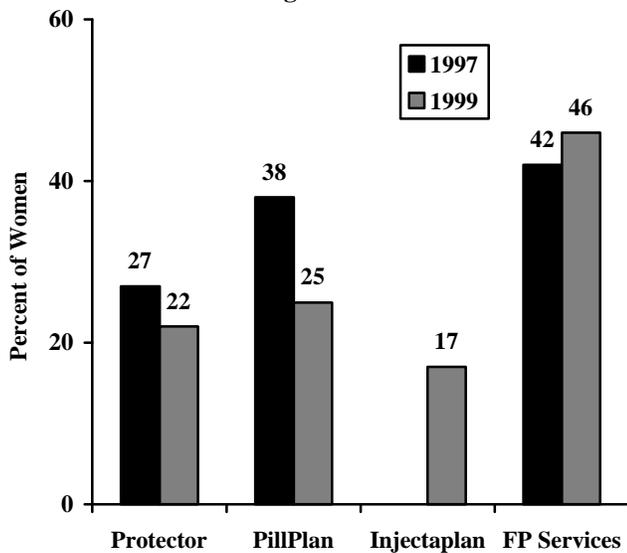
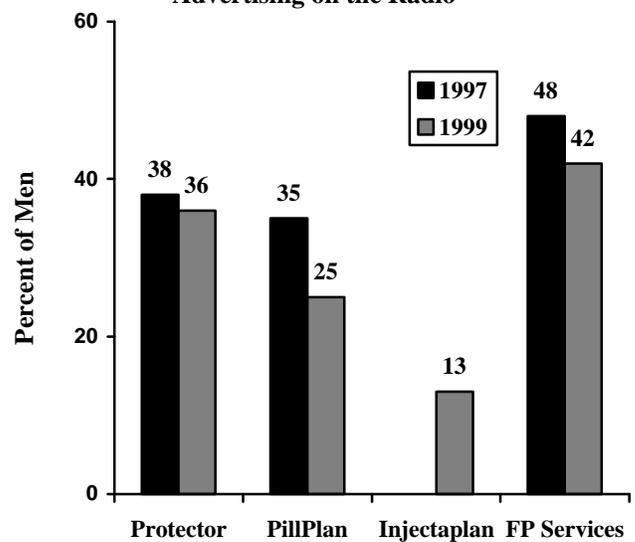


Figure 3.10: Percentage of Men Having Heard Specific Family Planning IEC Advertising on the Radio



3.4.2 Antenatal Care IEC

In 1998, the DISH Project launched a multi-media campaign intended to encourage women to go for antenatal care early during pregnancy and to seek care from a health professional at least three times over the course of pregnancy, and to increase knowledge in recognizing four signs of pregnancy complications indicating that a woman requires immediate medical attention.

The DISH evaluation surveys included questions about exposure to antenatal care messages on various media. The results for women are presented in Figure 3.11. Exposure to messages about antenatal care via the radio and posters significantly increased between 1997 and 1999. There was no change in reported exposure to ANC messages on the television or through leaflets, neither of which, however, were produced by DISH.

More men than women heard antenatal care messages on the radio. In 1999, nearly three-quarters (72%) of men had heard an ANC radio message, compared to two-thirds (65%) of women. This trend follows the tendency for men to listen to the radio more often than women. Men's likelihood of seeing an ANC message on a poster was about the same as for women: 32% compared to just under 35%.

3.4.3 Breastfeeding and Infant Nutrition IEC

In June 1999, the project launched a print and radio campaign on child health and nutrition targeting women of childbearing age. Materials promoted exclusive breastfeeding for the first six months of an infant's life and appropriate introduction of complementary foods thereafter. Results for women and men from the 1999 DISH survey are reported in Figure 3.12. Over one-half of both men and women had heard a radio message about breastfeeding. Interestingly, women were almost equally as likely as men to report being exposed to breastfeeding messages in all media with the exception of television and newspapers. Exposure to all media was lower than for other campaigns, probably because the campaign had only been launched two months before the time of the survey.

3.4.4 Sexually Transmitted Diseases IEC

In 1998, the DISH Project launched an intensive campaign intended to encourage proper treatment of sexually transmitted diseases. To evaluate this campaign, the DISH surveys included questions about exposure to messages about sexually transmitted infections via various media. (While the campaign focused on treatment of STDs in particular, the survey question did not differentiate STDs from HIV/AIDS.)

At the time of the 1999 DISH survey, over 85% of men had heard an STD message on the radio in the previous six months. Figure 3.13 shows an increase in exposure among men to almost all types of STD messages between 1997 and 1999. Only the increase in reported exposure via leaflets was not statistically significant.

Although increases in exposure to STD messages via the radio were also seen for women over the period 1997-1999, the overall level of exposure was lower compared to men: 65% and 73% in 1997 and 1999 respectively. The same trend held for the rate of women's exposure via posters: 26% in 1997 versus 34% two years later. At the same time the percentage of women exposed to STD messages on the television, in newspapers and in leaflets remained low and relatively stable (at around 9%, 19% and 8% respectively).

3.4.5 HIV Counseling and Testing IEC

In 1999, the DISH Project launched a new multi-media campaign in collaboration with the AIDS Information Centre to increase utilization of HIV Voluntary Counseling and Testing (VCT) services at thirty rural counseling and testing sites throughout the project districts. The campaign was designed primarily for men and secondarily for their sexual partners.

Figure 3.14 shows the results of questions about exposure to various media with VCT messages. Since the campaign had not yet been designed in 1997, questions were only asked in 1999. Over 86% of men had heard a message about VCT on the radio and just under one-half had seen a poster or newspaper article about VCT.

As with most IEC media materials, men were more likely than women to be exposed. Nonetheless, almost three-quarters of women reportedly heard a radio spot about VCT in the

previous 6 months, which is similar to the proportion who had heard the family planning radio spots.

Figure 3.11: Percentage of Women Reporting Exposure to Antenatal Care Messages in the Last 6 Months via Various Media

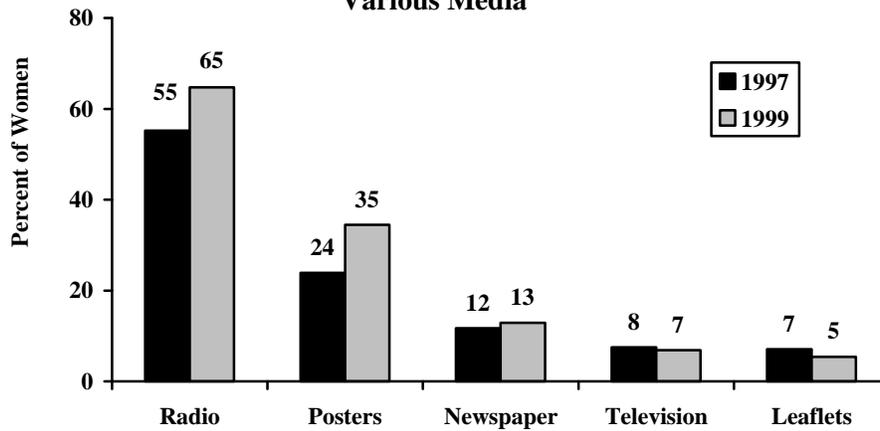


Figure 3.12: Percentage of Women and Men Reporting Exposure to Breastfeeding Messages in the Last 6 Months via Various Media, DES 1999

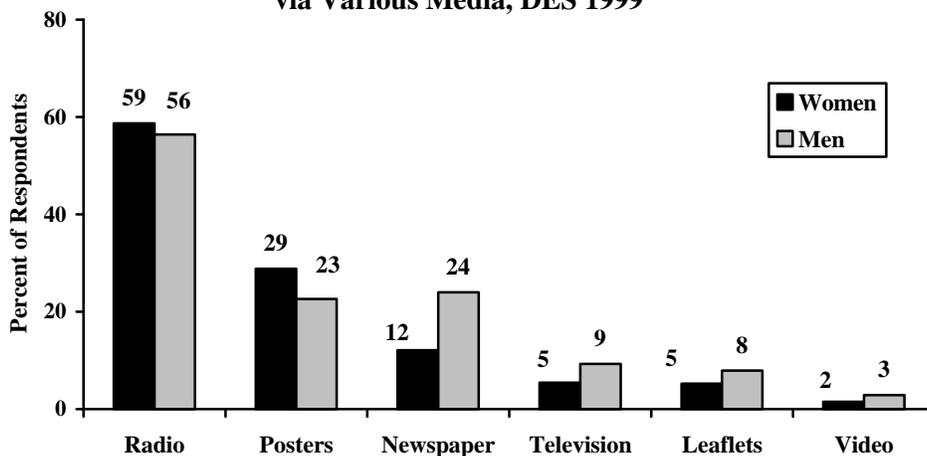


Figure 3.13: Percentage of Men Reporting Exposure to STD Messages in the Last 6 Months via Various Media

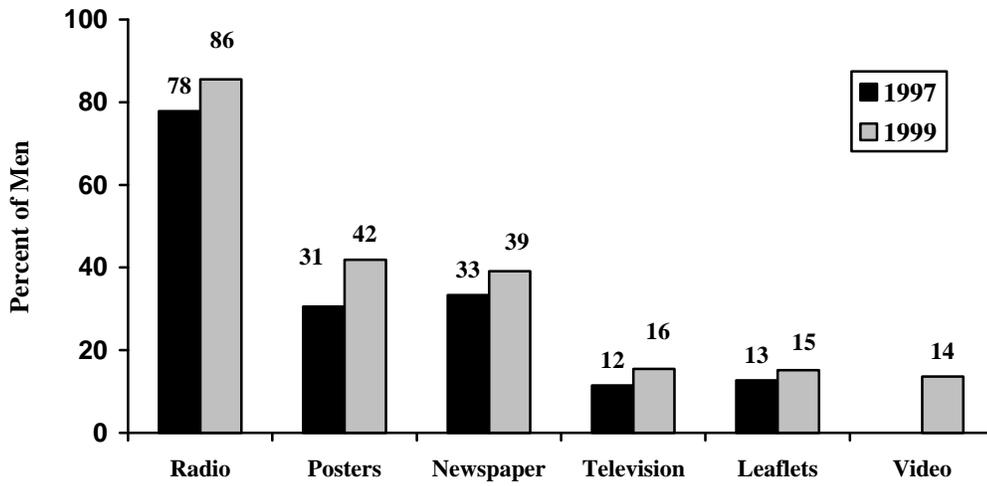
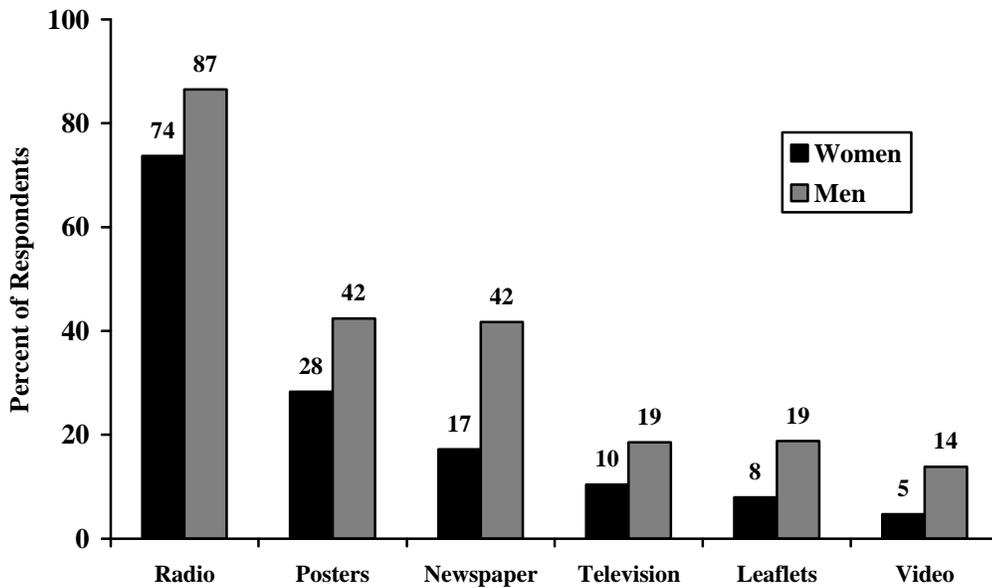


Figure 3.14: Percentage of Men and Women Reporting Exposure to HIV Counseling and Testing Messages in the Last 6 Months via Various Media, DES 1999



3.4.6 Family Planning and Reproductive Health Logos

The DISH project advises couples to visit health facilities with the “Yellow Flower” logo for family planning services and the “Rainbow over the Yellow Flower” logo for integrated family health services. The Yellow Flower logo was launched in 1994 while the Rainbow logo was subsequently released in late 1997.

Over three-quarters of survey respondents recognized both the Yellow Flower logo and the Rainbow logo in 1999. As can be seen from Figure 3.15, recognition of the Yellow Flower logo increased over the previous two-year period for both men and women.

3.4.7 “Choices” Radio Program

Since 1996, the DISH Project has produced and broadcast the weekly half-hour radio magazine program, “Choices”. Initially developed to promote family planning, the project began integrating other family health messages in the program in 1997 when the Rainbow reproductive health logo was launched. The “Choices” program is broadcast on Radio Uganda in three

languages and is largely intended for rural men and women in their reproductive years.

Between 1997 and 1999, the percentage of women having listened to Choices decreased significantly (Figure 3.16). Some 29% of women interviewed in 1999 had heard the program, down from 38% two years earlier. Over the same period, exposure for men also dropped somewhat, but the change was not statistically significant. This general decrease in listenership may be associated with the shift in popularity from Radio Uganda to other stations as previously described.

The “Choices” program does continue to reach a predominantly rural population. Male listeners are more likely to be older, better educated, and Runyankole speakers compared to female listeners. A more detailed description of background characteristics of the “Choices” audience can be found in Appendix A.

Figure 3.15: Percentage of Men and Women Having Seen or Heard of “Yellow Flower” Family Planning Logo and “Rainbow over the Yellow Flower” Reproductive Health Logo

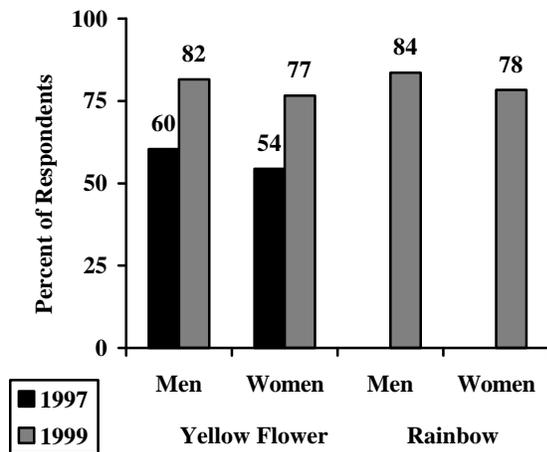
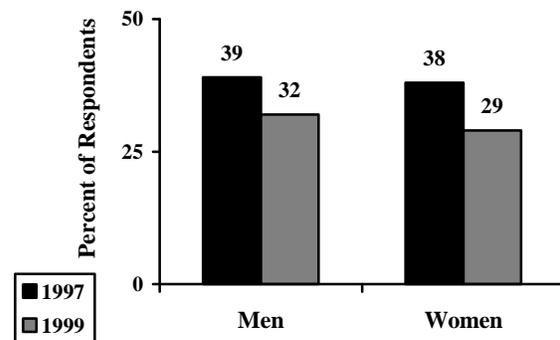


Figure 3.16: Percentage of Men and Women Having Listened to “Choices” Reproductive Health Program on the Radio



Chapter 4: Family Planning

4.1 Summary

The DISH Project has carried out numerous activities related to knowledge, attitudes and practices in family planning since the inception of the project. The increases in recent years in contraceptive use and in intentions to use family planning reflect the strong impact of those activities. The 1995 DHS and the 1997 and 1999 DISH Evaluation Surveys collected information about family planning from men and women of reproductive age. The main trends observed from the surveys' findings include the following:

- ◆ Between 1995 and 1999, there was a marked increase in the use of modern contraception among men and women, including among married men and women. While the rate of increase slowed during the second two-year interval 1997-1999 among women, it remained high among men.
- ◆ Condom use increased much more rapidly than any other family planning methods between 1995 and 1999, and more so among men than among women. The condom was by far the most popular method for men, the choice of two-thirds of modern contraception users in 1999. While injectables were the most used method for women in 1999, condoms ranked a close second. In contrast, the pill declined in popularity for both sexes over the period 1995-1999.
- ◆ Adoption of long-term contraceptive methods (IUD, implants, and sterilization) remains low among women and men.
- ◆ Data from the 1997 and 1999 DES present a strong and consistent association between women's and men's exposure to DISH-sponsored family planning IEC messages and increased use of modern contraception.
- ◆ The proportion of women and men not already practicing family planning who reported intending to use a modern contraceptive

method within the next 12 months increased significantly between 1995 and 1999.

4.2 DISH Family Planning Activities

The DISH Project aims to increase use of modern family planning and demand for services by increasing knowledge of family planning and availability of services, and by improving the quality of those services. Increasing the demand for family planning methods and services is targeted through IEC campaigns and counseling with health providers. Increased availability and improved quality of services is promoted through support and training of nurses and midwives at health facilities as well as community-based reproductive health workers who operate in selected areas.

4.3 Use of Modern Contraception

In 1999, 25% of women and 34% of men of reproductive age were currently practicing family planning, over 80% of whom were using a modern method. Survey data show that substantial changes in the use of modern contraception occurred during the period 1995 to 1999. These changes happened for both women and men across DISH districts, and for two of the major short-term methods that were provided (the injectable and the condom). Use of the pill dropped slightly during the two-year period before the 1999 DISH Evaluation Survey, returning closer to the 1995 levels. Adoption of long-term methods (IUD, Norplant, and male or female sterilization) remains low.

4.3.1 Trends in Modern Contraceptive Use

Current use of modern contraception had increased rapidly in the two-year period between 1995 and 1997. Increases in use were also rapid in the following two-year period among men, but slowed and were no longer statistically significant among women. Marital status had little effect on this pattern for either women or men. Figure 4.1 summarizes the changes for all women, all men, and married women and married men by year of survey.

The culture of those living in Kampala is more urban and Western than the lifestyle of those living in other parts of Uganda. This raises a question regarding whether or not general societal changes and modernization occurring in Kampala might have driven the changes in overall contraceptive use. If this were true, the argument that DISH activities had a major influence on increasing contraceptive use would be weakened. While DISH did carry out activities in Kampala, other political, social, and economic changes in that city could be argued to have had a strong influence on increased use of contraception.

The results shown in Figure 4.2 seem to refute this notion, at least in part. Data comparison certainly shows higher levels of contraceptive use when residents of Kampala are included (as previously noted in Figure 4.1); however, substantial increases in contraceptive use can also be seen when Kampala is excluded from the tabulation. All of these increases in contraceptive use are statistically significant for DISH districts outside of Kampala (and excluding Kasese which had been omitted from the DES), both between 1995 and 1997 and between 1997 and 1999.

Furthermore, Table 4.1 shows a general rise in modern contraceptive use for most DISH districts between 1995 and 1999. Over this period, contraceptive use tends to increase more rapidly among men and in rural districts.

Figure 4.1: Percentage of Women and Men Currently Using Modern Contraception by Marital Status

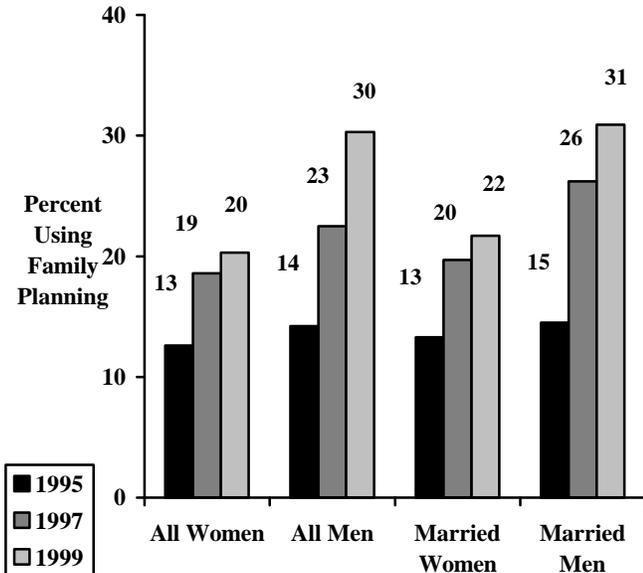


Figure 4.2: Percentage of Women and Men in DISH Districts, Excluding Kampala, Currently Using Modern Contraception by Marital Status

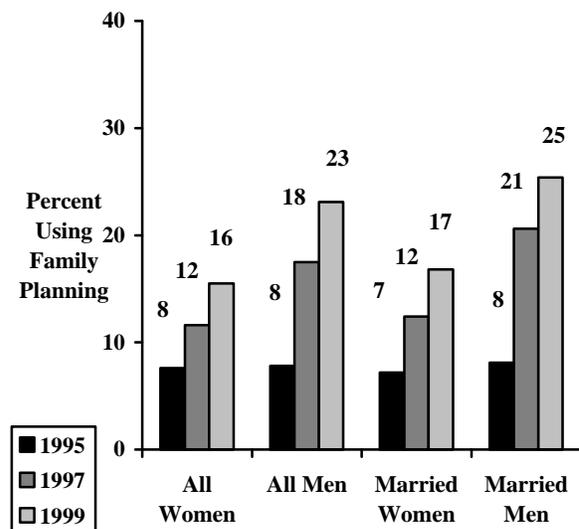


Table 4.1: Percentage of Women and Men Currently Using Modern Contraception by Marital Status and DISH District

DISH District	Women						Men					
	All			Married			All			Married		
	1995	1997	1999	1995	1997	1999	1995	1997	1999	1995	1997	1999
Jinja	12	29	25	14	28	25	5	33	35	(7)	(43)	40
Kampala	27	40	38	35	49	48	32	37	58	37	43	59
Kamuli	6	10	17	6	11	17	8	17	22	10	25	25
Luwero/ Nakasongola	12	8	18	9	10	15	12	16	29	(15)	19	26
Masaka/ Sembabule	8	10	14	5	10	16	9	20	21	9	26	23
Masindi	8	18	16	9	21	17	10	7	27	(7)	(7)	(36)
Mbarara/ Ntungamo	5	9	12	6	10	15	4	14	20	6	15	23
Rakai	7	11	12	6	11	16	13	16	6	(8)	(10)	(7)
Total	12.6	18.6	20.3	13.3	19.7	21.7	14.2	22.5	30.3	14.5	26.2	30.9

Note: Figures in parentheses based on a sample of fewer than forty cases.

