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INCREASING USE OF REPRODUCTIVE, MATERNAL, AND CHILD HEALTH SERVICES THROUGH HEALTH SYSTEM STRENGTHENING RESULTS AND LESSONS

2



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This Partners for Health Reform*plus* (PHR*plus*) End-of-Project Report presents the project's vast body of work in health system strengthening in terms of its contribution to USAID's Strategic Objectives for global health. The report explains how health system strengthening impacts priority services with an overview of health system strengthening (Book 1), numerous examples of our global- and country-level activities for each Strategic Objective (Books 2-4), and a compendium of health system tools that the project has developed (Book 5).

DISCLAIMER

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OVERVIEW OF HEALTH SYSTEM STRENGTHENING

WHAT IS 'HEALTH SYSTEM STRENGTHENING'?

Ministries of Health, Finance, and Planning, development agencies, global initiatives, and cooperating agencies increasingly are talking about and taking action on health system strengthening (HSS). HSS comprises an array of initiatives and strategies aimed at improving the functioning of a health system or any of its sub-parts.

- ▲ HSS initiatives and strategies aim to improve access, quality, equity, efficiency, and sustainability of health services.
- ▲ HSS encompasses both large-scale health sector reform initiatives as well as specific, focused initiatives to address subparts of the system. Health sector reform makes significant changes in national policies, programs, and practices through changes in health sector priorities, laws, regulations, organizational and management structure, and financing arrangements.

WHAT DOES THE 'HEALTH SYSTEM' INCLUDE? HOW IS IT DEFINED?

The World Health Organization defines health systems as “all the organizations, institutions and resources that are devoted to producing health actions.”¹

- ▲ The *World Health Report 2000* identifies *four functions of the health system*: (1) stewardship; (2) financing; (3) human and physical resources; and (4) organization and management of service delivery.
- ▲ A health system encompasses health policies and programs, laws and regulations, organization and management structures, and financing arrangements, which in combination result in availability and quality of services aimed at improving health.
- ▲ A health system *includes all levels of a country's health care system*: central, regional, district, community, and household.

¹ World Health Organization. 2000. *The World Health Report 2000, Health Systems? Improving Performance*. Geneva

- ▲ It includes *public and private* participation in financing, risk sharing, and provision of services.

WHY IS HSS ESSENTIAL TO IMPROVING PRIORITY SERVICES?

Strong health systems are critical to achieving better health outcomes; priority services rely on health systems

HSS complements program-specific efforts to ensure the delivery of priority services and achieve equitable and sustainable health outcomes. Priority services, such as those that are the focus of the United States Agency for International Development (USAID) Bureau for Global Health's Strategic Objectives (SOs), aim to reduce infant and child mortality and morbidity, address reproductive and maternal health, and reduce the threat of infectious diseases. Much of the effort to pursue the SOs is through program-specific strategies to improve the delivery of priority services.

Program-specific strategies are clearly necessary, but they often do not achieve their full potential due to health system constraints outside their scope. Unaddressed, health system constraints may hamper reaching all socioeconomic groups, or hinder interventions going from smaller to national scale. Failure to strengthen the health system may limit program sustainability after the end of USAID support.

- ▲ Evidence from child survival programs shows that health system constraints (such as high staff turnover, low quality training of health workers, poor supervision, lack of continuous supplies for pharmaceuticals and vaccines) are major impediments to increasing coverage of child health services.²
- ▲ In another example, a family planning program may train volunteers in counseling, referral, and resupply of contraceptives. However, if the system for commodity supply is weak, poor service outcomes and dissatisfied clients may produce disappointing results.
- ▲ Two global initiatives that focus on specific diseases and interventions, the Global Alliance on Vaccines and Immunizations and the Global Fund to Fight AIDS, Tuberculosis and Malaria, recently began to offer specific support for HSS to complement support for service delivery.
- ▲ The United Nations Millennium Project's Task Force on Child and Maternal Health cites the health system as the major obstacle to achieving the Millennium Development Goals.³

² Bryce, J., el Arfeen, S., Parioy, G., Lanata, C.F., Gwatkin, D., Habicht, J., and the Multi-Country Evaluation of IMCI Study Group. 2003. "Reducing child mortality: can public health deliver?" *The Lancet* 363: 159-64.

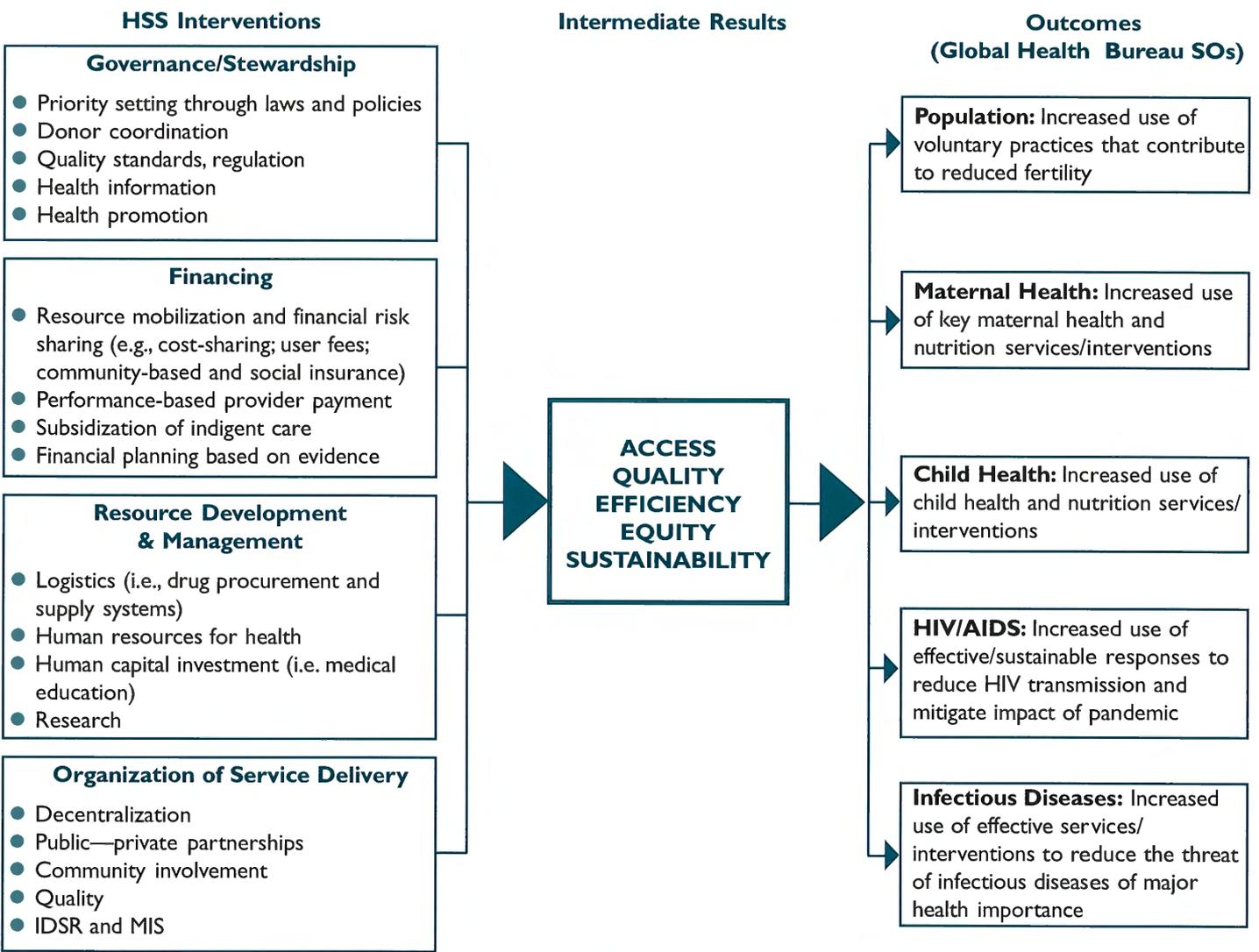
³ United Nations Millennium Project's Task Force on Child and Maternal Health. 2005. *Who's Got the Power?: Transforming Health Systems for Women and Children*.

Health system constraints limit further improvement and expansion of priority health services

USAID’s investment in HSS has resulted in the successful development and use of interventions to alleviate constraints. HSS interventions that support better governance and stewardship, financing, resource development and management, and organization of service delivery, aim to impact priority services through improved access, quality, efficiency, equity, and sustainability.

The figure below illustrates the links between impact of interventions, results, and outcomes in terms of increased use of priority services.