For the first two-year interval, from 1995 to 1997, the most dramatic increases in modern contraceptive use are seen in Jinja, and these increases are statistically significant. Important increases also occurred for all women and married women in Kampala, and for all men and married men in Masaka and Mbarara districts. Contraceptive use for married women in Luwero and for married men in Masindi remained about the same over the period. (Although shifts in use may appear large among women in Masindi, and declines are observed among all women in Luwero and all men in Masindi, these changes are not statistically significant.)

The 1999 DES results confirm the trend of increase in use of contraceptives over the second two-year period between 1997 and 1999. However this time differentials are found by sex and by district of residence. Among women, the increase is higher in rural districts than in urban districts. Women in Kampala and Jinja, the two predominantly urban districts, did not report greater use, while those in most of the other rural

districts posted higher prevalence rates. The most spectacular and also only statistically significant increase occurred among all women in Luwero. Among men, the increases in contraceptive use by district are larger than those posted by women, and occurred comparably in rural and urban districts. Increases are statistically significant among men in Jinja, an urban district, as well as in the rural districts of Luwero, Masindi, and Mbarara. The increase in use is also significant among married men in Masindi.

Thus, while overall increases in modern contraceptive prevalence are observed between 1995 and 1999, there appears to have been a certain degree of stagnation for women's use in more urban DISH areas during the second two-year interval. Levels rose little, even declined slightly, among women in Kampala and in Jinja between 1997 and 1999. Stability in modern contraceptive use among all women and married women in Kampala help explain in part the slower overall increase for DISH districts for this latter period.

4.3.2 Contraceptive Method Mix

There were substantial changes reported in the use of the three main short-term methods: pill, injectables, and condoms. Among both women and men, use of the pill by the respondent or partner declined between 1997 and 1999, with this decline being statistically significant among men. In contrast, use of injectables and condoms increased significantly for both sexes over the same period.

Figures 4.3 and 4.4 present the method mix among women and men currently using modern contraception. The mix is particularly dominated by condom use among men. Two-thirds of men using modern contraception chose the condom as their method in 1999, up from one-half of contracepting men two years earlier. This increase in reported condom use for family planning purposes is highly statistically significant. It should be noted that current condom use does not necessarily imply use with all sexual partners (or the primary sexual partner) or even consistent use with any partner. In addition, it is also possible that although some respondents reported condoms as their current family planning method, they may be using condoms primarily for STD/HIV prevention.

Among women, the injectable is the most popular method, chosen by a third of modern family planning users in 1999. The condom was the second most popular method, accounting for over a quarter of users. The pill, which had been the most popular method in 1995, ranked third by the time of the 1999 survey.

Fewer than one in five women using modern contraceptive was using any long-term method in 1999 (intra-uterine device, Norplant implant, and male or female sterilization), a figure that has remained essentially stable since 1995. Even fewer contracepting men chose long-term methods.

Reported usage of other short-term methods (diaphragm, foam, jelly, and the new female condom) is negligible across surveys for women and men.

Some degree of discordance in survey findings across women and men may imply that respondents are reporting current use of contraceptive methods, particularly condoms, with different or multiple sex partners, or that partners may be unaware of each other's usage in the case of coitus-independent methods. Moreover men in polygynous unions are counted as using only one method for the purposes of evaluating the contraceptive method mix, even though their different wives may be using different methods.

Figure 4.3: Percentage Distribution of Women Currently Using Modern Contraception by Method Type

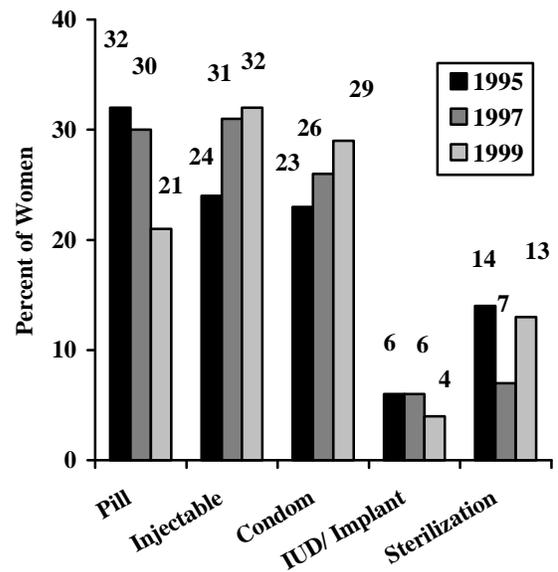


Figure 4.4: Percentage Distribution of Men Currently Using Modern Contraception by Method Type

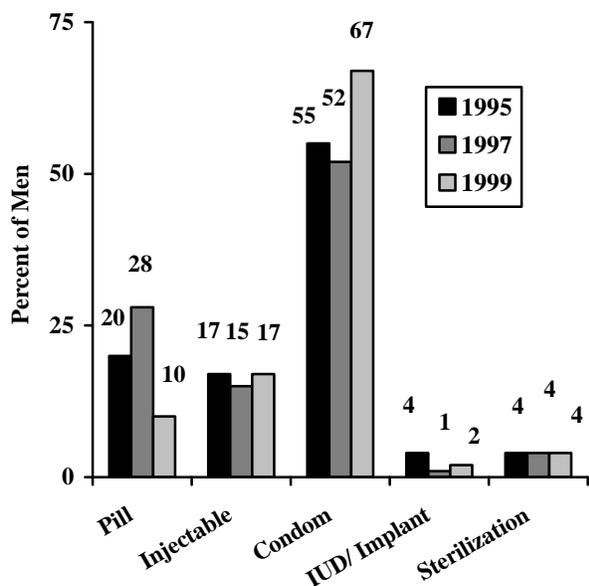
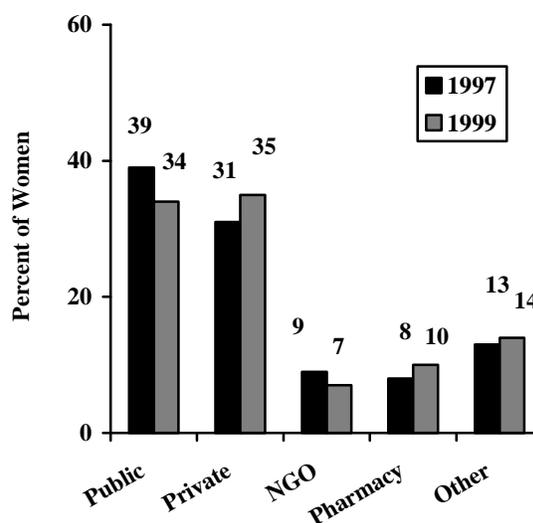


Figure 4.5: Percentage Distribution of Women Currently Using Modern Contraception by Source of Method



4.3.3 Source of Modern Contraceptive Methods

According to the 1999 DES, one-third (34%) of women who were currently using modern contraception had last obtained the method from a public source (that is, from a government health facility, mobile clinic or field worker). As seen in Figure 4.5, a similar proportion (35%) had last obtained the method being used from a private medical source. This included any health facility or mobile clinic operated by a private agency, or a private doctor or field worker. One in ten women obtained the method from a pharmacy or drug shop, and 7% from a source run by a non-governmental organization (NGO) or religious authority. The remaining women indicated the method had been obtained from a different source, such as a shop or through a friend or relative.

While the percentage of women reporting the public sector as their last source of modern contraception was seen to have decreased slightly between 1997 and 1999, the change was not statistically significant. Likewise, there was a small, though non-significant, increase in the percentage of women who obtained their current contraceptive method from the private sector during the same time period.

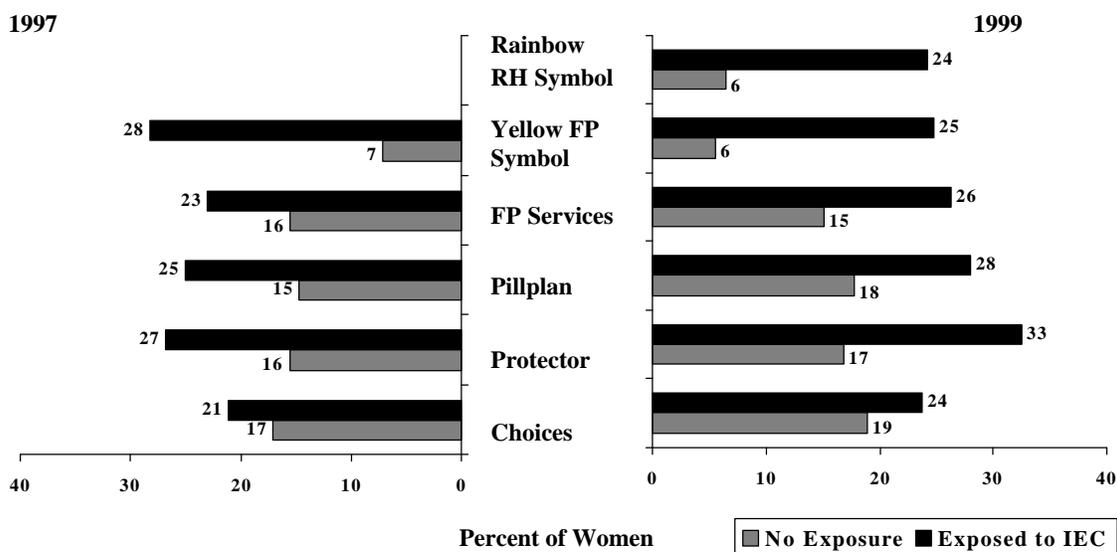
4.4 DISH IEC Activities and Current Use of Contraception

What factors or elements of DISH activities are affecting modern contraceptive use, and for whom? Interestingly, in the 1999 DISH Evaluation Survey, among the most common factors women who were currently using modern contraception reported as having motivated them to use family planning were talks with a health worker (22%) and attending a group health talk (20%). Other major motivating factors were not necessarily related to DISH activities—including talking with a spouse (33%) or friend (22%). At the same time, however, 16% of women listed radio advertisements as among the influences on their decision to practice family planning.

As described in Chapter 3, the project carried out a variety of IEC activities related to family planning. Analysis of these activities using data from the 1997 and 1999 DES reveals several strong associations between selected IEC materials and higher levels of contraceptive use.

As seen in Figures 4.6 and 4.7, women's and men's exposure to various IEC radio programs or messages is generally related to higher levels of

Figure 4.6: Current Use of Modern Contraception among Women by Exposure to IEC Radio Programs, Messages or Symbols



modern contraceptive use. DES results suggest that, in 1997 and in 1999, respondents who had heard advertisements on the radio for the socially marketed Protector condoms and PillPlan orals reported higher levels of modern family planning than those who had not heard these advertisements. These associations between IEC exposure and contraceptive use are statistically significant among women and men for both surveys.

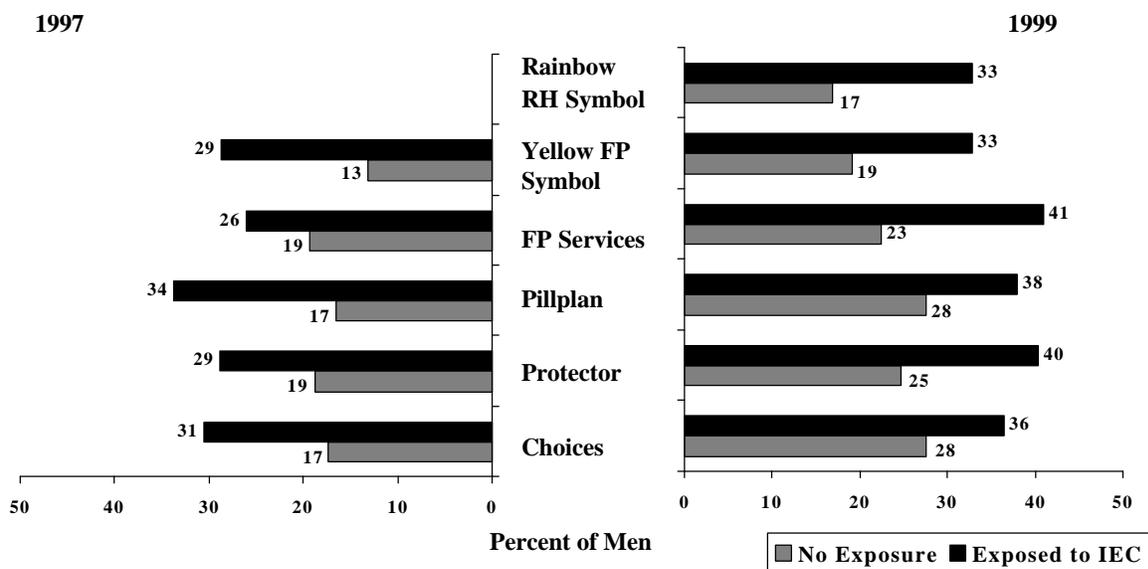
Likewise, a higher percentage of survey respondents who heard radio advertisements for family planning services used modern contraception compared to those who did not hear these advertisements. Those who listened to “Choices,” a weekly reproductive health radio program, also reported higher levels of modern contraceptive use than those who did not listen to this program. These associations were statistically significant among women and men in 1999.

Other IEC activities are strongly associated with contraceptive use. Women and men who know of the “Yellow Flower” logo as a symbol for family planning tend to use contraception at a much higher rate than those who do not know of this symbol. According to the 1999 DES, knowledge

of the “Rainbow over the Yellow Flower” logo, the more recently introduced reproductive health symbol, is also associated with higher contraceptive use. These results for the knowledge of IEC symbols are statistically significant among women and men.

A review of such survey findings, although very encouraging for IEC programming, requires a cautionary statement regarding the association between family planning messages and reported use of contraception. Listening to family planning messages on the radio or noticing a logo, or remembering and reporting having been exposed to these messages, are likely to increase after an individual adopts family planning practices. In other words, the present results cannot definitively show whether an IEC message led to use of modern contraception, or whether contraceptive use led to hearing an IEC message. Moreover women and men who listen to the radio or read newspapers, for example, may also have other characteristics that favor the adoption of family planning practices, such as better education or access to health services. Further analysis will allow for more definitive conclusions about the causal relationship.

Figure 4.7: Current Use of Modern Contraception among Men by Exposure to IEC Radio Programs, Messages or Symbols



4.5 Intentions to Use Family Planning in the Future

Over half (55%) of the women who were not currently practicing family planning at the time of the 1999 DES reported that they intended to use a contraceptive method within the next 12 months. Among men, 45% reported an intention to use family planning. (In order to better gauge the demand for family planning, these figures exclude respondents who said that they or their spouse was infertile, and those who expressed a desire to have a child soon or now.)

In addition to an increase in modern contraceptive use from 1995 to 1999, an increase in the intention to use modern methods among those not currently practicing family planning can also be seen. Figure 4.8 displays an increase in the intention to use modern contraception among women, from

37% in 1995 to 43% in 1999, and this increase is statistically significant. There was little change in the intention to use traditional contraceptive methods, but a noticeable drop occurred in the proportion of women who intend to use family planning in the near future but are unsure of which particular method they will choose.

For men, comparable survey data on family planning intentions are available from the 1995 DHS and the 1999 DES. As seen in Figure 4.9, a significant increase occurred in the percentage of non-contracepting men who reported an intent to use modern contraception in the near future, from 21% in 1995 to 32% four years later. Little change occurred with respect to intentions to use traditional methods or in uncertainty of preferred method choice.

Figure 4.8: Percentage Distribution of Women Not Currently Using Contraception by Intentions to Use Family Planning in the Next 12 Months

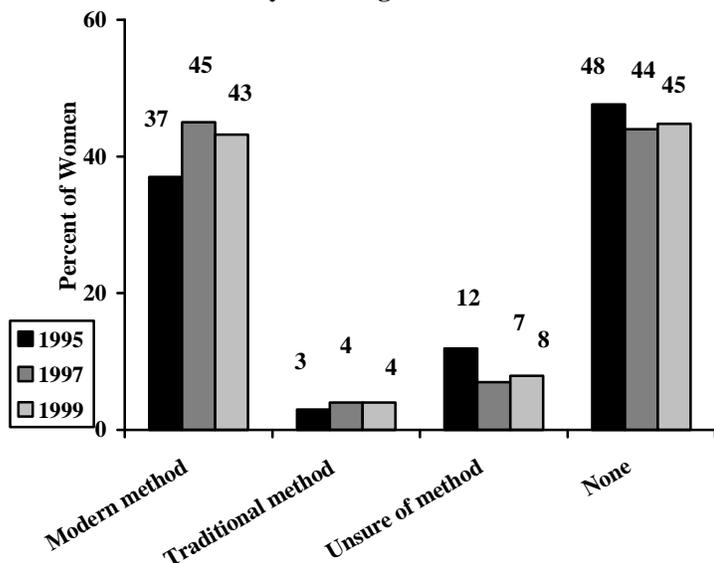
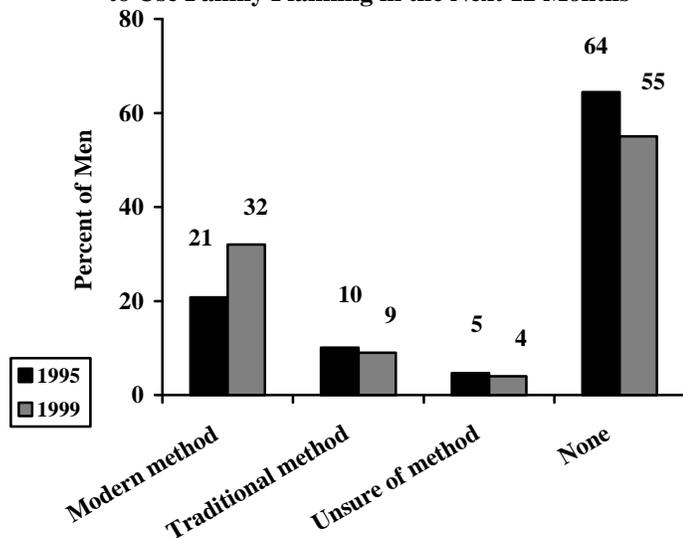


Figure 4.9: Percentage Distribution of Men Not Currently Using Contraception by Intentions to Use Family Planning in the Next 12 Months



4.6 DISH IEC Activities and Intentions to Use Family Planning

DISH activities designed to change intentions regarding the adoption of family planning in the future are those IEC activities aimed at general audiences. Figures 4.10 and 4.11 show that

women's and men's exposure to IEC messages and symbols is generally associated with greater intentions to use contraception in the next 12 months among those not currently using any method. However the associations tend not to be uniformly strong. Only exposure through listening to the "Choices" radio program consistently produces statistically significant effects with regard to the intention to use among women for both 1997 and 1999, and among men for 1999.

Women's exposure to advertisements about PillPlan oral contraceptives and to radio messages for family planning services are significantly linked to increased intent to use contraception in 1999. These associations were not statistically significant in the 1997 DES. Having heard advertisements for Protector condoms was not associated with a women's family planning intentions. Among men, listening to advertisements for Protector condoms and PillPlan orals are significantly associated with increased intent to adopt family planning in the near future in 1999, but the effect is not significant in the case of other radio messages for family planning services. No appreciable effect is revealed for either women or men who express knowledge of the Yellow Flower symbol for family planning, and their intentions to use family planning in the next 12 months.

The caveats related to the association of exposure to IEC with current family planning use also apply to the effect of IEC on intentions to use. Women and men who listen to the radio may have other characteristics, such as a higher socioeconomic status that could at the same time be linked to favorable attitudes toward family planning. Moreover those who intend to use family planning may be more likely to listen to radio programs or notice materials about family planning. However the degree of the problem of association is likely weaker in the case of intentions compared to actual use. Intention to use contraception in the future is not as strong a commitment to family planning as actual use, and therefore the influence of future intentions on survey reporting of exposure to family planning IEC messages should be less problematic.