HOW HSS INTERVENTIONS LINK TO HEALTH OUTCOMES



INTRODUCTION

Health systems in many countries throughout the world experience financing and management problems that are detrimental to the quality of health care available to the countries' populations overall, and to their women and children in particular. For example:

- ▲ Fragmented health financing and management leaves Albanian health centers in such poor quality that women are discouraged from seeking reproductive health services.
- ▲ Yemeni midwives work in isolation, with little training or supervision to improve their skills in preventing maternal mortality.
- ▲ African countries' pursuit of disease-specific donor funding shifts attention away from basic reproductive and child health services.
- ▲ Rwandan policymakers are surprised to learn that households – not government – are the largest source of spending on prevention and treatment of malaria, a leading cause of child morbidity and mortality.
- ▲ International organizations struggle to get poor rural families to use insecticide-treated nets (ITNs).

The Partners for Health Reform*plus* (PHR*plus*) project has addressed these problems through HSS interventions that improve access, quality, efficiency, equity, and/or sustainability to increase the use of health services and consequently improve health status.

Because many issues and interventions related to women's and children's care are similar, this Book 2 of the PHR*plus* End-of-Project Report presents jointly the project's contributions to the United States Agency for International Development's (USAID's) Strategic Objectives (SOs) 1-3, for Reproductive, Maternal, and Child Health.

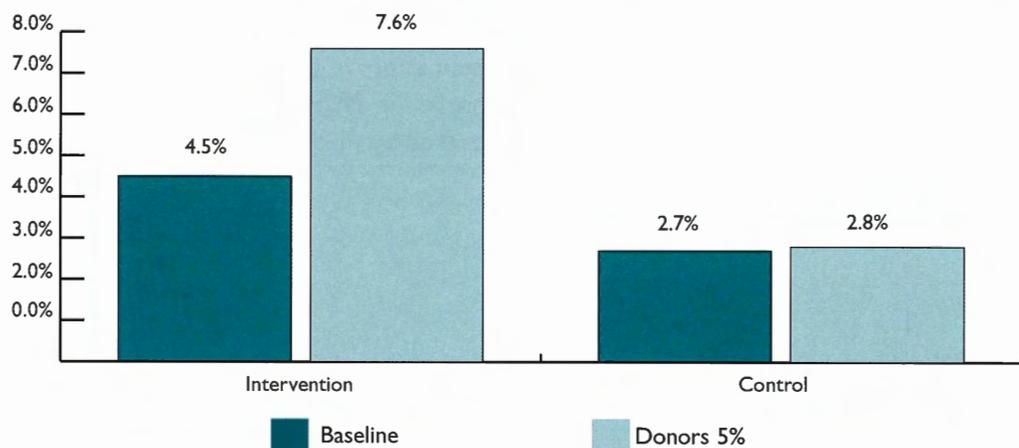
SOI: REPRODUCTIVE HEALTH

INCREASING CONTRACEPTIVE PREVALENCE BY IMPROVING SERVICE QUALITY IN ALBANIA

Despite national health sector reforms and significant USAID investment in family planning, by 2001 Albania had persistently low contraceptive prevalence (8 percent overall, lower in rural areas) and a primary care system of such poor quality that patients typically bypassed the primary care facilities to seek care with specialists or at hospitals.

PHR*plus* worked directly with four primary care facilities in two pilot districts to improve quality, community outreach/education, and financing. Within three years (between the time of the baseline and follow-up surveys), there was a sharp increase in the use of modern contraceptive methods in the pilot districts, from 4.5 percent to 7.6 percent (statistically significant difference at 1 percent level). In the control areas, the percent of women who reported currently using modern family planning methods remained virtually unchanged (see Figure 1). The rate of bypassing primary care facilities in the pilot areas decreased from 43.4 percent to 23.0 percent, a statistically significant decrease. Bypassing in the control areas decreased from 50 percent to 48 percent.

FIGURE 1
MODERN CONTRACEPTIVE USE INCREASED IN PILOT DISTRICTS IN ALBANIA



PHR*plus* interventions to strengthen the primary health care system generally and reproductive health services specifically included:

- ▲ Refresher training in family medicine topics to more than 70 physicians and 40 nurses in collaboration with local medical and nursing schools to institutionalize and sustain the training program
- ▲ A training-of-trainers approach to train 30 midwives, who in turn trained 213 nurses, who in turn educated 2,667 women on female anatomy, family planning, and sexually transmitted diseases.
- ▲ Design and operation of a health information system in each facility to capture data on patient encounters including family planning services.
- ▲ Design of a plan to rationalize primary health care, financing, and management that had become fragmented across three separate institutions – the Ministry of Health, Health Insurance Institute, and district authorities.

PROMOTING ACCESS TO FAMILY PLANNING THROUGH NATIONAL HEALTH INSURANCE IN THE PHILIPPINES

Modern contraceptive prevalence has remained stubbornly low in the Philippines (33 percent in 2003) despite significant USAID investments. PHR*plus* developed advocacy materials targeted to the mayors of local government units to expand enrollment of poor households into the Philippine Health Insurance Corporation (PhilHealth), the national health insurance program, which covers family planning services. PhilHealth aims to achieve universal coverage by the year 2010. PhilHealth's Indigent Program requires participation of the local governments (mayors) who must pay a portion of the premium and enroll indigent populations.

The PHR*plus* facility survey showed low utilization rates in rural health units, suggesting that the poor are excluded from care. PHR*plus* advocacy materials discussed how the rural units operate at less than capacity, signifying wasted resources. The materials also explained how the mayors of local governments, which own the units and are responsible for their financial management, could improve the financial situation by increasing the number of poor households enrolled in PhilHealth, and expand poor women's access to family planning services covered by PhilHealth.

ADVOCACY AND EVIDENCE-BASED PLANNING FOR REPRODUCTIVE HEALTH USING NATIONAL HEALTH ACCOUNT SUBANALYSIS

Policymakers in most middle- and low-income countries lack critical information about current national spending on reproductive health care. Such information can contribute to policies and planning that improve access to and the quality of reproductive health services, reducing the unmet need for contraceptives and saving the lives of women and children.

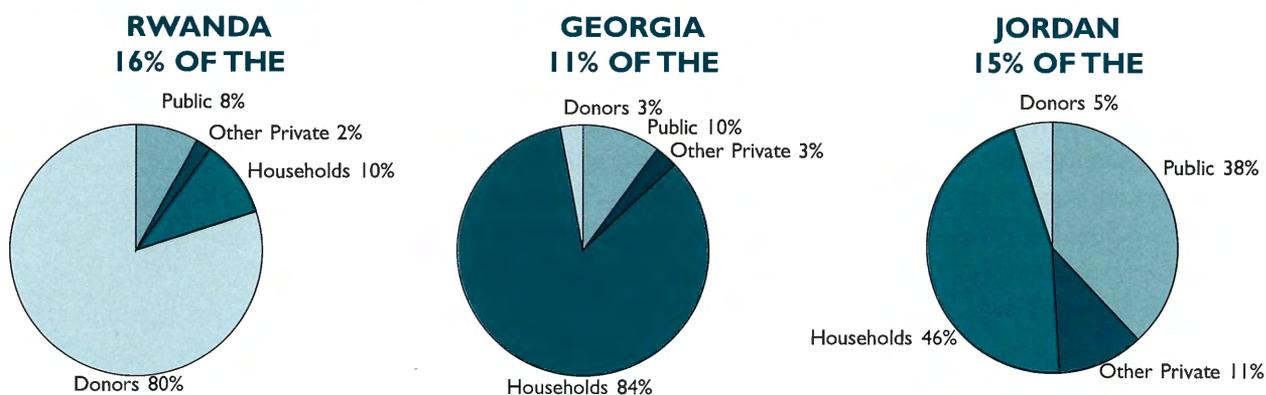
PHR*plus* implemented National Health Accounts (NHA) subanalyses for reproductive health in Egypt, Jordan, and Rwanda. The Rwandan Ministry of Health used findings from the subanalysis to influence the health sector strategy process and advocate for greater policy support and financial commitment to family planning.

The reproductive health subanalysis can tell you:

- ▲ How much is spent on reproductive health? What is the relationship between expenditure and outcomes?
- ▲ What is the reliance on donors for funding of reproductive health services?
- ▲ What proportion of reproductive health financing comes from private sources such as households?
- ▲ What types of services are financed by reproductive health funds?

The World Health Organization (WHO) has adopted and endorsed the NHA reproductive health subanalysis methodology that was developed through a collaborative effort by PHR*plus*, USAID, WHO, and the United Nations Population Fund (UNFPA). This standard method allows valid comparisons across different countries (see Figure 2).

FIGURE 2
REPRODUCTIVE HEALTH EXPENDITURES AS A PERCENTAGE OF TOTAL HEALTH EXPENDITURES (THE), AND DISTRIBUTION OF TOTAL REPRODUCTIVE HEALTH EXPENDITURES BY SOURCE (PUBLIC, PRIVATE, DONOR)



Reproductive health financed mostly by donors in Rwanda

In 2006, additional reproductive health subanalyses will be completed in Ukraine, Malawi, and Ethiopia.