Figure 4.10: Women's Intention to Use Family Planning in the Next 12 Months by Exposure to IEC Radio Programs, Messages or Symbols

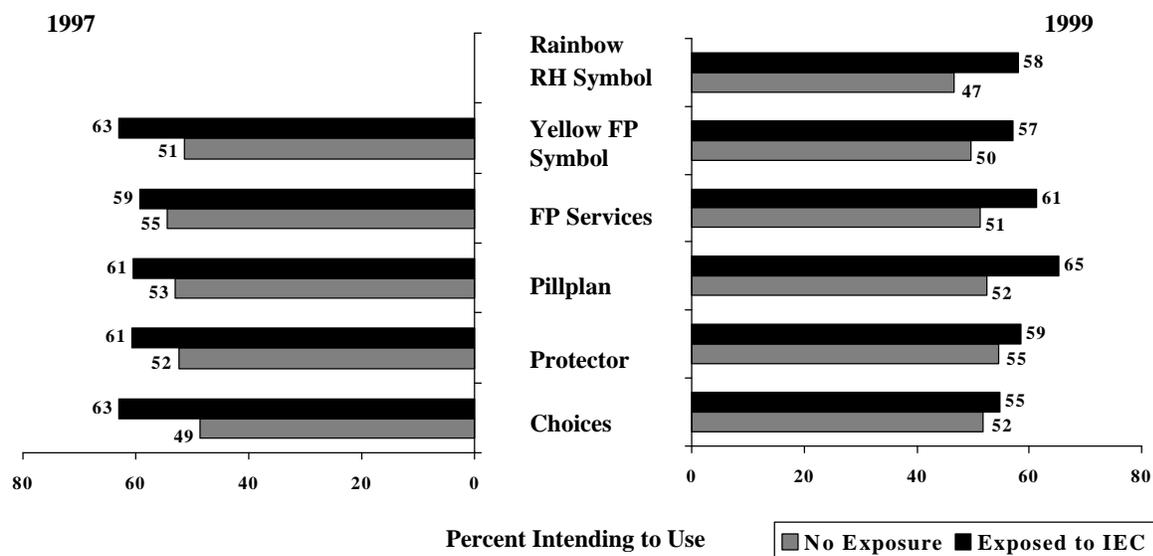
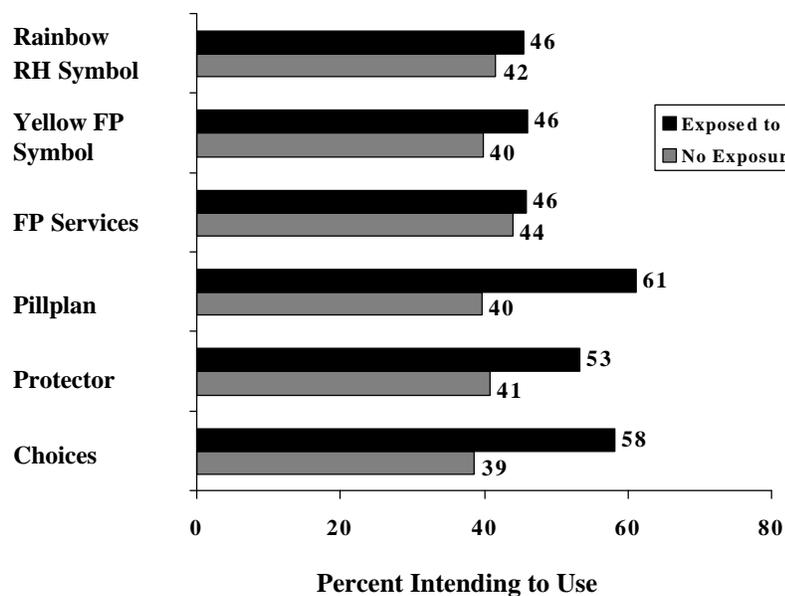


Figure 4.11: Men's Intention to Use Family Planning Programs in the Next 12 Months by Exposure to IEC Radio, Messages or Symbols; DES 1999



Chapter 5: Maternal Health

5.1 Summary

Good maternal health depends upon the care a woman receives during the course of her pregnancy and at the time of delivery. It also improves the chances for good health and survival of the child. This chapter presents results relating to maternal health from the 1995 DHS, the 1997 DES, and the 1999 DES for eleven DISH districts (all of those serviced by the project except Kasese). These data are useful in assessing the level of knowledge among parents on maternal health topics prior to and after the full implementation of DISH IEC programs. They are also helpful for assessing women's use of antenatal and delivery services and the need for improving or adding services. The survey data pertain to care received during the woman's pregnancy with her last child born in the three years preceding the survey. The main findings include

- ◆ Around three-quarters of women made at least three ANC visits during the course of their last pregnancy. There has been no change in this percentage between 1995 and 1999. One in twelve women interviewed in 1999 did not receive any antenatal care during the last pregnancy.
- ◆ Women's first visits for antenatal care generally continue to occur during the fourth to sixth month of pregnancy. The proportion of women receiving ANC during the first three months of pregnancy has remained relatively stable, at around 20%, across surveys.
- ◆ Most women (84%) had received antenatal care from a nurse/midwife for their last pregnancy in the 1999 survey. The proportion having done so increased significantly since the time of the 1997 survey, returning to 1995 levels.
- ◆ Around half of women have knowledge that bleeding or lower abdominal pain are signs of pregnancy complications. Between 1997 and 1999 there was a significant increase in the

proportion of mothers who could name at least three of four specified obstetric complications, largely related to greater awareness of bleeding as a danger sign.

- ◆ DISH IEC activities appear positively associated with increased knowledge of pregnancy complications among women according to 1999 data.
- ◆ Recognition of signs of pregnancy complications is much lower among men, with 28% reporting no knowledge of any sign in 1999 compared to 15% of women.
- ◆ Significantly more women received delivery care from nurse/midwives for their last birth preceding the 1999 survey compared to 1997 survey findings. Few deliveries (10%) are assisted by doctors, about the same percentage as observed in 1997.
- ◆ Although there is a slight trend to an increasing proportion of births occurring at health facilities from 1995 to 1999, the increase was not significant.

5.2 DISH Activities for Antenatal and Delivery Care

Training of nurses and midwives and IEC activities can affect the population's use of antenatal care and delivery services, and increase the knowledge of pregnancy complications. Up until the time of the first DISH Evaluation Survey in 1997, DISH activities in these areas were focused on training programs for reproductive health care providers. IEC interventions related to maternal and child health were implemented in 1998, with the goal of encouraging women to go to health facilities for antenatal care during the first trimester of pregnancy and regularly thereafter, and to recognize signs of pregnancy complications. It should be noted that survey data pertain to women's use of antenatal care and delivery services for their last birth in the three years preceding the interview. Therefore, some of the findings from the 1999 DES regard pregnancies and births

that occurred before implementation of the IEC campaign.

5.3 Antenatal Care

Data from the 1995 DHS and the 1997 and 1999 DISH Evaluation Surveys allow for examination of trends in the timing of first antenatal care visits, the number of visits, and the different sources utilized for antenatal care.

5.3.1 Timing of the First ANC Visit

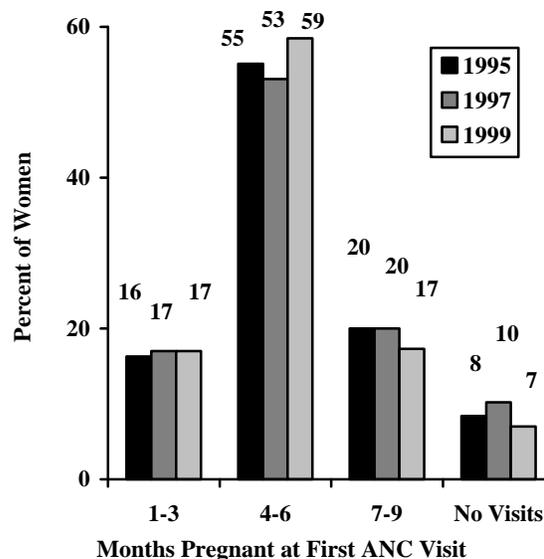
The surveys obtained information from women about the timing of their first visit for antenatal care for their most recent births (over the three years preceding the surveys). Ideally, the first antenatal visit should be made no later than during the third month of pregnancy. If that ideal is not met, women should have their first visit within the first six months.

Between 1997 and 1999, a small but positive change is found in the percentage of women who did not receive any antenatal care during the last pregnancy. Seven percent of women interviewed in 1999 had not received ANC, down significantly from the 10% figure in 1997 (Figure 5.1). On the other hand, this is similar to the level found in 1995.

The majority of women (59%) reported in 1999 making their first visit for antenatal care during the fourth to sixth months of pregnancy, up just slightly from the 53% reported in 1997. The difference, however, was not significant.

Less than one in five women had their first ANC visit during the ideal first three months of pregnancy. A similar proportion indicated receiving ANC after the seventh month. These patterns were essentially constant across surveys, with no statistically significant change between 1995 and 1999.

Figure 5.1: Percentage Distribution of Timing of First ANC Visit for Last Births in the Three Years Preceding the Survey



5.3.2 Number of ANC Visits

The surveys also asked women about the number of visits they made for antenatal care during their most recent pregnancy of the past three years. The recommended minimum number of ANC visits is three, and more than three are preferred.

Data presented in Figure 5.2 show that most women reported making at least three ANC visits. Nearly half of the women (45%) reported three or four visits in 1999, and another 30% of women indicated having made five or more ANC visits. Although there has been a significant increase in the percentage of women making 3-4 visits from 1995 to 1999, this is due to a decline in the percent of women making five or more ANC visits. There has been no significant change in the percent of women meeting the minimum standards of three or more ANC visits. This has remained at about three-quarters of women during the 1995 to 1999 period.

Figure 5.2: Percentage Distribution of Number of ANC Visits for Last Births in the Three Years Preceding the Survey

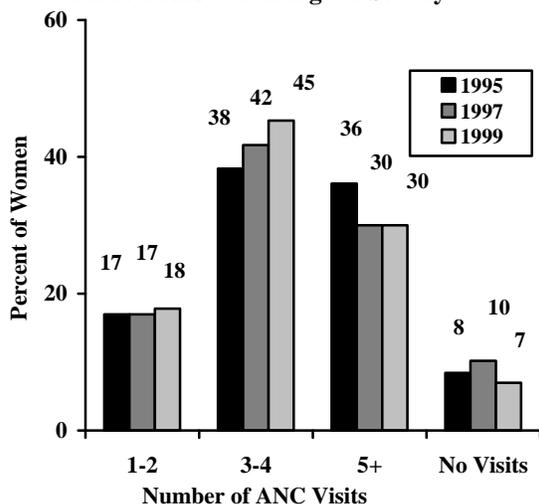
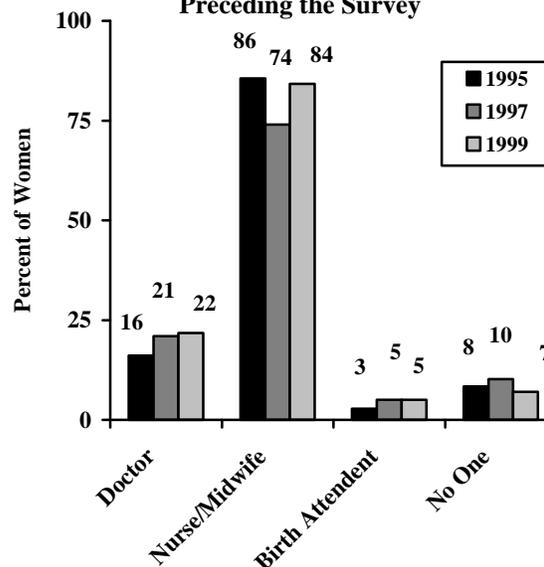


Figure 5.3: Sources of Antenatal Care for Last Births in the Three Years Preceding the Survey



There was no statistically significant difference in the percentage of women making one or two visits for antenatal care across the three surveys.

5.3.3 Sources of ANC

Three basic sources of antenatal care in Uganda are considered in the DISH Evaluation Surveys: doctors, nurse/midwives, and traditional birth attendants. Women may visit more than one kind of antenatal care provider, so percentages may sum to more than 100%. In many cases, women who go to a health facility for antenatal care may find that the facility has no doctor or medical assistant. In 1999, one in five of interviewed women had seen doctors for antenatal care during the pregnancy preceding their most recent birth in the last three years. No discernable difference was found from the ratio observed in the previous surveys.

By far, the highest percentage of women interviewed in 1999 (84%) had seen nurse/midwives for antenatal care. This marked a significant increase from 1997. However, the percentage had fallen during the previous two-year period, so the proportion observed in 1999 lies virtually identical to that observed in 1995. A small number of women (around 5%) reported in 1999 having received antenatal care from traditional birth attendants, with no significant change from before.

5.4 Knowledge of Pregnancy Complications

In a country where half of all deliveries occur at home and a third without the assistance of trained medical personnel, it is crucial that parents are able to recognize complications of pregnancy and that they know when to seek professional help. The DISH project aims to improve knowledge among women and men of pregnancy warning signs. The 1997 and 1999 DISH Evaluation Surveys questioned women about their knowledge of specific types of obstetric complications. The latest survey also asked these questions of men. These data are useful in assessing the level of knowledge prior to and after the full implementation of the DISH IEC campaigns.

5.4.1 Knowledge of Pregnancy Complications

As the data presented in Figure 5.4 suggest, while general knowledge of pregnancy complications in Uganda is inadequate for safe pregnancy and delivery, the situation appears to be slowly improving. In 1999, one-half of the interviewed women who had given birth in the preceding three years were aware that bleeding signals a pregnancy complication. This marked a significant increase from two years earlier, when only 30% were aware of this danger sign. However little appreciable change is noticed in

awareness of other specific signs. Only around one-half (51%) of recent mothers knew that lower abdominal pain is a complication of pregnancy (Figure 5.4). The number who knew that fever was a danger sign was somewhat lower (45%), while barely 16% knew that swelling of the face and hands might indicate obstetric complications.

Moreover, according to the 1999 DES, 18% of recent mothers mentioned at least three of the four specified types of pregnancy complications, a significant increase from the 11% who could mention at least three signs in the 1997 survey. Fifteen percent reported no knowledge of signs of pregnancy complications in 1999, a number statistically unchanged from the previous survey.

Trends in knowledge of pregnancy complications are about the same among women who had given birth within the past three years compared to women who had ever given birth. Eighteen percent of all mothers could name three or more signs of pregnancy complications in 1999, up from 12% two years earlier. There was likewise a significant jump in the percentage of all mothers who named bleeding as a pregnancy warning sign: from 30% in 1997 to 50% in 1999. Seventeen percent did not list any of the four specified signs in 1999, the same as in 1997.

The 1999 DES questioned men for the first time on their knowledge of pregnancy complications. A substantial number of men who had ever fathered a child reported no knowledge of signs of pregnancy complications requiring medical attention (28%), and very few mentioned at least three of the specified signs (7%).

The most commonly known complications among fathers were fever in the pregnant woman (reported by 41%) and complaints of lower abdominal pain (40%). Bleeding was mentioned by 27% of fathers and swelling of the woman's hands/face by only 10% (Figure 5.5).

Figure 5.4: Knowledge of Pregnancy Complications among Women Who Gave Birth in the Three Years Preceding the Survey

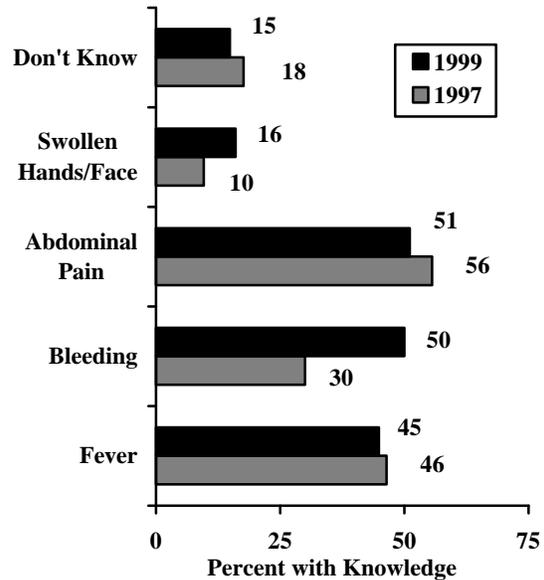
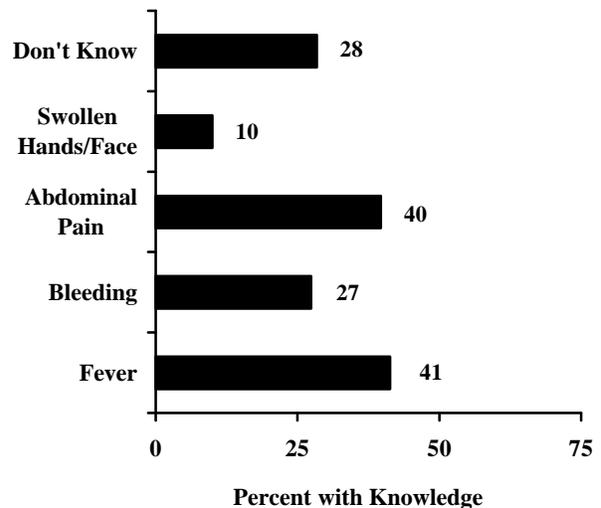


Figure 5.5: Knowledge of Pregnancy Complications among Men Who Have Fathered Children, DES 1999



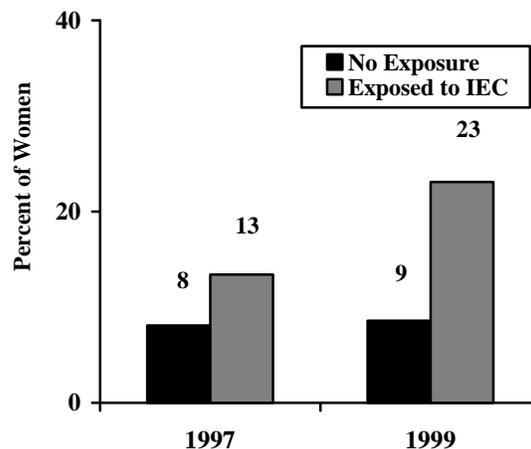
5.4.2 DISH IEC Activities and Knowledge of Pregnancy Complications

In 1998, the DISH Project launched an IEC campaign which included radio messages aiming to increase knowledge in recognition of four signs of pregnancy complications that indicate that a woman requires immediate medical attention. The following data pertain to women having given birth in the three-year period prior to the interview. Mothers who have recently given birth may be most likely to have been exposed to messages on maternal and child health, either from a health care provider or from IEC activities, and represent the population for whom the information is most relevant.

According to results from the 1999 DES, 18% of mothers who had recently given birth knew at least three signs of pregnancy complications, a significant increase from the 11% who could mention at least three signs in the 1997 survey. Moreover, recent mothers who had heard IEC messages for antenatal care on the radio were more aware of signs of pregnancy complications, and were significantly more likely to mention at least 3 of the 4 specified danger signs (Figure 5.6). This was not the case before the full implementation of the DISH IEC campaign. In 1997, any observed difference in the percentage of women having given birth in the previous three years who could name at least 3 pregnancy danger signs by exposure to IEC messages was not statistically significant. Observed increases in knowledge between 1997 and 1999 essentially occurred among women who had heard IEC messages.

Although it is reasonable to assume that hearing radio IEC messages resulted in greater knowledge of pregnancy complications, there is no way the present analysis can be used to definitively ascertain that this is the case. It may be that persons with greater levels of knowledge listened to the radio more, or simply remembered the messages better when surveyed. Moreover, women who listen to the radio regularly may also have other characteristics that simultaneously favor better maternal health knowledge, such as better education. Further analysis would allow for more definitive conclusions about the causal relationship.

Figure 5.6: Knowledge of 3 or More Pregnancy Complications among Women Who Gave Birth in the Three Years Preceding the Survey by Exposure to IEC Radio Messages



5.5 Delivery

Both the type of assistance a woman receives during childbirth and where she receives it are important for both her health and the health of her child. Data from the 1995 DHS and the 1997 and 1999 DISH Evaluation Surveys allow examination of trends in the source of assistance during last delivery during the previous three years and in the place of delivery.

5.5.1 Sources of Assistance during Delivery

The majority of women (54%) interviewed in 1999 who had given birth during the preceding three years received delivery care from a nurse or midwife for their last birth (Figure 5.7). This figure marked a significant increase from the time of the 1997 survey (44%). Likewise, the proportion of women having used traditional birth attendants as source of delivery assistance increased significantly, from 10% in 1997 to 18% in 1999.

On the other hand, nearly one out of every ten women received no assistance for their last delivery. This rate has remained relatively stable over time. A similar proportion of women had called on doctors for delivery assistance, and again no significant difference is observed in 1999

compared to the previous surveys. Discernibly fewer women reported receiving the assistance of a relative or other untrained help: 18% in 1999 compared to around 30% previously. Women may receive care during delivery from more than one kind of provider, so percentages listed may sum to more than 100%.