ADVOCACY FOR REPRODUCTIVE HEALTH IN THE FACE OF GROWING DISEASE-SPECIFIC DONOR ASSISTANCE

Developing countries receive funding from a growing number of disease-specific global health initiatives: the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the President's Emergency Plan for AIDS Relief, Roll Back Malaria, the Global Alliance on Vaccines and Immunization (GAVI), and the President's Malaria Initiative, among others. How do these initiatives affect health systems in recipient countries, especially their reproductive health programs? PHR*plus* is conducting research to assess the effects of the Global Fund on reproductive health and family planning programming and the broader health care systems in Malawi and Ethiopia. Baseline findings revealed that:

- ▲ Reproductive health stakeholders have not participated extensively in Global Fund planning processes, and Global Fund activities are not well integrated with reproductive health, family planning, or other general care services.
- ▲ Health workers have increased responsibilities with Global Fund activities and work in resource-constrained environments, but issues of health worker motivation and retention have not been widely addressed. There is some evidence of health worker shifts from reproductive health/family planning and other priority services toward focal disease services, particularly HIV/AIDS.
- ▲ Systems for commodity procurement and disbursement have improved in Ethiopia, while fewer improvements to the system have occurred in Malawi as Global Fund activities have been implemented.

In its 5th round, the Global Fund began to accept applications for HSS support.

ADEQUATE FINANCING FOR CONTRACEPTIVE SECURITY

Contraceptive security exists when people are able to choose, obtain, and use high quality contraceptives for family planning and prevention of HIV/AIDS and sexually transmitted infections. In many developing countries, people rely on free or subsidized contraceptive supplies provided by governments and international donor agencies. Resources from government and donors are unable to keep up with rising demand for contraceptives, due in large part to the following:

- ▲ Specific projects targeted to improving reproductive health are replaced by pooled funding of a single policy and expenditure program, such as sectorwide approach (SWAp) financing.

- ▲ Global funds to reduce specific disease, such as the Global Fund, and new mechanisms, such as poverty reduction strategy papers (PRSPs) and the Millennium Challenge Account, may decrease attention to contraceptives.

PHR*plus* reviewed the literature and assessed the impact of SWAps and PRSPs on contraceptive security in Ghana, Zambia, and Bangladesh, finding that explicit financial commitments to reproductive health and family planning commodities were usually missing, despite general references to “strengthening of family planning programs” or “increasing reproductive health/family planning education.” Further, key informants interviewed indicated that reproductive health and family planning advocates were largely isolated from policy discussions and national-level processes because they were not fully aware of the issues, and had not changed their thinking from vertical to integrated health programs.

To close the financing gap and ensure adequate funding for contraceptives, PHR*plus* recommended that reproductive health advocates need to do the following:

- ▲ Be knowledgeable and proactive about new funding mechanisms and ensure visibility of commodity issues;
- ▲ Emphasize how reproductive health and family planning contribute to internationally accepted goals, such as the Millennium Development Goals (MDGs);
- ▲ Improve tracking of donor and government expenditures on contraceptives; and encourage private sector participation in development of PRSP and SWAps.

To better understand the process and identify ways in which reproductive health can be prioritized in strategic planning and budgeting, PHR*plus* developed a case study of the PRSP development process in Rwanda. The case study reinforced the need for a well-articulated reproductive health/family planning policy, engagement and mobilization of stakeholders in government processes, definition of financial requirements, and the need to demonstrate results.

The Strategic Pathway to Achieve Reproductive Health Commodity Security (SPARHCS) is a tool for assessing the security of reproductive health commodities and identifying steps to address gaps. PHR*plus* contributed health financing expertise to the development of SPARHCS, under the direction of USAID’s Contraceptive Security and Logistics Division, with collaboration from the DELIVER, POLICY, and Commercial Market Strategies projects; PATH; Johns Hopkins University/Health Communications Program; Population Reference Bureau; UNFPA; and others. PHR*plus* has also collaborated with DELIVER, POLICY, UNFPA, and local counterparts to apply the SPARHCS tool in Madagascar. This led to the creation of a multi-sectoral committee to oversee a strategic plan to improve contraceptive security.

SO2: MATERNAL HEALTH

INCREASING THE USE OF MATERNAL HEALTH SERVICES THROUGH MUTUAL HEALTH ORGANIZATIONS IN MALI

In 2004, PHR*plus* conducted a household survey in Mali in collaboration with USAID's bilateral project *Assistance Technique Nationale*. Survey findings showed that access to and utilization of health care – in particular, maternal health services – is higher for members of mutual health organizations (MHOs) than for non-members.

- ▲ Of MHO members who had delivered in the previous 12 months, 57 percent had had four or more antenatal visits; this meant they were twice as likely to have had four visits as non-members. In Bla District, 41 percent of pregnant women covered by MHOs sought prenatal care in the first trimester, making them 2.5 times more likely to do so than pregnant women without coverage.
- ▲ Bivariate¹ analysis showed 89 percent of pregnant MHO beneficiaries delivered in a modern facility compared to 64 percent of non-beneficiaries ($p < 0.01$). When delivery with a skilled birth attendant (doctor, midwife, nurse) is considered, the

pattern remains: 71 percent of pregnant MHO beneficiaries delivered with a skilled birth attendant compared to 43 percent non-beneficiaries ($p < 0.008$).

- ▲ Sixty percent of MHO members who were pregnant or had delivered in the previous 12 months slept under an insecticide-treated net; this means they were 2.2 times more likely than non-members to sleep under an ITN.

BOX 1 WHAT ARE MHOs?

Also known as *community-based health financing*, MHOs are a way for communities to meet their health financing needs through pooled revenue collection and resource allocation decisions made by the community. MHOs are a form of insurance: they allow members to pay small premiums on a regular basis to offset the risk of needing to pay large health care fees upon falling sick. However, unlike many insurance schemes, MHOs are typically based on social solidarity.

¹ Due to small numbers of MHO members who delivered during the recall period, logit regressions showed no significance for deliveries in a modern facility.

- ▲ The effect that being in a MHO member household has on the likelihood that pregnant women make four or more antenatal visits is positive and highly significant for the three middle-income quintiles (excluding the poorest 20 percent and the richest 20 percent) in Bla (ratios of 60 percent or more of members made four or more visits and 31 percent or fewer of non-members did so in these quintiles); no significant difference was found for the poorest and richest quintiles.

When these and other results were presented at a national forum, stakeholders called for a strategic plan for MHO development and support in Mali, mobilization of additional resources, establishment of networks to promote learning among MHOs, streamlining the MHO licensing process, and urging local officials to take a more active role in MHO support and expansion.

ADVOCACY AND EVIDENCE-BASED PLANNING FOR MATERNAL HEALTH USING NHA SUBANALYSIS

The NHA reproductive health subanalysis methodology includes maternal health issues. By providing countries with a standard methodology, the NHA reproductive health subanalysis (usually carried out in conjunction with the general NHA) provides valuable information to policymakers, ministries of health, donors, and others within a country, for health care planning and other purposes. For example, Rwanda's Ministry of Health added the maternal health indicator "assisted deliveries" to the Health Sector Strategic Plan; the reproductive health subanalysis of Rwanda showed that expenditures on deliveries would double if all deliveries were to take place in facilities.

The reproductive health subanalysis also allows for comparison of findings with those of other countries. For example, subanalysis results show that maternal health spending is 15 percent of total reproductive health spending in Rwanda, compared to 48 percent in Jordan.

IMPROVING THE QUALITY OF MATERNAL HEALTH THROUGH A MIDWIVES ASSOCIATION IN YEMEN

Yemen has one of the highest maternal mortality ratios in the world, at 351 maternal deaths per 100,000 live births. Nevertheless, midwives there have had no institutional structure to improve their education and skills, or to advocate for resources and policies to improve reproductive health services.

PHR*plus* assisted Yemeni midwives to establish the National Midwives Association as a registered nongovernmental organization (NGO). PHR*plus* provided training for the association's board in planning, advocacy, and fund-raising. Membership expanded from 97 midwives in 2005 to more than 600 midwives from all 21 governorates in 2006. The association successfully secured funding from the government of the Netherlands and UNFPA. It now is revising the midwife training curriculum to improve quality.

PHR*plus*-Yemen conducted the first ever health facility survey and made the data available in the GIS (geographic information system) health facility viewer (<http://www.moh.gov.ye/yemen/english/index.html>). The National Midwives Association uses the health facility survey information and tools to identify gaps in reproductive health/maternal-child health services in five USAID-supported governorates. The association intends to lobby the government for midwife positions in the districts that do not have sufficient providers. The midwives proposed to the Ministry of Public Health and Population to utilize closed health centers to establish private reproductive health/maternal-child health centers. Income generated at these centers would be used to pay the midwives, a small portion would be paid to the ministry, and to support the association.