5.5.2 Place of Delivery

Approximately half (54%) of the women who gave birth in the three years before the 1999 DES delivered their last child at home, while the other half (46%) delivered at a health facility (Figure 5.8). There is a small trend towards an increase in the percentage of deliveries occurring at health facilities during the 1995 to 1999 period; the increase, however, is not statistically significant. This is mirrored in a slight trend away from delivering at home.

There was little difference in the type of health facility where deliveries occurred. Just over one-quarter (29%) of last births in the three years preceding the 1999 survey occurred at a public health facility (government hospital, health center or other public facility). Another quarter (25%) occurred at a private facility (private hospital, clinic or other medical facility). There was no significant change in the distribution of deliveries at public versus private health facilities between 1997 and 1999.

Figure 5.7: Sources of Assistance During Delivery for Last Births in the Three Years Preceding the Survey

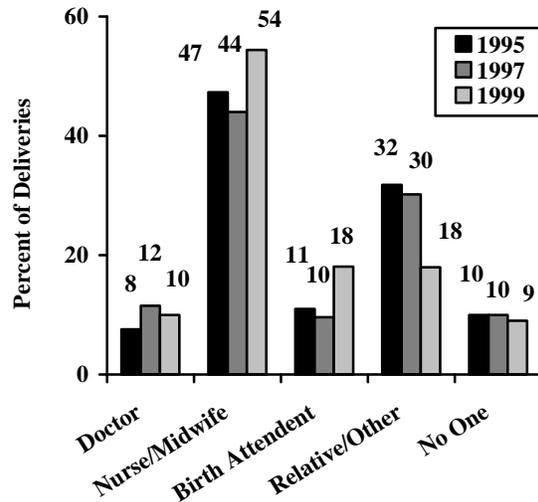
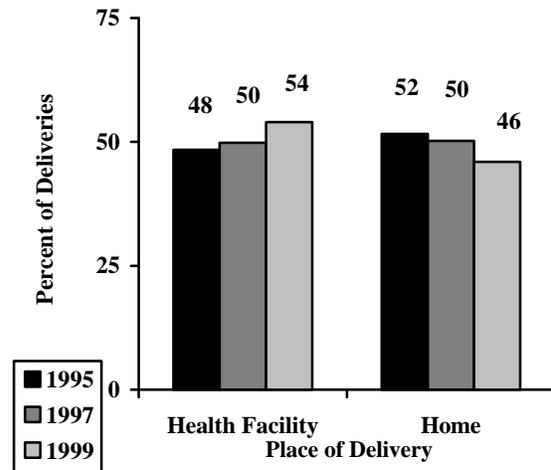


Figure 5.8: Percentage Distribution of Place of Delivery for Last Births in the Three Years Preceding the Survey



Chapter 6: Child Health and Nutrition

6.1 Summary

Early childhood feeding practices and patterns have a significant effect on the nutritional and health status of the child. The 1997 and 1999 DISH Evaluation Surveys collected information from mothers on breastfeeding of the most recent child born in the last 3 years and on knowledge of the ideal duration of breastfeeding. DISH IEC messages on maternal and child health recommend that children be exclusively breastfed for the first six months of life.

The 1999 DES also conducted much more detailed interviews on child health due to the expansion of DISH activities in the areas of child health and nutrition. The survey collected information for the first time from men on their perceptions of the ideal duration of breastfeeding. Moreover, additional questions were asked to recent mothers about the types of food given to their young children, sicknesses in their child and subsequent treatments sought, and their child's immunization records.

The main findings include:

- ◆ The number of mothers who said six months is the ideal duration of exclusive breastfeeding increased sharply from 23% to 41% between 1997 and 1999. Almost as many fathers as mothers gave the same six-month ideal in 1999.
- ◆ Most children are breastfed during the first six months of life. While the number breastfed without supplement of other liquids or foods remains much lower, important increases are observed across 1997-1999 in the proportion of infants aged under six months breastfeeding exclusively.
- ◆ Women's knowledge of six-months as the ideal duration for exclusive breastfeeding appears significantly associated with DISH IEC activities based on 1999 data. It may yet be too early to ascertain whether this has trans-

lated into significant change in six-month breastfeeding practices.

- ◆ According to the 1999 survey, few children 7-36 months of age consumed fruits and vegetables in the 24 hours preceding the survey indicating inadequate intake of micronutrient rich foods. However, about one-half of these children did eat meat, poultry or fish and about one-half ate beans or groundnuts on a daily basis.
- ◆ Only one-third of mothers in 1999 who had a child with diarrhea increased the child's fluid intake while just under one-half gave the child less food or stopped feeding completely.
- ◆ In 1999, 76% of children 12-23 months of age had received BCG, 53% had received three doses of polio, and 60% had received a measles immunization. These results are similar to those found in 1995. However, only 31% of infants in 1999 were considered to be fully immunized due to a decline in the percent of children receiving all three doses of DPT.

6.2 Breastfeeding

The DISH project seeks to improve child health by promoting exclusive breastfeeding for the first six months of an infant's life. Early childhood breastfeeding practices are important determinants of the nutritional status of children, which in turn influence their health status. Health benefits of early initiation of breastfeeding have also been documented from the mother's perspective, stimulating the postpartum recovery process.

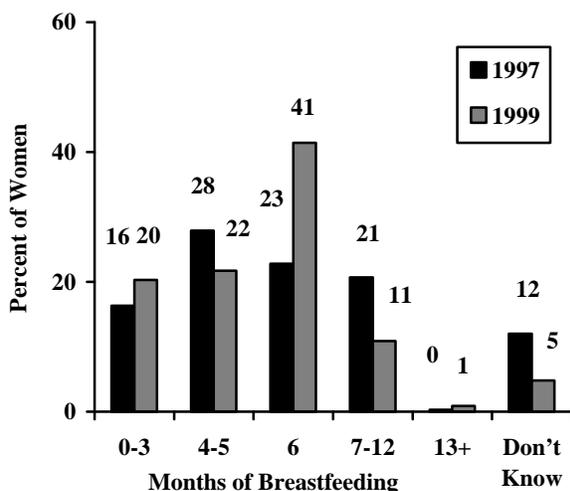
The DISH Evaluation Surveys of 1997 and 1999 collected information from mothers on the breastfeeding status of their youngest child born within the three-year period preceding each survey, and on their ideal duration of breastfeeding. Perceptions of ideal breastfeeding duration were also collected for the first time from men in the 1999 DISH survey. Although exclusive breastfeeding and improved complementary feeding practices were promoted during an IEC campaign in mid-

1999, the effects of this campaign may not yet be evident because the 1999 survey was conducted shortly after the campaign was launched.

6.2.1 Ideal Duration of Exclusive Breastfeeding

DISH training and IEC materials advocate six months as the ideal length of exclusive breastfeeding. When asked in the 1999 DISH Evaluation Survey about the ideal length of time, 41% of women who had ever given birth reported 6 months, nearly twice as many as in the 1997 survey (23%). This marked a highly significant increase over two years (Figure 6.1). In contrast, the number of women who did not name an ideal length of time dropped significantly, perhaps with women's increasing awareness of the positive effects of exclusive breastfeeding on maternal-child health. One fifth of mothers said four to five months should be the ideal in the 1999 DES, with another fifth reporting three months or less as ideal. Almost no women listed over a year as the ideal.

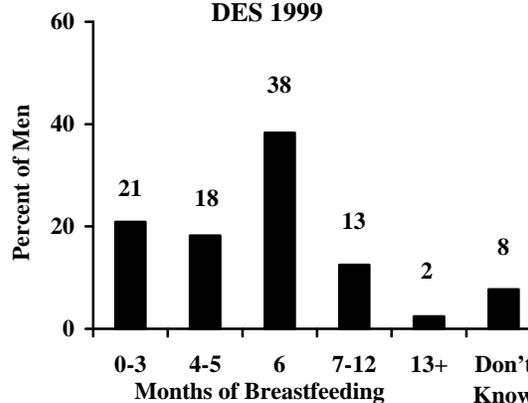
Figure 6.1: Percentage Distribution of Ideal Length for Exclusive Breastfeeding among Women Who Ever Gave Birth



Almost as many fathers as mothers reported six months as the ideal duration of exclusive breastfeeding according to the 1999 survey. Among interviewed men who have biological children, 38% said the ideal should be six months (Figure 6.2). One in five reported four to six months, and

another one in five said three months or less as ideal. Again very few said infants should be breastfed for over a year without water or any other foods.

Figure 6.2: Percentage Distribution of Ideal Length for Exclusive Breastfeeding among Men Who Have Fathered Children, DES 1999



6.2.2 Breastfeeding Status of Recently Born Children

Almost all mothers who recently gave birth (95%) interviewed in the 1999 DISH Evaluation Survey indicated they had breastfed their youngest child at birth without supplement of water or any other foods. As seen in Figure 6.3, 80% of mothers with children three months of age or under are exclusively breastfeeding, as are 43% with children aged 4-6 months. These two percentages each mark significant increases since the 1997 survey.

Rates of exclusive breastfeeding for longer periods of time decline sharply after six months: fewer than 5% of mothers with children aged seven months or older indicated they were continuing with exclusive breastfeeding practices at the time of the survey (Figure 6.3). It is recommended that supplementation of breast milk begin among infants at seven months in order to promote proper nutrition and health.

Moreover, in 1999 just under one-quarter of mothers (23%) reported that they had exclusively breastfed their youngest child aged 7-36 months for a period of six months, upon which supplemental feedings of other liquids or solid foods were introduced. In the 1997 survey only 18% of

mothers had reported as such, however the difference over the two-year period was not statistically significant.

While many children were not breastfed exclusively for six months, almost all were breastfed at least some for that length (Figure 6.4). Over 95% of youngest children born in the three years preceding the 1999 survey are found to be still breastfeeding at age four to six months, and just slightly less than that at age seven to nine months. The percentage not breastfeeding starts to increase as the child reaches the age of 10 to 12 months. Two-thirds (63%) of children are no longer breastfeeding after 13 months of age. While some divergence in the trend in breastfeeding by age of the child is seen over the period 1997-1999, the difference is not significant.

6.2.3 DISH IEC Activities and Breastfeeding

As previously noted, the percentage of mothers who believe six months to be the ideal length for exclusive breastfeeding jumped sharply between 1997 and 1999, and this jump closely coincides with the implementation of DISH IEC activities on maternal and child health. As seen in Figure 6.5, exposure to IEC radio messages on breastfeeding is significantly associated with preference for six-months exclusive breastfeeding among women who have ever had a child, according to 1999 DISH survey results.

On the other hand, such ideals may not yet have translated into significant changes in breastfeeding practices. Just under one-quarter of mothers with children aged 7-36 months indicated in the 1999 survey they had breastfed exclusively for six months. There was little discernable difference by exposure to IEC messages. Part of the lack of any noticeable trend in practices is due to the fact that the information pertains to children born in the three years preceding the survey, so much of the 1999 data regard births that occurred before the DISH IEC campaign was introduced. Moreover, while rates of exclusive breastfeeding were previously seen to have increased among infants aged under six months, it is only among older children aged seven months or more for whom complete

information on the first six months of life is available.

Figure 6.3: Percent of Children Born in the Three Years Preceding the Survey Exclusively Breastfeeding by Age of Child

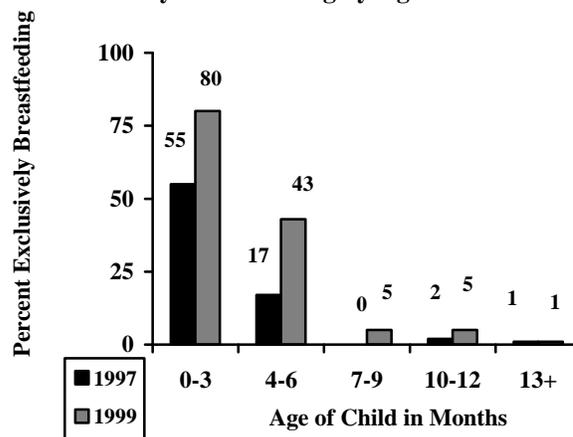
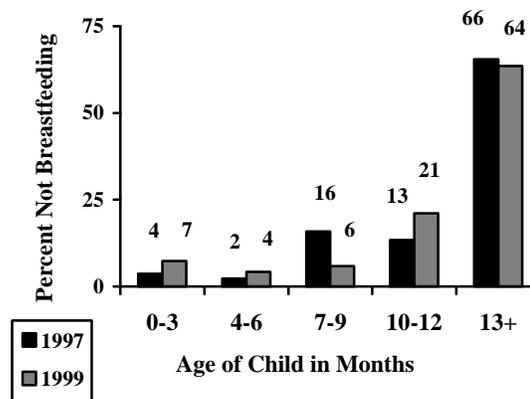


Figure 6.4: Percent of Youngest Children Born in the Three Years Preceding the Survey Not Currently Breastfeeding by Age of Child



A caution should also be raised on any association between survey respondents' reporting of hearing IEC messages on the radio and change in health-related attitudes or practices. Based on this analysis there is no way to conclusively determine whether IEC messages alone resulted in change in breastfeeding knowledge or behaviors. It may be that persons with greater levels of health knowledge listened to the radio more, or simply remembered the messages better when surveyed. Moreo-

ver women who listen to the radio regularly may also have other characteristics that predispose them to improved breastfeeding knowledge and practices, such as better education or access to health services.

6.3 Child Nutrition

Due the expansion of activities in child health and nutrition under DISH II, additional information on these topics was collected during the 1999 DISH Evaluation Survey that did not appear in the 1997 survey. This information is useful for providing baseline data for monitoring DISH II activities, as well as providing information for program planners.

The 1999 DES collected information from mothers on feeding practices in the past 24 hours and past seven days for the youngest living child aged three years or under. These data, presented in Table 6.1, provide insight into the variety of foods eaten by children, which has implications for protein and micronutrient sufficiency in the diet. It should be noted that while data are presented for children six months of age and younger, a significant proportion of these children are still breastfeeding.

As expected, as children grow older the variety of foods eaten increases. The youngest infants tend to consume mostly cereals, if any solid foods, which is not surprising since porridge is frequently used for weaning. Almost 30% of children six months and younger had been fed cereals or grains in the 24 hours preceding the survey. In addition to cereals and grains, the majority of infants over the age of six months consume starchy tubers, such as yams and Irish potatoes, and matoke.

Figure 6.5: Six-Months Exclusive Breastfeeding as Women's Ideal and Practise with Youngest Child Aged 7-36 Months by Exposure to IEC Radio Messages, DES 1999

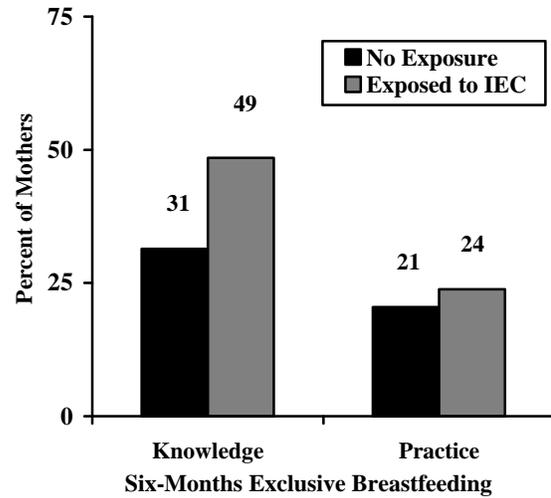


Table 6.1. Percent of youngest living children born in the three years preceding the survey receiving mushy and solid foods by age of child, DES 1999.

<i>Age of child (months)</i>	<i>Type of food received</i>					
	Meat/ poultry/ fish	Grains/ cereals	Tubers/ Matooke	Fruit/ Vegetables	Dairy	Ground-nuts/ Beans
Last 24 Hours						
0-6	11	29	19	0	2	8
7-12	42	66	55	4	11	41
13-36	52	65	72	5	14	52
Last 7 Days						
0-6	14	38	19	0	4	12
7-12	65	78	71	13	16	55
13-36	73	78	83	18	16	61

Meats, poultry and other protein-rich foods important for growth and development were eaten by 52% of children 13-36 months of age and 42% of children 7-12 months of age in the previous 24 hours. Fewer than one in six children in these age groups consumed any dairy products during the same time period. Fruits and vegetables, which provide valuable micronutrients, are introduced in the latter part of the first year of life but are not widely consumed by the children surveyed. Only about 5% of children over six months of age ate any fruits or vegetables in the previous day.

The seven-day food recall shows a slightly greater variety of foods being eaten during the previous week, however, patterns of consumption remain similar. The majority of children 7-36 months received meat, poultry, or fish, and a similar proportion received starchy foods such as grains or tubers. Groundnuts and beans were consumed by over half of the children 7-36 months of age in the previous week. Of concern, however, is that fewer than one in five children consumed any fruits or vegetables in the seven days prior to the survey.

6.4 Knowledge and Treatment of Childhood Illness

6.4.1 Knowledge of Danger Signs

Knowledge of danger signs in sick children is important when encouraging treatment-seeking behavior. In the 1999 survey, women were asked to mention the signs in a child that indicate that the child is sick and requires medical attention. Figure 6.6 presents the signs mentioned by women who had ever given birth. The signs most frequently mentioned were developing a fever, and not drinking or breastfeeding, cited by 70% and 54% of mothers respectively. Other signs were less well known. For example, only one mother in four mentioned that a child who gets sicker despite home care needs immediate medical attention. Less than 10% of the women surveyed mentioned fast breathing, difficult breathing, or blood in the stools as signs that the child required medical attention. Fortunately, almost all mothers (92%) could name at least one danger sign and 62% could name two or more.

6.4.2 Management of Childhood Illness

Phase II of the DISH project aims to increase the availability of maternal and child health services and to educate mothers in appropriate case management of childhood illness in order to improve child survival. The 1999 DES collected useful baseline data in this area by asking mothers about the occurrence of fever, diarrhea, and signs of acute respiratory infection (cough and rapid breathing) in their youngest living child born in the past 3 years. If the child had any of these symptoms in the previous two weeks, mothers were asked whether and where they sought treatment for the child.

Almost one-half (46%) of the children aged three years or younger reportedly had a fever in the two weeks prior to the survey. Almost all children with fever received some type of treatment, given either by the mother or by a health care provider. The majority of children with a fever received an antimalarial drug; almost one-half (49%) received chloroquine and an additional 14% received another antimalarial drug (fansidar, quinine, or camaquine). Nearly one-third of children received other types of medications (not antimalarial) while only 5% of children received no medications (Figure 6.7).

One-third of mothers (33%) reported that their child had a cough accompanied by rapid breathing in the two weeks prior to the survey. Children with these symptoms should be taken to a health facility for treatment as the child may require antibiotics.

Figure 6.8 presents data from the 1999 DISH survey on where treatment was sought for children with a fever, or a cough accompanied by rapid breathing. Approximately one-half of mothers sought treatment for their child at private or NGO facilities and approximately one-quarter at a public facility. Over 18% of mothers whose child had fever and 13% of mothers whose child had symptoms of acute respiratory infection sought treatment at pharmacies or drug shops. Very few mothers (under 4%) did not seek any treatment for their sick child.

Figure 6.6 Percentage of Mothers Knowledgeable about Signs for Treatment Seeking in Sick Children, DES 1999

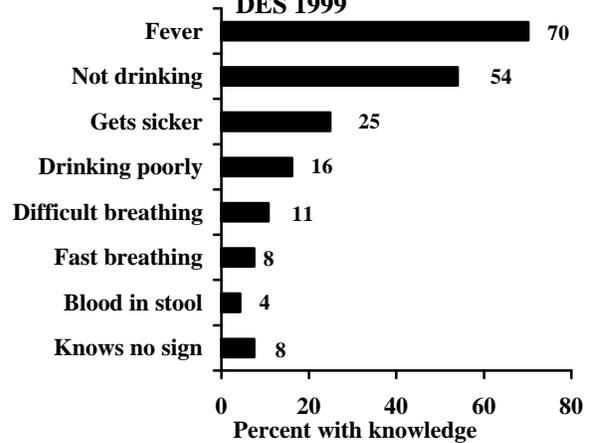


Figure 6.7: Percentage of Youngest Living Children Aged Three Years or Under with a Fever Receiving Medications, DES 1999

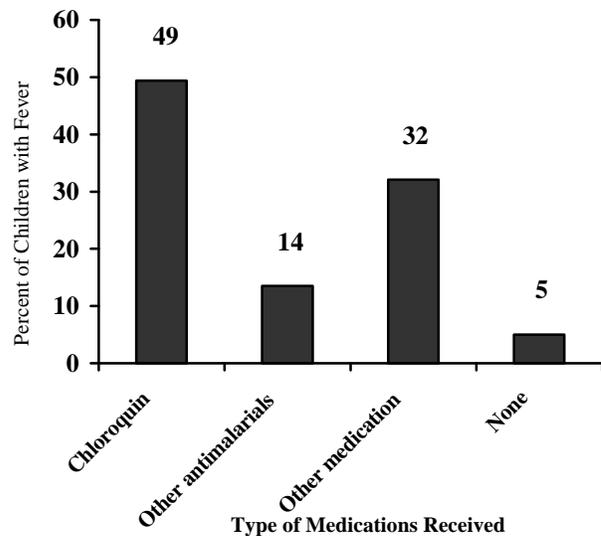


Figure 6.8: Sources of Treatment for Fever or Cough with Rapid Breathing in Youngest Living Children Aged Three Years or Under, DES 1999

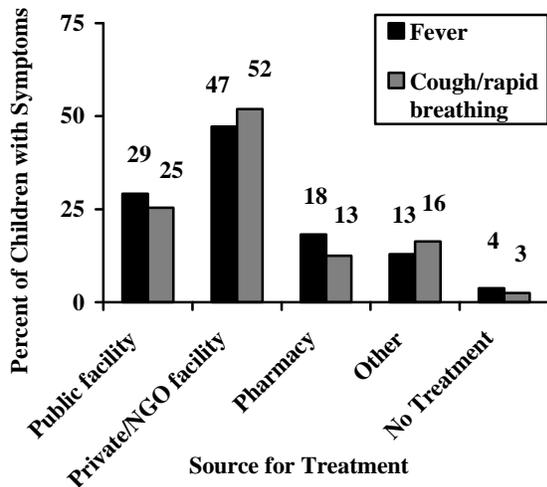
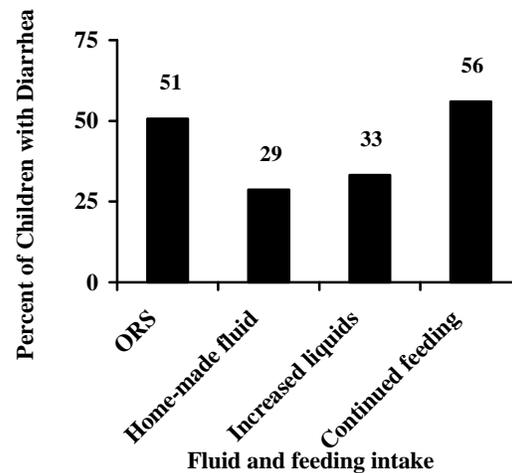


Figure 6.9: Percentage of Youngest Living Children Aged Three Years or Under with Diarrhea Receiving Fluids and Continued Feeding, DES 1999



Note that in this last figure, percentages can add to more than 100% as mothers may have sought treatment for their child at more than one place.