IMPROVING THE CONTINUITY OF MATERNAL CARE IN JORDAN

Jordan spends 15 percent of total health expenditures on reproductive health, and 48 percent of all reproductive health funds are spent on maternal health. Yet, pregnant women in Jordan often deliver their babies with obstetricians who have no access to the women's antenatal records, putting high-risk mothers at needless additional risk. PHR*plus* assisted the Ministry of Health to install a simple internet link between health centers and an obstetrical hospital. Now the attending physician can download a woman's antenatal records within seconds of her arrival for delivery.

ADVOCACY FOR INCREASED RESOURCES FOR HEALTH IN GUATEMALA

In Guatemala, government investment in health is about the lowest in the Hemisphere. PHR*plus* activities, in collaboration with the Ministry of Health, have focused on convincing the government to increase resources for health, and to specifically meet Guatemala's MDGs, which include reduction in maternal mortality. Through a combination of a Stakeholder Analysis, preparation of a series of policy papers related to investing in health, and advocacy forums and workshops, PHR*plus* and local counterparts have created strong awareness and interest on the part of key policymakers, including the President and the Ministry of Finance staff, in assuring adequate allocation of resources to meet the MDGs. This is expected to have an impact on the key health indicators, including reduction of infant mortality and of maternal mortality.

SO3: CHILD HEALTH

CITIZEN REFERENDUMS RANK CHILD HEALTH ISSUES AS PRIORITY HEALTH PROBLEMS IN PERU

Health system strengthening may involve the use of special tools to change policy and operational approaches in the health sector. In Peru, a move toward health system decentralization required a more participatory approach to the health planning process, specifically in the development of five-year strategic health plans. The challenge was to ensure the inclusion of the voice of the poor in important decisions that affect their lives.



PHR*plus* supported the completion of a Health Needs Assessment to project future health care needs in four regions. These assessments included the epidemiological profile and information on the management and delivery of and access to health services. PHR*plus* also helped each region to conduct a participatory health planning process that included health authorities, health providers, and other health experts. These stakeholders identified many common health problems, and then each region turned to its citizens and civic organizations to prioritize the health concerns in the regions' health plans.

For the first time in Peru's history, the popular vote was used to prioritize the health concerns of citizens:

- ▲ In La Libertad, 210,000 citizens voted. The primary health concern was respiratory illness (which is most common among children) and the primary social issue was family violence and mistreatment of children.
- ▲ In Lambayeque, 124,000 citizens voted. One of the top five priorities was malnutrition, again a problem primarily of infants and young children.

Ucayali and San Martin regions used representative participation to choose priorities:

- ▲ In Ucayali, 200 leaders represented the larger populace. Respiratory illness was the first priority; malnutrition and anemia also were in the top five.
- ▲ In San Martin, there were 350 representatives. Respiratory illness again was the top priority.

These priorities have been incorporated into the regional health plans. Under USAID's new bilateral project, citizen groups will be established to hold health authorities accountable for implementing the plans as promised.

MHO MEMBERSHIP INCREASES USE OF PREVENTIVE CHILD HEALTH SERVICES IN MALI AND SENEGAL

Through PHR*plus*, USAID has invested in the growth and strengthening of the MHO movement in Africa. In 2004, PHR*plus* conducted household surveys in Senegal and Mali to measure the impact of membership in MHOs on use of priority services. The surveys showed that MHO membership increases use of child health services:

- ▲ In Senegal, children age 0-4 insured through MHO membership were nearly three times more likely to seek care upon falling ill than uninsured children.
- ▲ Fifty-seven percent of insured children sought care when ill compared to 18.5 percent of uninsured children. This translates into 1.5 visits per annum per capita for insured children versus 0.53 visits per annum per capita for uninsured children.
- ▲ In Mali, insured children under 5 with fever were almost five times more likely to seek care for fever within 48 hours than were uninsured children; 70 percent of those seeking care sought modern care, in contrast to 47 percent of uninsured children.
- ▲ Insured children with diarrhea in Mali were seven times more likely to go to a modern facility and four times more likely to either receive oral rehydration solution and/or seek care in a modern facility, compared to uninsured children with diarrhea.
- ▲ In Mali, 62 percent of insured children under age 5 slept under ITNs, making them twice as likely as uninsured children to do so.
- ▲ MHO membership also improved equity in use of child health services – the effect of being insured on children under 5 sleeping under an ITN is positive and highly significant for all income quintiles (from the poorest 20 percent to the richest 20 percent).