Diarrheal disease is also a common childhood sickness and one in four children aged under three years (25%) experienced diarrhea in the two weeks prior to the survey. In these cases, mothers were asked about the types of liquids, as well as about the quantities of food and liquids, given to the child when he or she had diarrhea. During episodes of diarrhea, a child's fluid intake should be increased to combat dehydration and feeding should be continued. As seen in Figure 6.9, 51% of the children with diarrhea were given oral rehydration solution (ORS), and 29% were given a government-recommended homemade fluid. Giving ORS, however, did not always imply that a mother increased the amount of fluids to her child with diarrhea. Figure 6.9 also shows whether the quantity of fluids was increased and whether feeding was continued. Only one-third of mothers reported increasing the fluids given, while nearly one-half gave less food or stopped feeding completely.

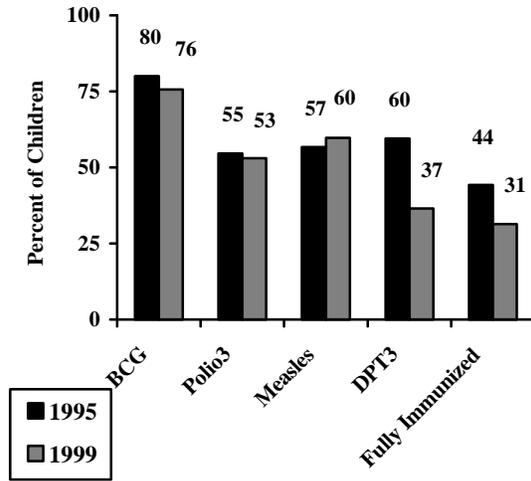
6.5 Immunization

A child should receive one dose of BCG, three doses of polio, three doses of DPT, and one dose of measles immunization to be considered fully immunized. Child health guidelines recommend the last dose (for measles) should be received at around nine months of age. Information on immunizations are available from the 1995 DHS and the 1999 DES for the last born child of mothers residing in DISH districts (excluding Kasese). Data on immunizations presented here refer to living children aged 12-23 months at the time of the survey, therefore including only those who have reached the age by which they should be fully immunized.

Using information from the child's immunization card and from the mother's recall when no immunization card was available, 31% percent of children 12-23 months of age were found to be fully immunized in the 1999 DES (Figure 6.10). Over two-thirds (76%) of the mothers surveyed reported that their child had received BCG, 53% reported that their child had received three or more doses of polio, and 60% reported that the child had been immunized against measles. Coverage was lowest for DPT where only 37% of mothers reported that their child had received three or more doses.

Data on vaccination coverage in DISH districts are also available from the 1995 DHS. When compared to 1995, there is a decline in the percent of children who were reported to be fully immunized, from 44% to 31%. Most of the decline is due to fewer infants receiving the third dose of DPT. There is little change in the percent of infants receiving BCG, the third dose of polio, or measles. A decline in DPT coverage is supported by estimates of immunization coverage obtained from the Ministry of Health. However, it is also possible that the DISH survey may have underestimated the percent of children receiving DPT3. Unlike measles and polio, there is no vernacular expression for DPT. Consequently, mothers may not have accurately reported that the child had received DPT.

Figure 6.10: Percentage of Youngest Living Children Aged 12-23 Months Having Received Immunizations



Chapter 7: Sexually Transmitted Diseases and HIV/AIDS

7.1 Summary

The 1995 DHS and the 1997 and 1999 DISH Evaluation Surveys collected information about HIV/AIDS and other sexually transmitted diseases in 11 of the 12 DISH districts. Data in this chapter refer to specific areas of knowledge among survey respondents regarding symptoms of STDs, health consequences of STDs, and ways to prevent HIV/AIDS. In addition, these data summarize the relationship of DISH IEC activities to condom knowledge and document patterns of condom use and HIV testing. The main observations include

- ◆ Although awareness of diseases transmissible through sex is almost universal, knowledge of signs and symptoms of an STD was not widespread in 1999.
- ◆ Infertility and miscarriage are the most widely known consequences of untreated STDs; a decline was observed between 1997 and 1999 in the number of women and men who know that STDs increase the risk of HIV infection.
- ◆ A significant increase in men's and women's knowledge of a place to obtain STD treatment occurred between 1997 and 1999. Despite this increase, there was no change in the percent of men and women with symptoms of an STD who sought professional treatment.
- ◆ Knowledge of abstinence and the use of condoms to prevent HIV continue to increase among men and women from 1995 to 1999.
- ◆ Ever use of condoms to prevent STDs or HIV continues to increase among men and women. Use of condoms varies by gender and by partner type. While few men and women report using condoms with a marital or

cohabiting partner, in 1999, 67% of men and 48% of women with a non-regular partner used a condom at their last sexual encounter.

- ◆ A significant increase in the proportion of men and women ever tested for HIV occurred between 1997 and 1999. Almost two-thirds of men and women who have not previously been tested for HIV expressed a desire to be tested in 1999.

7.2 DISH Activities for STDs and HIV/AIDS

The DISH Project seeks to improve the delivery of services for the treatment of STDs and prevention of HIV/AIDS; and to improve STD/HIV/AIDS related knowledge and behavior. Improvements in service delivery are sought through training of nurses, midwives, medical officers and medical assistants in syndromic management of STDs and counseling about HIV/AIDS. With assistance from the AIDS information Center (AIC), the districts are supported to make HIV testing and counseling more widely available. Increased knowledge and changed behavior are sought through IEC campaigns. In 1998, an IEC campaign was conducted to encourage men and women to prevent and treat STDs correctly, while in early 1999 there was a campaign to promote use of HIV counseling and testing services.

7.3 Sexually Transmitted Infections

Through its activities, the DISH Project aims to reduce the frequency of STDs. Data from the 1995, 1997 and 1999 surveys allow comparison of some features of the STD situation in the DISH regions of Uganda, and 1999 data allow for further examination of some STD-related issues.

**Figure 7.1: Women's and Men's Knowledge about Gender-Specific Signs of an STD.
DES 1999**

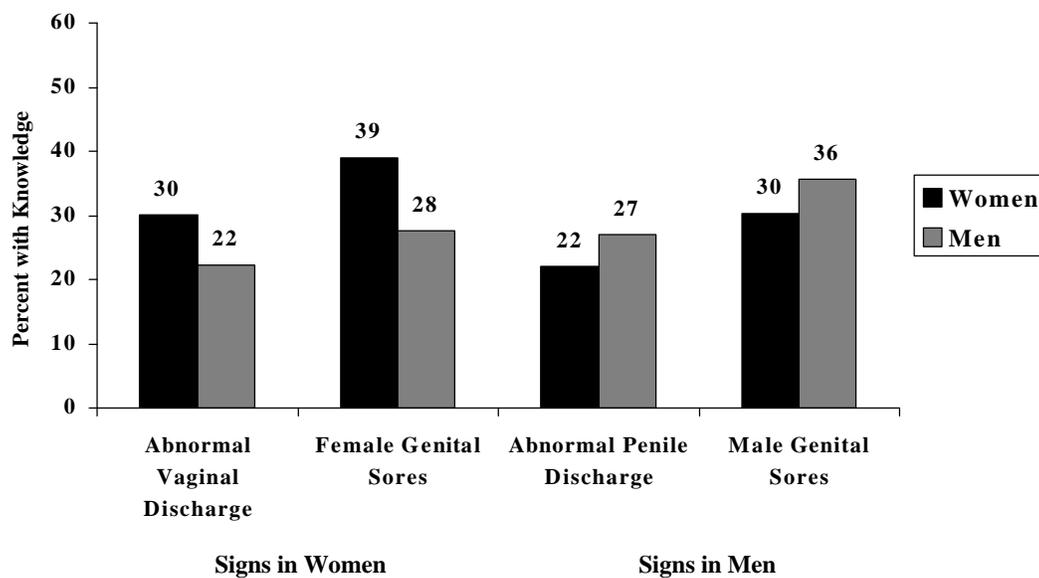
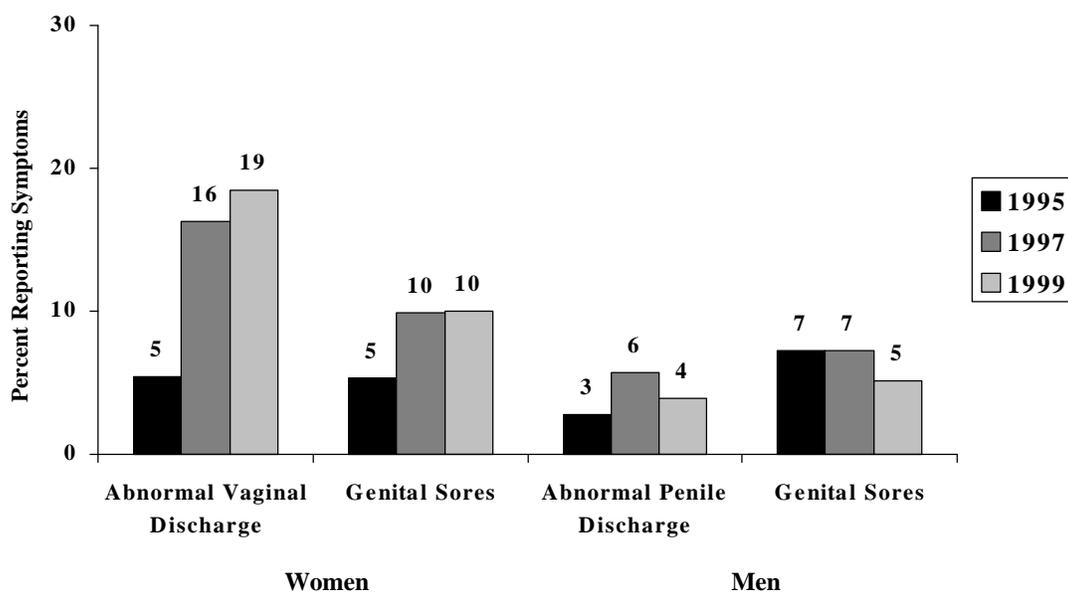


Figure 7.2: Percentage of Women and Men Reporting Symptoms of STDs in the Previous 12 Months



7.3.1 Knowledge of STD Symptoms

Individuals should have knowledge of the signs and symptoms of infection with an STD so that treatment can be sought and measures taken to prevent transmission to sexual partners, either through abstinence or the use of condoms by the infected partner. The 1999 survey collected information on the knowledge of various signs and symptoms of infection for both men and women. Although over 92% of women and 96% of men had heard of diseases that can be transmitted through sex, less than half could name the most common signs or symptoms of such infections.

Abnormal vaginal discharge and female genital sores were mentioned by 30% and 39% of female respondents, respectively (Figure 7.1). For the male respondents, 27% mentioned penile discharge and 36% male genital sores as signs of an STD. As expected, female respondents were more knowledgeable about signs and symptoms in women than were the male respondents. Conversely, male respondents were more knowledgeable about signs and symptoms in men than were female respondents.

Other signs of an STD frequently mentioned by respondents were burning pain on urination, loss of weight, and abdominal pain. Among women, however, 19% could not name any signs of an STD in women and 27% could not name any signs in men. Although knowledge of STD symptoms was higher for the male respondents, 24% of men did not know of any signs and symptoms in women.

7.3.2 Prevalence of STD Symptoms

Self-report of STD symptoms give some indication of the presence of STDs in a population, although the prevalence is likely to be underestimated. Respondents, and women in particular, may have an asymptomatic infection or may simply be unaware of their symptoms. There is also likely to be deliberate underreporting of symptoms by some respondents. On the other hand, respondents may report non-STD related symptoms as being signs of an STD.

Data from the 1995 DHS and the 1997 and 1999 DISH surveys show a rise in the percentage of

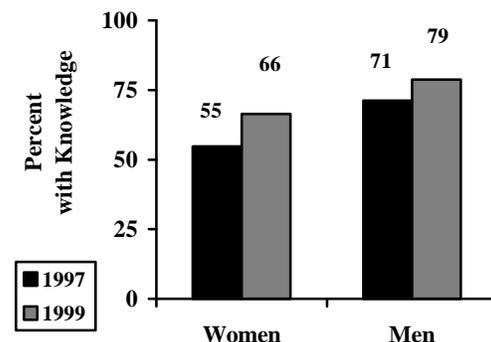
respondents reporting STD symptoms in the previous 12 months during the period from 1995 to 1997, with a leveling off in the two-year interval from 1997 to 1999 (Figure 7.2). The number of women reporting abnormal vaginal discharge more than tripled from 1995 to 1997, with an additional small but non-significant increase from 1997 to 1999. The percentage of women reporting genital sores also rose significantly in the first two years and then did not change in the second two years. The percentage of men reporting abnormal discharge from the penis doubled from 1995 to 1997, and then experienced a small but non-significant decline in 1999. There was no significant change in the percentage of men reporting genital sores from 1995 to 1999.

Changes in the reported rates may be due to an increase in awareness about STDs and their symptoms rather than due to an actual increase in prevalence, or it could be both. Regardless, the increased percentages of individuals reporting STD symptoms since 1995 indicate the continuing need for STD services.

7.3.3 Knowledge of Sources for STD Treatment

There has been a significant increase in knowledge of a place where STD treatment can be obtained (Figure 7.3). In 1999, 66% of women and 79% of men knew where to obtain treatment for an STD. This is compared to 55% of women and 71% of men who reported knowledge of a place for STD treatment in the 1997 DES.

Figure 7.3: Women's and Men's Knowledge of Sources of Treatment for STDs



Among respondents who had symptoms of an STD in the past 12 months, there has been no change in the percent that actually sought professional treatment. This has remained at approximately 58% of women and 63% of men.

7.3.4 Knowledge of the Health Consequences of STDs

One of the goals of the DISH project is that IEC dissemination efforts should inform individuals about the health consequences of sexually transmitted diseases. Women's knowledge of infertility and miscarriage as consequences of an untreated STD significantly increased from 1997 to 1999 (Figure 7.4). There was, however, a decline in knowledge among women that STDs increase the risk of HIV infection and can cause a baby to be born sick. Infertility and miscarriage were the consequences most widely known among women in 1999, with 28% and 30% respectively indicating knowledge of these outcomes.

For men, there were significant declines in knowledge of all four specified health consequences of an STD from 1997 to 1999 (Figure 7.5). Infertility was the most frequently cited consequence, mentioned by 30% of men in 1999.

In 1999, 38% of the women and 52% of the men surveyed could not name any of aforementioned consequences of an STD. These figures changed little from 1997. Survey respondents did, however, name consequences of an untreated STD other than those listed. (The vernacular wording of the question for obtaining this information implies that HIV/AIDS is included among STDs.) For example, 26% of male respondents and 16% of female respondents in the 1997 survey had mentioned death as a consequence of an untreated STD.

The focus of IEC efforts has been to encourage men and women with symptoms of an STD to seek treatment from a qualified health provider, to treat their sexual partners, and to use condoms or abstain from sex during treatment. Information on the consequences of an untreated STD has been a secondary message.

Figure 7.4 Women's Knowledge of the Health Consequences of Untreated STDs

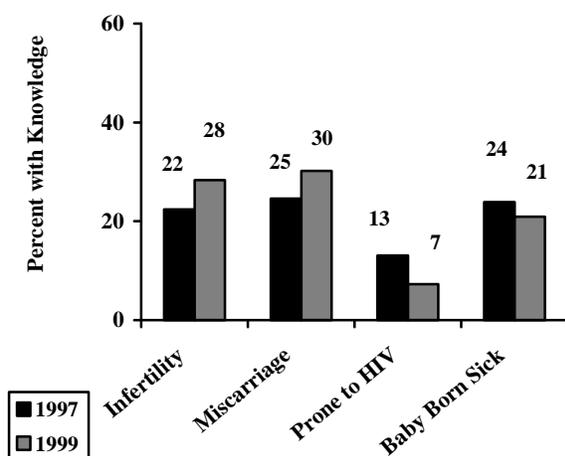
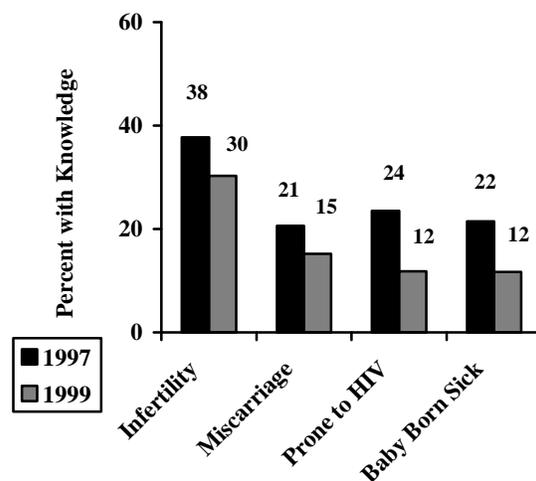


Figure 7.5 Men's Knowledge of the Health Consequences of Untreated STDs



7.4 HIV/AIDS

The DISH project has provided training to health facility staff in HIV counseling and has assisted AIC in making HIV counseling and testing more available. In fact, the number of HIV counseling and testing centers doubled during the first phase of the DISH project. IEC campaigns have promoted condom use for HIV prevention and the use of HIV counseling and testing services. Extensive social marketing of condoms has also been conducted by SOMARC and CMS.

Data from the 1995 DHS and the 1997 and 1999 DISH surveys allow for analysis of trends in respondents' knowledge of methods for avoiding HIV/AIDS infection, the practice of using condoms to prevent HIV, and also the prevalence of HIV testing among women and men. Survey results between 1995 and 1999 indicate that knowledge of some, but not all, preventive measures has increased. Knowledge of condoms in particular has risen and IEC activities seem to have contributed to increased knowledge of the preventive benefits of condoms. The use of condoms to avoid HIV/AIDS has risen among both women and men.

7.4.1 Knowledge of Means to Avoid HIV/AIDS

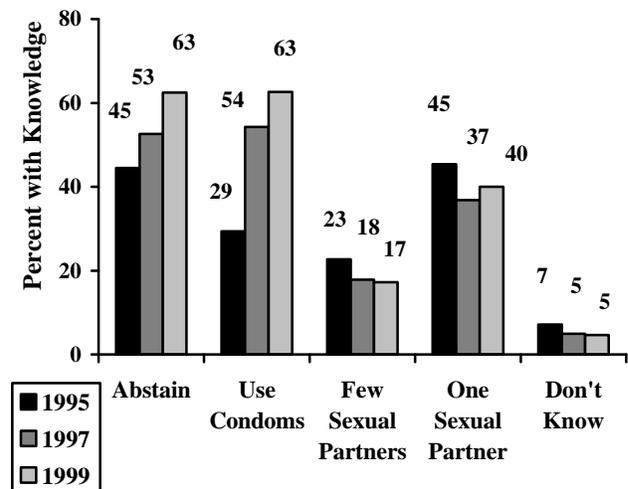
Knowledge of HIV/AIDS is almost universal in Uganda. When asked to spontaneously cite the ways to avoid getting AIDS, over 95% of both men and women could name at least one way to avoid HIV infection (Figures 7.6 and 7.7). This percentage rose only slightly between 1995 and 1999. Knowledge of condom use as means to avoid HIV increased steadily for both men and women from 1995 to 1999. Knowledge of condoms more than doubled among women during this time period and rose by 75% for men. The condom is now one of the best-known ways to avoid HIV infection and almost two-thirds of women and three-quarters of men interviewed in 1999 spontaneously mentioned condoms as a means to prevent HIV.

Knowledge of abstinence also rose steadily from 1995 to 1999 for both men and women. Almost two-thirds of survey respondents spontaneously cited abstinence as a means to prevent HIV in

1999. The percent of respondents who were knowledgeable about abstinence for HIV prevention is similar to condom use, particularly for women. Increases in knowledge of abstinence and condoms were statistically significant for both men and women.

The percentage of respondents with the knowledge that having only one or few sexual partners is a way to reduce the risk of HIV/AIDS fell for men and remained relatively stable for women between 1997 and 1999. As IEC efforts have focused on abstinence and condom use, it is not surprising to see increases in knowledge of these and a decline or leveling off of knowledge of other ways to prevent HIV.

Figure 7.6: Women's Knowledge of Means to Avoid HIV/AIDS



Because of the design of the survey questions on knowledge, responses about ways to avoid HIV infection may underestimate the actual levels of knowledge. The questions were "open-ended," with individuals being asked to name any and all ways they knew to avoid HIV/AIDS. The 1999 DES further asked respondents directly whether using condoms and having one faithful partner protects against AIDS. A full 78% of women knew that a condom provides protection against AIDS and 87% knew that having one faithful

partner provided protection. For men, these percentages were higher, 85% and 91% respectively.

Differences in knowledge of means to avoid AIDS are seen between the probed responses presented above and the spontaneous responses presented in Figures 7.6 and 7.7. While spontaneous responses may be less affected by a respondent's inclination to give a "correct" response, the prompted responses probably more accurately reflect knowledge levels. We have chosen to present the spontaneous responses because the same open-ended questions were included in all three surveys. These data allow for the assessment of trends from 1995 to 1999, despite the fact that knowledge may be underestimated at each point in time.

7.4.2 DISH IEC Activities and Knowledge of Condom Use as a Means to Avoid HIV/AIDS

For sexually active individuals, using condoms is an effective way to reduce the likelihood of transmission of HIV and other STDs. Broadcast of IEC messages on the radio is one way in which individuals can gain knowledge about ways to avoid HIV/AIDS. To assess whether or not DISH IEC messages were reaching their intended audience, respondents were specifically asked whether they had heard DISH radio messages, in particular the "Choices" reproductive health radio program. In addition, respondents were asked if they had heard about Protector condoms, a brand socially marketed under funding by USAID.

Data in Figure 7.8 show that knowledge of condom use as a means to avoid HIV infection was greater among both men and women who had heard radio messages about Protector condoms in 1999. A full 85% of men who recalled hearing Protector messages knew that condoms are a means to avoid HIV/AIDS as compared to 71% of men who had not heard an advert about Protector. Knowledge of condoms for HIV prevention was also significantly higher for women who had heard Protector messages on the radio (82% versus 66%).

For the Choices radio program, there was no such association. This is in contrast to the 1997 DES results which showed that listening to the Choices program was significantly associated with greater knowledge of condoms among both men and women.

Figure 7.7: Men's Knowledge of Means to Avoid HIV/AIDS

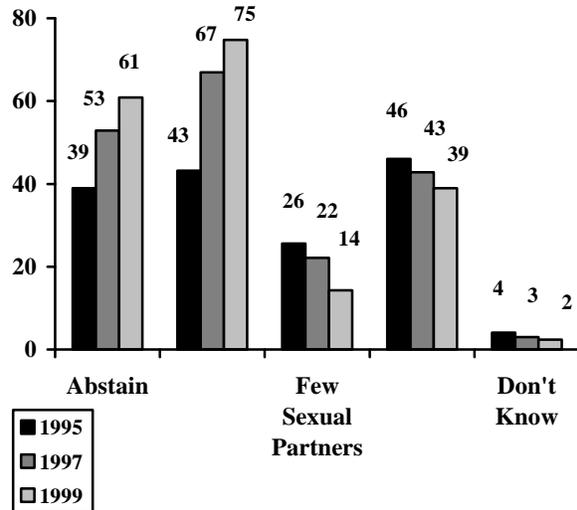
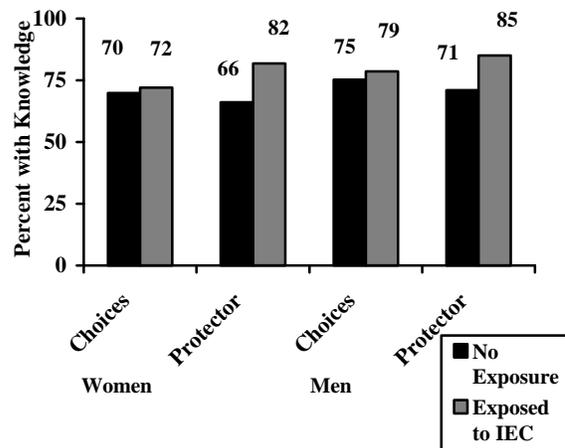


Figure 7.8: Women's and Men's Knowledge of Condoms as a Means to Avoid HIV/AIDS by Exposure to IEC Radio Messages, DES 1999



Although it is reasonable to assume that hearing radio IEC messages resulted in greater knowledge of condoms, there is no way in the present analysis to be certain that this is the case. It may be that persons with greater levels of HIV/AIDS knowledge may simply remember these types of radio messages when surveyed. Men and women who report hearing radio messages may also have other characteristics that favor increased knowledge of condoms, such as higher educational levels or socio-economic status. Further analyses will allow for a more definitive assessment of the impact of IEC messages on STD and HIV related knowledge and behavior.

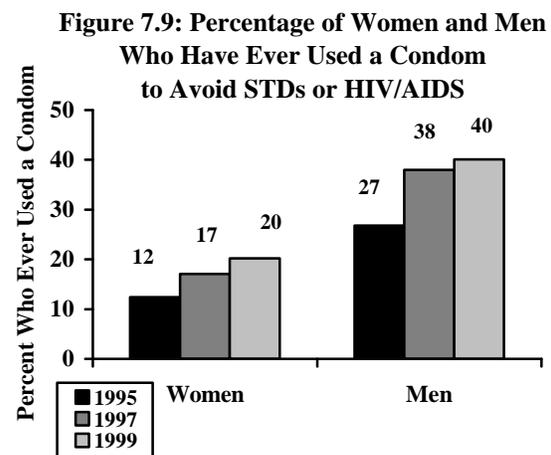
7.4.3 Condom Use to Prevent STDs or HIV/AIDS

Condoms are effective for both prevention of pregnancy and STD/HIV infection. Although the majority of respondents are knowledgeable about condoms, use of this barrier method is less prevalent. Survey respondents were asked whether they had ever used condoms for the purpose of avoiding HIV/AIDS or other STDs. Figure 7.9 shows continuing increase in (ever) use of condoms for the prevention of disease among both sexes over the period 1995-1999. While the most significant increase in ever use of condoms occurred between the first two-year interval, 1995 and 1997, the trend continued from 1997 to 1999. Condom use remains substantially higher for men than women. In 1999, 40% of men had ever used a condom to prevent HIV as compared to only 20% of women.

Additional questions on the use of condoms during the respondent's last sexual encounter were included in the 1999 DISH survey that did not appear in the earlier surveys. Men and women who had sex in the past year were asked about their relationship to the person with whom they last had sex, and whether they used a condom on that occasion. It was not specified whether condoms were being used primarily for family planning or for STD/HIV prevention. Few women (16%) reported that their partner at last sex was a non-regular (defined as non-marital, non-cohabiting) partner, the group most at risk of HIV infection. A larger percentage of men (30%) report a non-regular partner at last sex.

The use of condoms at the last sexual encounter varied significantly depending on the type of sexual union. With non-regular partners (non-marital, non-cohabiting partners), 48% of women and 67% of men used a condom at the last sexual encounter (Figure 7.10). Few men and women used condoms at the last sexual encounter with a marital or cohabiting partner. Condom use at last sexual encounter was much higher for men than for women, regardless of partner type.

Although use of condoms with a non-regular partner is relatively high, because so few women (and men to a lesser extent) had sex with a non-regular partner, the use of condoms with this type of partner only has a small influence on the percent of women who have ever used condoms or who report condoms as their current family planning method.



7.4.4 HIV Counseling and Testing

The number of HIV testing and counseling sites has doubled during the 1997-1999 time period and DISH IEC campaigns in 1999 encouraged men and women to go for testing at the newly established sites.

The percentages of individuals who have ever been tested for HIV infection rose gradually for women and more rapidly for men between 1995 and 1999 (Figure 7.11). The increase in HIV testing from 1997 to 1999 was statistically significant for both women and men. A full 16% of women and 19% of men reported in the 1999 survey that they had been tested for HIV.

Almost two-thirds of men and women who had not previously been tested for HIV expressed a desire to be tested in 1999. This figure underlines the need to broaden the availability of HIV counseling and testing.

Figure 7.10: Percentage of Women and Men Who Used a Condom at Last Sexual Encounter by Type of Partner (Regular or Non-regular), DES 1999

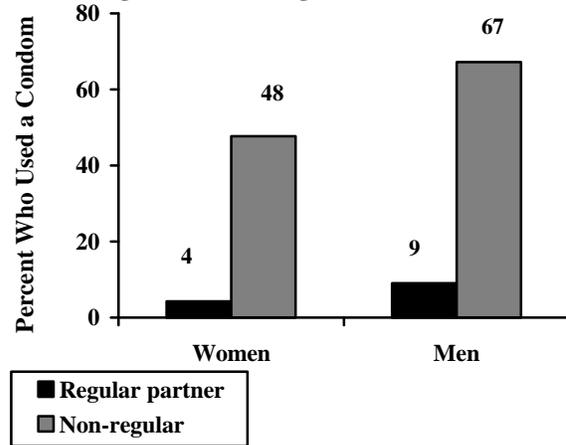
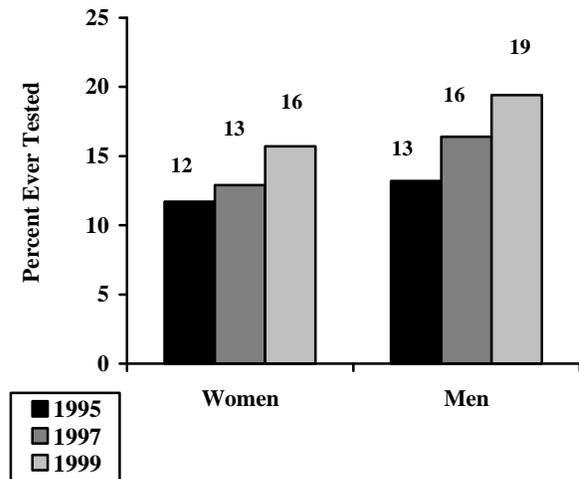


Figure 7.11: Percentage of Women and Men Ever Tested for HIV



Chapter 8: Health Facilities

8.1 Summary

To better understand the health behavior of individuals, information is required on the availability of health services. Such information enables researchers to analyze and evaluate health services, and allows program managers to make appropriate decisions about future activities and related allocations of resources. Toward these goals of understanding and action, the 1997 DISH Facility Survey gathered data from 172 health facilities and the 1999 DISH Facility Survey gathered data from 292 health facilities in all DISH districts except Kasese. Data from pharmacies and drug stores, included only in the 1999 survey, appear at the end of this chapter. Appendix B details the selection of facilities. To insure comparability of survey data from 1997 and 1999, trends are distinguished by operating authority of the health facility. The findings from the facility surveys show that

- ◆ Family planning services, STD treatment, antenatal care, and immunizations are all widely available in government health facilities in 1999. Emergency obstetric care is available in one-quarter of government facilities, while HIV/AIDS testing is offered in over one-quarter of the facilities.
- ◆ The majority of private health facilities provide family planning and STD treatment, and about one-half offer maternal health services. Very few (less than 10%) provide immunization services according to the 1999 survey.
- ◆ Over 80% of government facilities had at least one DISH-trained staff providing family planning, STD treatment, maternal health, and child health services in 1999. Staff trained under DISH were also found in over 50% of NGO facilities and 20% of private facilities.
- ◆ Two types of contraceptives—pills and injectables—were continuously available during September 1999 in approximately three-quarters of government facilities. Other contraceptives were offered and were continuously available in only small percentages of government facilities.
- ◆ Stockouts of condoms and pills were much higher in 1999 than in 1997. In September 1999, over one-half of government facilities experienced a stockout of condoms and 23% experienced a stockout of pills. In contrast 12% of government facilities surveyed in 1997 had stockouts of condoms and 10% of pills.
- ◆ Basic medical supplies for child health services, including Oral Rehydration Solution (ORS) packets, immunizations, and malaria drugs, were continuously available in over 80% of the government health facilities during September of 1999.
- ◆ Three-quarters of government facilities displayed the Rainbow over the Yellow Flower reproductive health signboard; almost 90% displayed a DISH family planning poster, and over 80% had posters advocating breastfeeding, HIV testing and counseling, and STD prevention.
- ◆ Socially marketed family planning methods are widely available. Of the drug stores and pharmacies surveyed, 39% had the Pillplan brand of oral contraceptives, 23% had the Injectaplan brand of injectables, and 56% had Protector condoms continuously available in September 1999.

8.2 DISH Activities Related to Health Facilities

DISH activities are designed to increase availability and improve quality of reproductive health services, to increase public knowledge, and to change attitudes and behavior such as to favor increased service utilization. Project activities related to the provision of health services include training programs for nurses and midwives, support for community reproductive health workers, building capacity in the health and logistics management systems, building capacity

in financial management, and implementation of IEC activities. The DISH project is not specifically trying to increase the number of health facilities or to change their basic characteristics. Therefore, data on the number and kind of health facilities do not reflect DISH activities per se, but rather provide information about the setting within which DISH activities are taking place.

8.3 General Characteristics of Health Facilities

The three main authorities that operate the health facilities in the DISH districts of Uganda are the government, non-governmental organizations (NGOs), and the private sector. Due to differences in the sampling of the facilities in the 1997 and 1999 surveys, the distribution of facilities by operating authority and type differs in the two surveys (Table 8.1).

The 1997 facility survey includes the facilities identified as being the most used by the population in each cluster included in the community survey, as well as the DISH Data Collection Points (DDCPs), those facilities that are part of the sentinel surveillance system for

annual service delivery indicators. This purposive sample resulted in the inclusion of 172 facilities in the survey. Almost two-thirds of the facilities in the sample are operated by the government, NGOs operate almost 21%, and private authorities operate 15% of facilities.

On the other hand, the 1999 survey included a census of all health facilities servicing the area around the population included in the DISH community survey, and as such, it is representative of health facilities available to the respondents of the community survey. Although giving a better picture of the whole health service environment, the distribution of facilities by operating authority differs substantially from the convenience sample of 1997. The 1999 data indicate that private authorities operate about 63% of facilities, while the government operates only 26%, and NGOs about 11%. A total of 292 facilities were included in the survey in 1999.

These health facilities fall into one of six major categories: hospitals, health centers, dispensaries with maternity units (DMUs), dispensaries, clinics, and other. The 1997 DISH facility survey included a high proportion of health centers (26%

Table 8.1
Number of Health Facilities Sampled in the DES by Operating Authority, Type of Facility, and Year of Survey

Type	Government		NGO		Private		Total	
	1997	1999	1997	1999	1997	1999	1997	1999
Hospital	13	8	8	6	1	1	22	15
Health Center	35	23	8	9	1	5	44	37
DMU	24	18	3	7	0	12	27	37
Dispensary	33	20	8	3	0	3	41	26
Clinic	4	5	8	6	21	154	33	165
Other	2	1	1	0	2	8	5	9
Total	111	75	36	31	25	183	172	289

of facilities) and dispensaries (24%). Least represented were hospitals, with only 13% of the total number of health facilities. Dispensaries with maternity units (DMUs) and clinics of various types accounted for between 15% and 20% of the total number. In 1999, private clinics comprise more than half of the sample (57%). Health centers and DMUs represent 13% of the 1999 sample, dispensaries represent 9%, hospitals 6% and other facilities 3%.

It should be noted that these private clinics are generally small outpatient units that see far fewer clients than the more formal government facilities. However, their large number indicates their importance in the health care delivery system. The small size of these facilities also explains why they were not included in the 1997 sample.

Comparisons by operating authority between the 1997 and 1999 samples show the greatest differences between the surveys for private health facilities, while the government and NGO samples appear much more comparable over time. Government facilities have a fairly similar distribution by facility type for 1999 compared to 1997. Likewise, the distribution of NGO-operated facilities is fairly similar in 1999 compared to 1997 for hospitals, health centers and clinics.

Time trend results that follow will consider trends for government facilities as the samples are deemed to be relatively comparable. Where appropriate, we have included trends for NGOs. Because the sample of private clinics varies to such a degree between 1997 and 1999, the results for private clinics will be presented for 1999 only.

Caution is required when interpreting these results. The non-random selection of facilities in the 1997 survey creates a bias in the results. The nature of the bias is expected to show higher levels of access and quality of services for 1997 because the selection criteria for the facilities in 1997 favored larger facilities of higher quality.

8.4 Services Provided at Health Facilities

Not all health facilities provide a full range of services. Commonly provided services include family planning, treatment for sexually transmitted diseases (STDs), antenatal care, and immunizations. Government and NGO facilities provide a broader range of services than private facilities (Table 8.2).

In spite of the possible downward bias in the 1999 sample, government facilities increased the provision of family planning and STD/HIV/AIDS services in 1999 compared to 1997 (Figure 8.1). Family planning provision reached 100% in 1999 from an already high level of 96%. Availability of STD treatment increased from 82% to 96% of facilities. Although still low in absolute magnitude, provision of HIV/AIDS testing more than doubled, from 12% to 27%. Availability of HIV counseling increased at government facilities, starting at a much higher level of 61% in 1997 and rising to 75% two years later.

Figure 8.1: Percentage of Government Health Facilities Providing Family Planning and STD/HIV Services

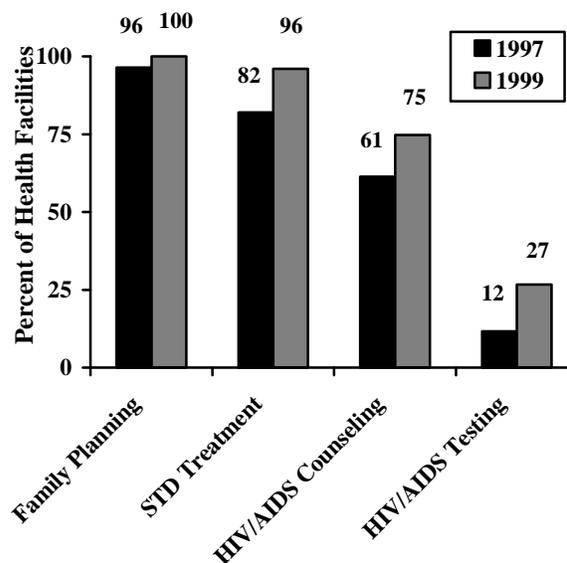


Table 8.2
Percentage of Facilities Providing Family Planning, STD/HIV, and Maternal-Child Health Services by Operating Authority

Type of Service	Government		NGO		Private
	1997	1999	1997	1999	1999
Family Planning	96	100	78	81	76
STD Treatment	82	96	97	100	97
HIV/AIDS Counseling	61	75	81	71	52
HIV/AIDS Testing	12	27	25	26	15
Antenatal Care	89	92	83	94	56
Post-natal Care	69	88	69	87	45
Delivery Care	78	77	64	74	42
Emergency Obstetric Care	32	25	47	26	10
Immunization	96	97	83	84	10

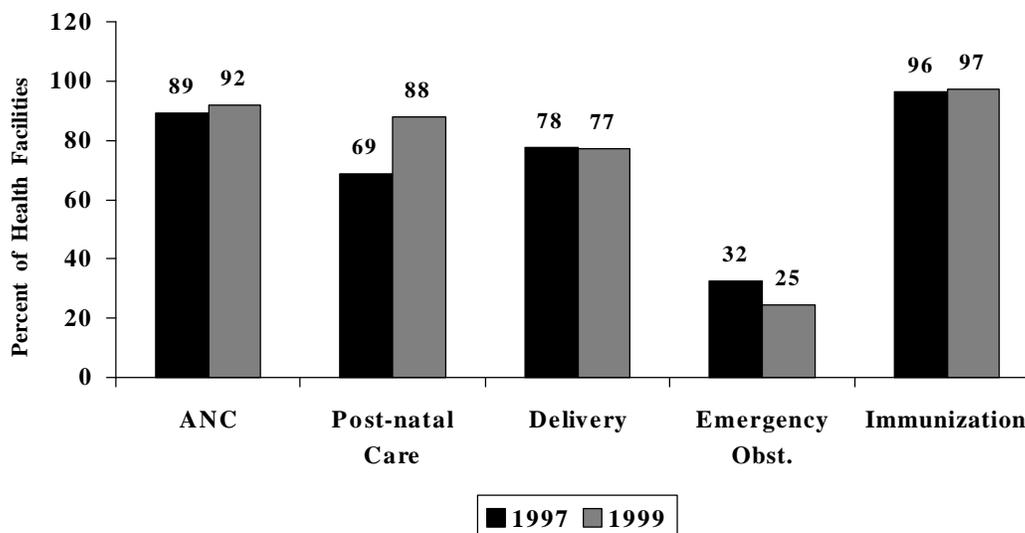
Much less change occurred for maternal and child health (MCH) services at government facilities. This is not surprising given the initial focus of the DISH project on reproductive health. Immunization services remained high (97%), almost the same percentage as was seen in 1997 (Figure 8.2). Antenatal care services increased slightly and delivery care remained about the same. The availability of post-natal care was an exception, having increased substantially from 69% to 88%.

The availability of emergency obstetric care dropped from 32% to 25% of government facilities, but this may not be as much a concern as it first appears. The survey question about emergency obstetric care simply asks if the service is offered, and in some cases may be open to a certain level of interpretation. A response may be yes even when the necessary equipment and training are not available, especially in rural areas where providers may perform emergency obstetric care because referral is not an option due to travel time.

NGO facilities share some patterns similar to government facilities, yet maintain some important differences (Table 8.2). While provision of family planning increased between 1997 and 1999, the overall level of availability is lower in NGO's (81%) than in government facilities in 1999. This level may be close to a maximum for family planning as some of the religious-based NGOs cannot be expected to provide this service. Availability of STD treatment for NGO facilities started at a higher level than government facilities, and increased to 100% in 1999. Unlike the trend observed among government facilities, provision of HIV counseling dropped in NGO facilities from 81% to 71%. HIV testing started at a higher level for NGOs in 1997 (25%) compared to government facilities, but remained stable over the following two years. The result was that by the time of the 1999 survey, about the same proportion of government and NGO facilities provided HIV testing.

NGO facilities experienced about equal or greater change compared to government facilities for MCH services. While starting out with lower service availability in 1997, provision of antenatal care in NGO facilities increased to a level about

Figure 8.2: Percentage of Government Health Facilities Providing Maternal and Child Health Services



the same as that for government facilities in 1999. Post-natal care provision in NGO facilities followed a similar pattern to government facilities. Although the level started below that for government facilities, provision of delivery care increased substantially for NGO facilities and reached about the same figure as for government facilities in 1999. Provision of emergency obstetric care declined much more rapidly for NGO facilities. Note that the caveats mentioned for comparing trends in emergency obstetric care at government facilities need to be applied to NGO facilities. Provision of immunization at NGO facilities remained about the same across the two surveys (around 84%), following the trend observed for government facilities albeit at a lower level.

According to the 1999 DES, provision of health services at private facilities is generally lower, and often much lower, than for either government or NGO facilities. Family planning services are available at 76% of private facilities. This is somewhat lower than NGO facilities and substantially lower than government facilities. Only the availability of STD treatment marks an exception where almost all private facilities offer this service. Provision of all other services is much lower for private facilities. Of particular concern is the provision of immunization, only offered by one in ten of these facilities. Such a low level of immunization services in private facilities implies that almost all children must be taken to government or NGO facilities for this service.

8.5 DISH Training of Health Facility Staff

The DISH project has trained nurses and midwives to provide integrated reproductive health services. In 1997, the training curriculum was expanded to also include child nutrition. One way to assess the impact of DISH activities on health facilities is to examine how many facilities actually have DISH-trained staff members providing various services. In 1999, over 80% of government-run health facilities had at least one DISH-trained staff providing family planning, STD treatment, maternal health, or child health services (Figure 8.3). Figures for 1999, however, are only slightly higher than those found in 1997. This is primarily due to staff turnover and a shortage of staff qualified for training. Many of the staff at health facilities are nursing assistants, particularly in rural areas, rather than nurses and midwives who had been the focus of DISH-I training activities. Training efforts under DISH-II will also include nursing assistants in order to increase the presence of DISH-trained providers in health facilities.

Although the DISH project works primarily with staff at government-run health facilities, DISH-trained staff are working at facilities operated by other authorities. As Figure 8.4 shows, over one-half of the NGO facilities in 1999 had a DISH-trained staff member providing reproductive and maternal child health services, as did one in five privately run health facilities.

Figure 8.3: Percentage of Government Health Facilities with at Least One DISH-Trained Staff Member providing Reproductive, Maternal, and Child Health Services

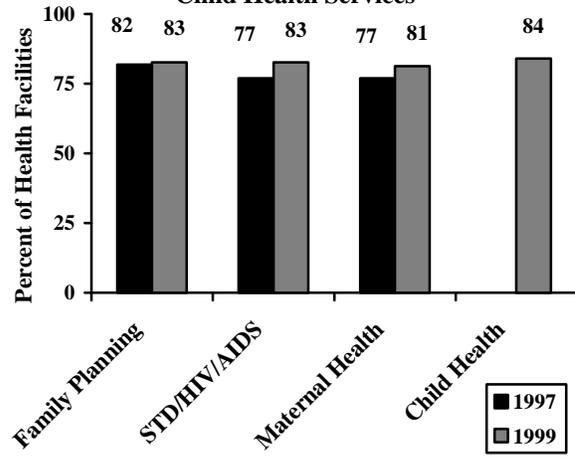


Figure 8.4. Percentage of Health Facilities with at Least One DISH-Trained Staff Member providing Reproductive and Maternal-Child Health Services by Operating Authority, DES 1999

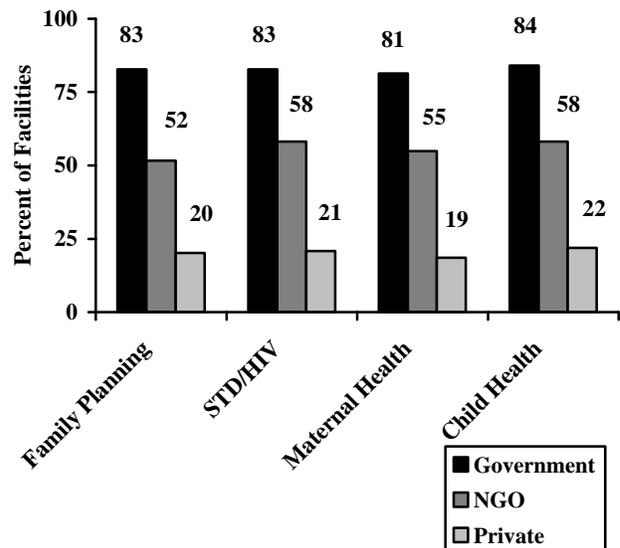
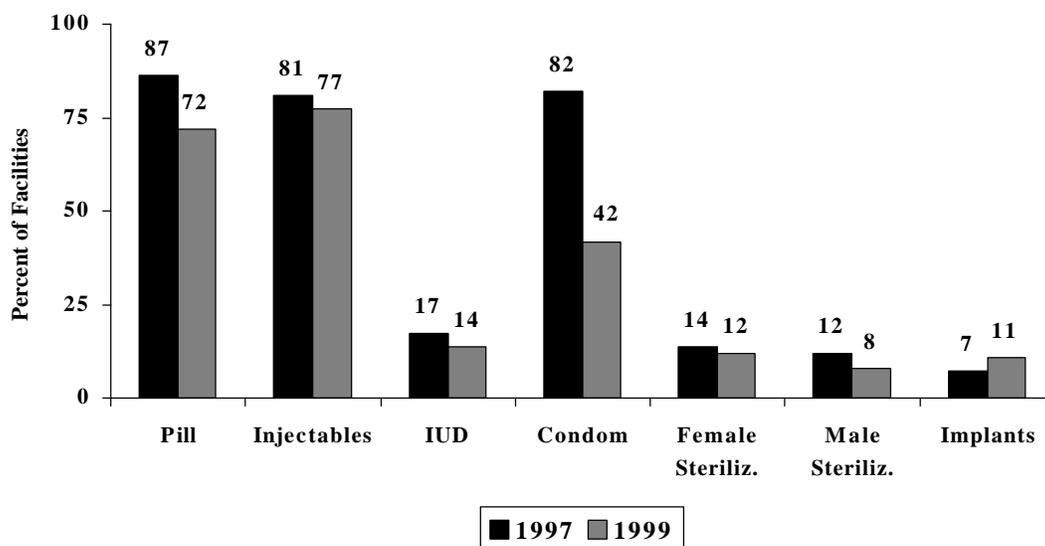


Figure 8.5: Percentage of Government Health Facilities with Family Planning Commodities Continuously Available in September



8.6 Availability of Supplies at Health Facilities

An important aspect of health services provision is the availability of family planning methods and other commodities required for basic reproductive, maternal and child health care. The 1997 and 1999 DISH facility surveys assessed the availability of these items at health facilities at the time of the survey and during the month prior to the survey (the month of September in both surveys). Those facilities that did not have a particular item available either did not offer the relevant type of service or experienced a stockout during at least part of the month.

8.6.1 Availability of Family Planning Commodities

Of the seven kinds of family planning methods offered by health facilities, two methods—pills and injectables—were continuously available during September 1999 in about three-quarters of the government-run facilities (Figure 8.5). Condoms were available in 42% of these facilities that same month. Availability of other contraceptive

methods was much less widespread: IUDs, female and male sterilization, and implants were available in less than 15% of the facilities surveyed. In 1999, there was actually a decline in the availability of many of the family planning methods from 1997 levels. The most dramatic decline was in the availability of condoms. Although 82% of facilities had condoms available continuously in September 1997, less than one-half had them available in the same month in 1999. There were also small declines in the availability of pills and injectables.

The previous numbers pertain to the continuous availability of family planning commodities—a function of whether or not the facility actually offers that particular method and, if so, whether or not that method was continuously available during the previous month. Stockouts, or the lack of availability of a method at those facilities in which the method is generally offered, also provide useful information about family planning logistics management.

Although there has actually been an increase in the percent of government facilities offering family planning services (as described in section 8.4), stockouts of family planning commodities have led to a decrease in availability between 1997 and 1999. As Figure 8.6 shows, stockouts of pills increased from 10% of government facilities in 1997 to 23% in 1999. The increase in condom stockouts was even greater, 12% of government facilities in 1997 to 58% in 1999.

Although condom stockouts were widespread, the problem was greatest for the government-run facilities. Of the NGO facilities, 29% experienced a stockout in September 1999 as did 37% of the privately run facilities. The data from the 1999 survey also show that stockouts of pills occurred at 12% of NGO facilities and 15% of privately run facilities.

8.6.2 Availability of Drugs and Medical Supplies

Although some data on the availability of drugs and other medical supplies for reproductive and child health were collected in the 1997 DISH facility survey, the 1999 survey collected much more extensive information. For example, in the 1997 survey, staff at health facilities were simply asked whether STD drugs were available, whereas in the 1999 survey, the availability of each antibiotic used for STD treatment was verified visually. Where possible, trends in availability at government-run facilities from 1997 to 1999 are shown. Where a comparison of trends is not possible, additional results from the 1999 survey are presented by operating authority of the health facility in order to provide a more complete picture of the supplies and services available.

With regard to supplies for maternal and child health, the availability of iron tablets and oral rehydration solution (ORS) was compiled in both surveys. The availability of iron tablets to treat anemia rose from 68% of government facilities in 1997 to 75% in 1999. An increase in the availability of ORS packets to combat dehydration, from 79% of facilities in 1997 to 90% in 1999, was also seen (Figure 8.7).

Figure 8.6. Percentage of Government Health Facilities Offering a Family Planning Method that Experienced a Stockout in September

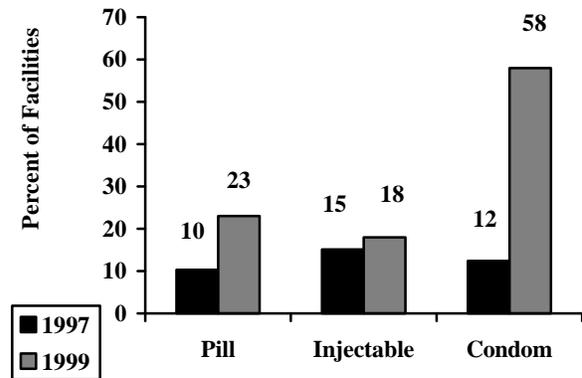


Figure 8.7: Percentage of Government Health Facilities with Supplies for Maternal and Child Health Services Continuously Available During the Month Prior to the Survey

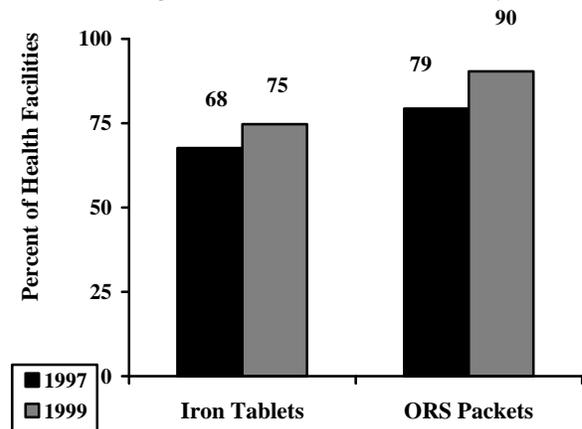
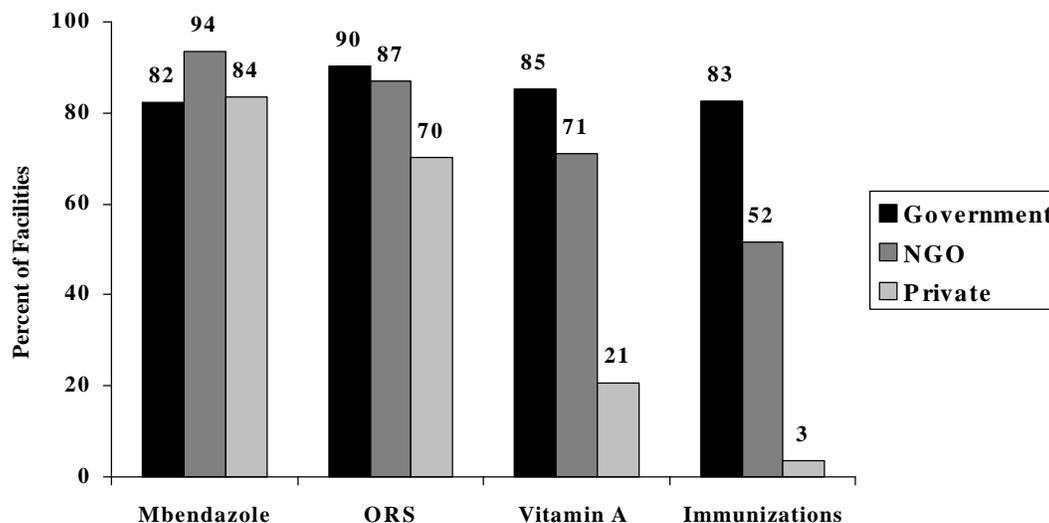


Figure 8.8: Percentage of Health Facilities with Supplies for Child Health Services Continuously Available in the Month Prior to the Survey by Operating Authority, DES 1999



The availability of other supplies for sick- and well-child care in September 1999 are presented in Figures 8.8 and 8.9. Sick-child services include care for treatment of infections and illnesses such as dehydration and malaria, whereas well-child services refer to preventative health care such as vitamin supplementation and immunization. The drug mebendazole, for the treatment of helminthic infections, and ORS to combat dehydration were continuously available in the majority of all health facilities, regardless of operating authority (Figure 8.8). Vitamin A supplements were available in over 80% of government and NGO facilities, but in only a small percentage of the private facilities. Childhood immunizations (for measles, BCG, DPT, and polio) were available at 83% of government facilities but only 52% of NGO and 3% of private facilities.

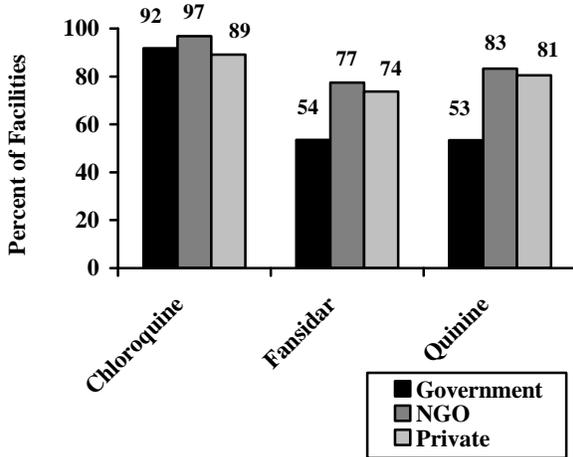
The availability of the most common malaria treatments was also assessed in the 1999 survey and is presented in Figure 8.9. Chloroquine was available at almost all health facilities while the availability of fansidar and quinine varied. Approximately one-half of government-run facilities had fansidar and quinine available continuously in September 1999. This is

compared to over three-quarters of NGO and private facilities.

In reviewing these figures, it would appear that supplies for sick-child care appear generally available at the majority of health facilities, regardless of operating authority. Supplies for well-child care, although generally available at government and NGO facilities, and are extremely limited at private facilities.

The availability of antibiotics for the syndromic management of STDs was also assessed in the 1999 survey. The majority of health facilities had the essential antibiotics for the syndromic management of STDs available in September 1999 (Figure 8.10). Doxycycline and ciprofloxacin, treatments for urethral and vaginal discharge, were continuously available in 65% and 51% of government facilities, respectively. Metronidazole, used to treat vaginal discharge, was available in 85% of facilities and benzapine penicillin, for the treatment of syphilis, in 84%. The greatest availability of STD drugs was found at NGO facilities. Private facilities had similar availability to government facilities.

Figure 8.9. Percentage of Health Facilities with Anti-Malarial Drugs Continuously Available in the Month Prior to the Survey by Operating Authority, DES 1999



8.7 Availability of IEC Materials at Health Facilities

The DISH survey data allow a look at the percentage of facilities with IEC materials readily available. The extent to which health facilities report the presence of these materials is one measure of institutional commitment to promotion of family planning and other reproductive and child health services. The 1997 and 1999 DISH Facility Surveys assessed whether the following were displayed in plain view: a facility signpost, a “Yellow Flower” family planning signboard, a “Rainbow over the Yellow Flower” reproductive health signboard, and DISH posters on various topics.

The Ugandan national family planning logo, the “Yellow Flower”, was launched in January 1994 and ideally should be displayed at all health facilities providing family planning services. The “Rainbow over the Yellow Flower” signpost, the national family health logo, was later launched in September 1997 and indicates the availability of a range of reproductive health services. The DISH project has undertaken the initiative to distribute these logos across facilities in project districts.

Figure 8.11 shows the relative availability of these signposts and symbols at government operated

facilities. The figure also shows whether or not the “Yellow Flower” and “Rainbow” signboards were visible outside from the road and noted whether or not service providers were wearing family planning or reproductive health badges.

According to the 1999 DISH Survey, the Yellow Flower signboard was displayed at over three-quarters of health facilities and the Rainbow signboard was displayed in 85% (Figure 8.11). Just over one-half and two-thirds of these signboards, respectively, were visible from the road. Between 1997 and 1999 there has been an increase in the percent of facilities displaying the Rainbow logo advertising the availability of integrated reproductive health (RH) services at the facility. At many facilities, this has replaced the Yellow Flower family planning (FP) logo. Few facilities (5%) had staff that wore Yellow Flower or Rainbow badges. The percent of facilities with staff wearing a badge declined from 1997 to 1999.

There has been a significant increase in the percent of government facilities displaying a family planning poster: from 67% of facilities in 1997 to 89% in 1999 (Figure 8.12). Other posters were also frequently displayed. In 1999, almost all government facilities (92%) had a breastfeeding poster, 80% had a poster for HIV testing and counseling, and 84% displayed a poster for STD prevention.

8.8 Availability of Supplies at Pharmacies and Drug Shops

During the 1999 DISH facility survey, data were also collected at pharmacies and drug shops serving communities in DISH districts. A total of 186 pharmacies and drug shops were surveyed. Data from pharmacies and drug shops complement those available from health facilities by providing complete information on the supply of family planning methods. The survey collected information on whether pills, injectables, and condoms were continuously available in September 1999. Pharmacies and drug shops that did not have the method continuously available may not provide the method, or they may usually provide the method but experienced a stockout at some time during the month.

Figure 8.10: Percentage of Health Facilities with Antibiotics for STD Treatment Continuously Available in the Month Prior to the Survey by Operating Authority, DES 1999

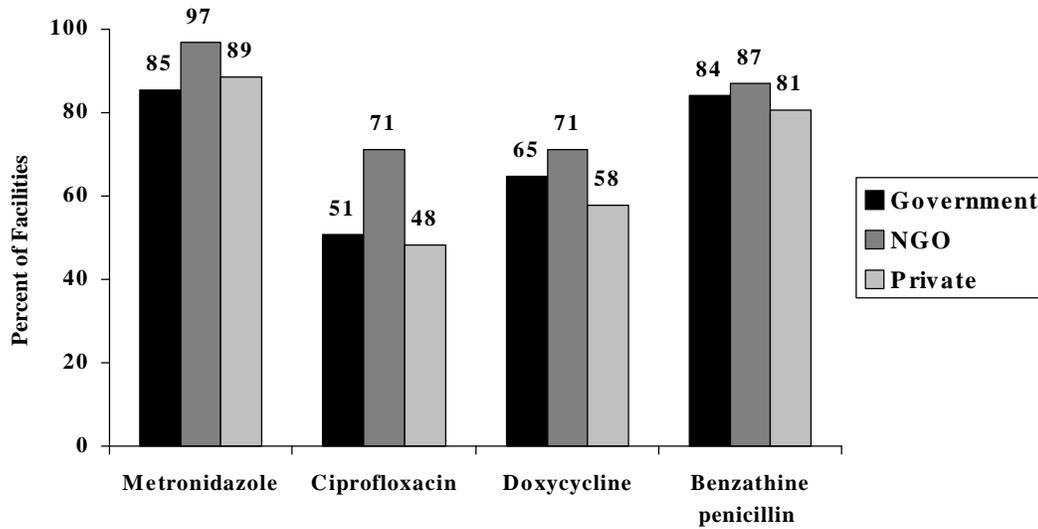
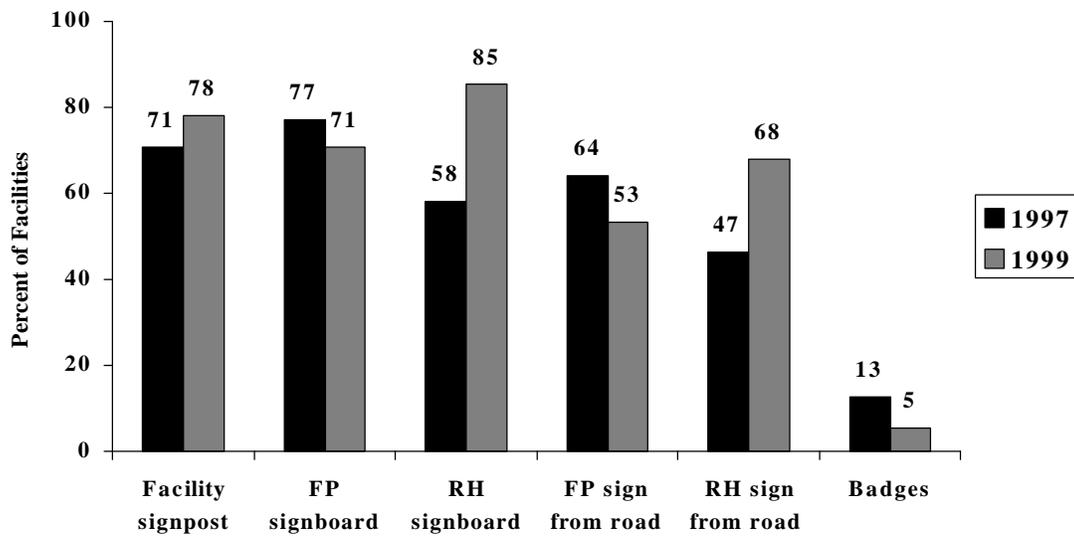


Figure 8.11: Percentage of Government Health Facilities with Visible IEC Signposts and Badges



Several family planning methods are socially marketed with support from USAID. These include the Pillplan brand of orals, the Injctaplan brand of injectable contraceptives, and Protector condoms. Pillplan was continuously available in September 1999 at 39% of the pharmacies and drug shops; nearly two-thirds had the pill

available once all brands were considered (Figure 8.13). Injctaplan was available continuously at just under one-quarter of the sites, and slightly more had any brand of injectable contraceptives. Condoms were available at three-quarters of the pharmacies and drug shops, with just over one-half having Protector condoms.

Figure 8.12: Percentage of Government Health Facilities with IEC Posters Displayed

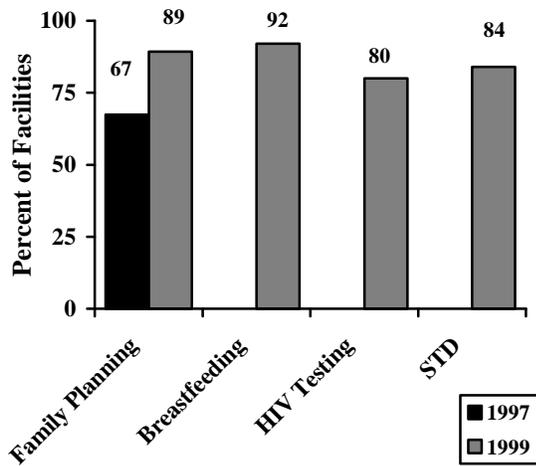
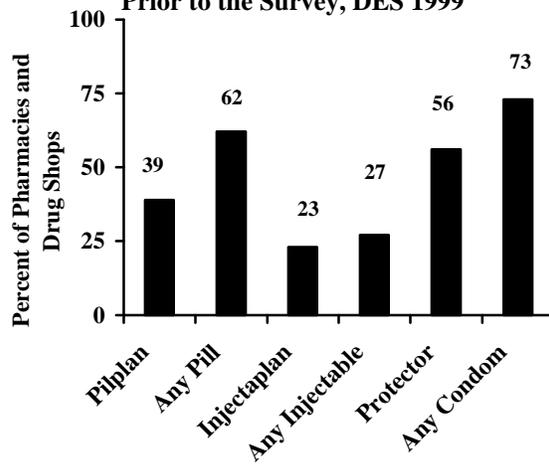


Figure 8.13. Percentage of Pharmacies and Drug Shops with Family Planning Methods Available in the Month Prior to the Survey, DES 1999



Appendix A: Characteristics of Mass Media Audiences

Table 1: Percent of women and men usually listening to the radio at various times of the day by background characteristics, DES 1999

Percent of women usually listening to the radio							
Women's Characteristics	Time of day						
	Before 9 a.m.	9 a.m. to 12 noon	12 noon to 2 p.m.	2 p.m. to 5 p.m.	5 p.m. to 7 p.m.	7 p.m. to 9 p.m.	After 9 p.m.
Age							
15 – 19	32	21	29	19	27	50	27
20 – 24	35	15	29	22	30	49	31
25 – 29	38	15	27	20	27	51	35
30 – 39	32	11	30	18	14	50	32
40+	31	12	32	18	29	49	36
Residence							
Rural	27	11	31	20	24	46	25
Urban	49	25	26	20	28	57	46
Education							
No Education	21	9	23	17	17	34	17
Primary	32	14	31	21	25	50	32
Secondary or more	49	22	30	20	33	63	45
Total	33.9	15.2	29.1	19.8	25.1	49.8	31.8

Percent of men usually listening to the radio							
Men's Characteristics	Time of day						
	Before 9 a.m.	9 a.m. to 12 noon	12 noon to 2 p.m.	2 p.m. to 5 p.m.	5 p.m. to 7 p.m.	7 p.m. to 9 p.m.	After 9 p.m.
Age							
15 – 19	29	13	24	15	18	59	43
20 – 24	37	22	28	12	24	58	54
25 – 29	38	18	22	10	24	75	55
30 – 39	42	19	30	20	25	67	51
40+	40	13	23	21	18	64	42
Residence							
Rural	32	16	31	18	24	65	43
Urban	48	21	13	10	16	64	64
Education							
No Education	26	12	21	19	16	51	37
Primary	34	18	29	18	22	63	44
Secondary or more	45	18	23	11	24	70	59
Total	36.9	17.3	25.6	15.9	21.7	64.6	49.0

Note: Respondents may listen to the radio at multiple times of the day, so percentages may sum to more than 100%.

Table 2: Percentage distribution of women and men by radio station listened to most by background characteristics, DES 1999

Percentage distribution of women by radio station listened to most								
Women's Characteristics	Radio Station						Listens to any station	Never listens to radio
	CBS	CAPITAL	SIMBA	RADIO UGANDA	RADIO WEST	Other		
Age								
15 – 19	22	6	17	13	5	15	78	22
20 – 24	22	7	17	11	5	18	80	20
25 – 29	18	5	14	14	6	15	72	28
30 – 39	25	1	16	18	5	10	75	25
40+	28	1	10	20	3	15	77	23
Residence								
Rural	20	1	13	18	6	12	70	30
Urban	29	12	21	5	3	21	91	9
Education								
No Education	14	0	8	19	5	12	58	42
Primary	24	1	17	16	5	13	76	24
Secondary or more	27	15	18	7	5	21	93	7
Language								
Luganda	40	3	15	9	1	15	83	17
Runyankole	3	4	3	25	21	12	68	32
Runyoro	3	8	14	15	0	42	82	18
Other	16	5	24	15	0	13	73	27
Total	22.6	4.2	15.2	14.5	5.1	14.6	76.2	23.8

Percentage distribution of men by radio station listened to most								
Men's Characteristics	Radio Station						Listens to any station	Never listens to radio
	CBS	CAPITAL	SIMBA	RADIO UGANDA	RADIO WEST	Other		
Age								
15 – 19	23	9	17	12	6	23	90	10
20 – 24	25	9	17	13	6	22	92	8
25 – 29	29	15	16	13	8	11	92	8
30 – 39	25	7	9	21	9	19	90	10
40+	30	2	7	30	6	13	88	12
Residence								
Rural	27	4	11	22	9	16	89	11
Urban	25	20	17	8	2	23	95	5
Education								
No Education	13	4	17	19	7	17	77	23
Primary	29	4	11	20	8	18	90	10
Secondary or more	26	17	14	15	6	18	96	4
Language								
Luganda	40	10	12	10	1	18	91	9
Runyankole	1	6	3	38	31	15	94	6
Runyoro	1	13	9	23	0	49	95	5
Other	22	8	24	17	0	15	86	14
Total	26.2	8.5	13.2	17.8	6.8	18.0	90.5	9.5

Table 3: Percentage distribution of the audience of “Choices” reproductive health radio program by background characteristics, DES 1999

Characteristics	Listened to “Choices”	
	Women	Men
Age		
15 – 19	19	16
20 – 24	22	17
25 – 29	19	21
30 – 39	26	27
40+	14	19
Residence		
Rural	73	78
Urban	27	22
Education		
No Education	17	8
Primary	60	51
Secondary or more	23	41
Language		
Luganda	48	44
Runyankole	27	36
Runyoro	3	2
Other	22	18
Total	100	100

Table 4: Percent of women and men usually watching television at various times of the day by background characteristics, DES 1999

Percent of women usually watching television				
Women's Characteristics	Time of day			
	Before 2 p.m.	2 p.m. to 7 p.m.	7 p.m. to 9 p.m.	After 9 p.m.
Age				
15 – 19	4	8	25	18
20 – 24	3	5	21	15
25 – 29	0	2	16	13
30 – 39	1	2	11	9
40+	0	2	12	6
Residence				
Rural	0	2	7	4
Urban	5	9	41	34
Education				
No Education	0	1	3	1
Primary	1	3	10	6
Secondary or more	5	9	46	37
Total	1.9	4.0	17.3	12.7

Percent of men usually watching television				
Men's Characteristics	Time of day			
	Before 2 p.m.	2 p.m. to 7 p.m.	7 p.m. to 9 p.m.	After 9 p.m.
Age				
15 – 19	2	9	24	13
20 – 24	3	7	31	23
25 – 29	2	4	23	17
30 – 39	2	6	25	19
40+	1	2	15	14
Residence				
Rural	1	4	16	8
Urban	5	11	43	40
Education				
No Education	0	4	14	6
Primary	1	5	15	7
Secondary or more	4	8	39	35
Total	1.9	5.7	23.4	17.1

Note: Respondents may watch television at multiple times of the day, so percentages may sum to more than 100%.

Table 5: Percentage distribution of women and men by television station watched most by background characteristics, DES 1999

Percentage distribution of women by television station watched most						
Women's Characteristics	Television station				Watches any station	Never watches television
	UTV	SANYU	WBS	Other		
Age						
15 – 19	21	4	6	2	33	67
20 – 24	13	5	6	2	26	74
25 – 29	11	2	5	1	19	81
30 – 39	9	1	3	1	14	86
40+	11	1	1	1	14	86
Residence						
Rural	7	0	0	1	8	92
Urban	27	8	14	4	53	47
Education						
No Education	2	1	0	0	3	97
Primary	11	1	2	1	15	85
Secondary or more	28	9	14	5	56	44
Language						
Luganda	19	4	7	2	32	68
Runyankole	8	1	1	0	10	90
Runyoro	2	0	14	0	16	84
Other	11	2	3	2	18	82
Total	13.3	2.7	4.5	1.5	22.0	78.0
Percentage distribution of men by television station watched most						
Men's Characteristics	Television station				Watches any station	Never watches television
	UTV	SANYU	WBS	Other		
Age						
15 – 19	19	6	3	3	31	69
20 – 24	24	9	7	2	42	58
25 – 29	18	3	6	2	29	71
30 – 39	21	5	4	3	33	67
40+	14	2	2	1	19	81
Residence						
Rural	16	1	0	1	18	82
Urban	29	13	15	6	63	37
Education						
No Education	9	0	1	3	13	87
Primary	15	2	1	2	20	80
Secondary or more	30	10	10	3	53	47
Language						
Luganda	22	7	6	3	38	62
Runyankole	12	1	1	0	14	86
Runyoro	17	9	2	5	33	67
Other	19	4	4	1	28	72
Total	19.5	4.9	4.7	2.3	31.4	68.6

Appendix B: Survey Methodology

B.1 Community Survey

The DISH Community Survey (DCS) was conducted in August and September of 1999. The target group for this survey consisted of men and women of reproductive age (men 15 to 54 years and women 15 to 49 years) residing in DISH districts. Respondents were questioned on their reproductive, maternal and child health knowledge and behavior. Additional questions on child health and nutrition were asked to women who had given birth in the three years preceding the survey.

The survey randomly sampled 1825 households located in 11 of the 12 DISH districts in a two-stage sampling procedure. At the first sampling stage, 73 census enumeration clusters were randomly sampled, in proportion to district population sizes, from a list of the district enumeration areas selected for the 1995 Uganda Demographic and Health Survey (UDHS). These were the same clusters used in the 1997 DISH Community Survey. The nesting of the DCS samples within the UDHS sample was intended to ensure comparability between the three surveys. The district of Kasese was excluded from both the 1997 and 1999 DCS due to security concerns.

At the second stage, 25 households were randomly selected from a list of all the households in each selected enumeration area, also referred to as a cluster in this report. A further five households were randomly selected for reserve in case of a need for replacements.

Both the 1997 and 1999 DISH surveys used questionnaires that were modeled after the DHS questionnaires, albeit much shorter versions with many fewer questions, in order to ensure comparability of the results.

Interviews of eligible women were conducted in all the selected households, while interviews of eligible men were conducted in one of every two selected households in rural areas and in every household in urban areas.

In all, 1891 women and 1239 men were eligible for interviewing. The survey completed interviews with 1766 women and 1057 men, resulting in a response rate of 93.4% and 85.3% for women and men respectively. The men's response rate was greatly affected by the difficulty in finding men at home during the visits by the survey teams to households in Masindi, Rakai, and Kampala, and by relatively more refusals from men in Kampala to complete the survey due to the sensitive nature of many of the questions. The response rate was also relatively lower among women in Kampala. Figures presented in this report using data from the 1999 DCS have been weighted to compensate for differential non-response. Similar weights were applied to both the 1995 DHS and the 1997 DES figures.

B.2 Facility Survey

The DISH Facility Survey (DFS) was conducted in October and November of 1999, soon after the completion of the DCS fieldwork. The DCS was completed first because of the higher priority of compiling information on individuals for reporting. The timing of the facility survey after the community survey will, in most cases, produce data similar to a situation where the surveys occurred concurrently, because little change in facilities is expected in the time from when the community survey and the facility survey started.

The sample for the DFS was constructed in order to gather information on health facilities that serve the survey clusters included in the DCS sample. Gathering information in such a way provides a representative sample of health facilities in the target areas. This information will also enable researchers to analyze the impact of the health facilities on the health behavior of individuals. To this end, all health facilities located within the boundaries of the cluster selected for the community survey were included, as were all health facilities in the two concentric rings of clusters surrounding this index cluster. As listings of health facilities were known to be incomplete, during the visit to the clusters, key informants in

the community were asked to identify any other health facilities not already included in the survey. All health facilities (public and private) in the target areas were included, as were all drug stores and pharmacies. This results in a complete sample of facilities that are available to the residents of the cluster included in the community survey.

The total sample consisted of 292 health facilities and 186 drug stores and pharmacies.

The sample of facilities for the 1999 DFS differed somewhat from the sample selected for the 1997 DFS. While the 1999 used areal sampling and included all health facilities that serve the clusters included in the community survey, the 1997 DFS focused only on the most used health facilities and the DISH Data Collection Points (DDCP) within each cluster. Although this results in samples that are not strictly equivalent, the 1999 DFS has the advantage that it captures the entire service delivery environment in a defined geographic area.

B.3 Survey Instruments

The community survey used three questionnaires: a household questionnaire, a woman's questionnaire, and a man's questionnaire. The household questionnaire was used to list the household members, indicating their age and relationship to the household head, to determine eligibility for the survey interview.

The woman's and man's questionnaires were designed to obtain detailed information on reproductive, maternal, and child health knowledge and behaviors. The questionnaires were first drafted in English, then reviewed by a wide set of interested parties. After completion of the English versions of the questionnaires, they were forward and back translated into three other Ugandan languages (Luganda, Runyoro/Rutoro, and Runyankore/ Rukiga). Trained interviewers administered these questionnaires.

For the facility survey, there were three main English questionnaires used: an interview with the in-charge of the facility, a facility inventory, and a provider questionnaire. There was a separate, brief questionnaire used for pharmacies and drug

stores. These questionnaires were designed to obtain information on facility infrastructure, services offered, staffing, and inventories of equipment, supplies, and commodities. The instruments were administered by trained health professionals, either physicians, nurses, or midwives.

In addition to the survey questionnaires, the survey produced other instruments including the listing form used to list households in a cluster, the enumerator's manual, the questionnaire tallying and control sheets, and a coding manual.

B.4 The Survey Process

B.4.1 Training of Personnel and Pre-testing the Survey Process

Training of survey personnel was conducted separately for the DCS and the DFS. For the community survey personnel, training was conducted in two phases by the survey principal investigators. Survey staff included 48 enumerators, eight supervisors, and two editors. Many of the staff had participated in the 1997 DES or in other DISH surveys and most had completed at least a bachelor's degree in the social sciences.

In the first part of the training, the principal investigators conducted a two-day training session for supervisors at the DISH office. Then, the principal investigators, with assistance from the supervisors, conducted a six-day training session for two groups of enumerators. One group consisted of the personnel for Kampala, Jinja, Kamuli, Masindi, and Luwero, while the other consisted of personnel for Masaka, Mbarara, Kasese, Ntungamo, and Rakai. The training occurred concurrently at two different sites.

During training, the trainees pilot-tested the instruments. The pilot testing gave the principal investigators opportunities to evaluate the questionnaire, the survey personnel, and the entire fieldwork process. Personnel who performed below the required standard were dropped from the survey team.

The pilot survey data were entered into a computer and analyzed, giving an opportunity to the survey team to test the complete survey process. Using the pilot survey experience, the DISH survey team finalized the questionnaires and the logistical arrangements.

For the facility survey, training was conducted in Kampala for the 11 enumerators. Training included a visit to a nearby hospital to review equipment and supplies included in the facility inventory, and a one-day pilot test to evaluate the enumerators and the instruments.

B.4.2 Fieldwork

The DCS interviews were conducted in September and October of 1999. In each district, a survey team consisted of a team leader assigned by the district medical office, a supervisor, at least one male enumerator and two female enumerators, and a field editor. The principal investigators constantly supervised the work of the survey teams. Two teams covered heavily populated districts, such as Mbarara, Masaka, and Kampala.

The team leader made appointments in advance with the local leaders of a cluster, specifying the days on which this cluster would be covered. On the interview days in a cluster, the team leader introduced the team to the local leaders and asked these leaders to take the team to selected

households. Once in a household, the male interviewer completed the household schedule and handed the completed schedule to the supervisor who then identified eligible persons and assigned an enumerator for each interview. After each interview, the enumerators would submit the questionnaires to the field editor who would check the interview for completeness and correctness. They would then give the questionnaires to the supervisor for review. Whenever necessary and possible, the supervisor immediately arranged for a revisit before the team left the area.

For the DFS, the survey proceeded cluster by cluster with each enumerator covering 2-3 health facilities (not including hospitals) per day. Hospitals required a minimum of one day to complete. Enumerators were accompanied by a representative of the district medical office to assist in locating the health facilities and in gaining access. Clusters were canvassed to identify all pharmacies and drug stores.

B.4.3 Data Management

While the enumerators conducted the interviews in the field, the supervisors edited and submitted questionnaires to the research coordinator at the DISH home office. Two editors coded the questionnaires as they arrived at the central office. Meanwhile, four people were hired and trained to carry out data entry under close supervision by the DISH survey team. Data entry took place between October and November 1999. The data entry programs included range checks and controls for skip patterns to minimize data entry errors. After data for each cluster were entered, the research coordinator ran data consistency programs and inconsistent data were cleaned.

Appendix C: Survey Questionnaires

1999 DISH Community Survey Household Schedule

1999 DISH Community Survey Woman's Questionnaire

1999 DISH Community Survey Man's Questionnaire

1999 DISH Facility Survey Questionnaire for Health Facility Interviews

1999 DISH Facility Survey Questionnaire for Health Facility Inventories

1999 DISH Facility Survey Questionnaire for Pharmacy and Drug Shop Inventories