USING NHA TO IMPROVE POLICIES AND MANAGEMENT FOR CHILD SURVIVAL

NHA MALARIA SUBANALYSIS

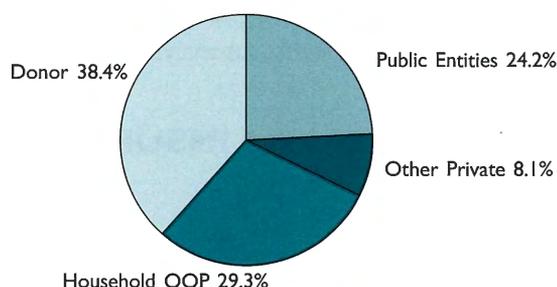
Malaria is a major cause of childhood morbidity and mortality worldwide. In Africa, it is the leading cause of mortality among children under 5. Despite the prevalence of the malaria problem, governments and donors do not know how much or who is financing malaria services. Recent heavy targeting of donor funds for HIV/AIDS raises the question of how much is left for priority programs such as malaria.

USAID/PHR*plus* worked with the Roll Back Malaria Finance and Resources group, the World Bank, and WHO to develop an internationally accepted methodology for malaria subanalysis to give policymakers and other stakeholders a standard approach to generating evidence to inform malaria funding decisions and improve child survival.

Policymakers in Rwanda, including the malaria control program director, are using the results of their first malaria subanalysis to bring visibility, credibility, and attention to serious issues:

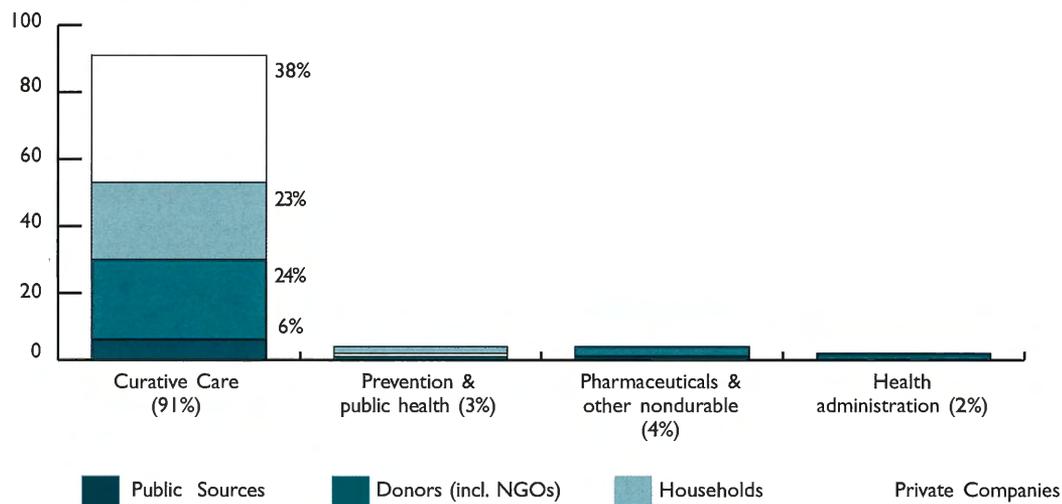
- ▲ Results showed that funding for malaria is disproportionately small relative to the burden of the disease;
- ▲ Households finance a larger share of malaria-related expenditures than does government, as shown in Figure 3.

**FIGURE 3
FINANCING SOURCES OF MALARIA SERVICES IN RWANDA**



- ▲ The bulk of malaria-related expenditures (91 percent) are for curative care services; prevention accounts for only a small share of total expenditures on malaria, as seen in Figure 4.

**FIGURE 4
FINANCING SOURCES OF MALARIA SERVICES IN RWANDA,
BY TYPE OF SERVICE**



NHA CHILD HEALTH SUBANALYSIS

Sustained improvement of child health services requires adequate resources and health planning, based upon an understanding of the organization and financing of health care. That understanding must be based on information about the entire health sector, including public entities, donors, and private entities (including households).

The NHA child health subanalysis, carried out in conjunction with the general NHA exercise, tracks health care expenditures targeted at children under age 5: integrated management of childhood illness; the expanded program on immunization (EPI); curative, preventive, and promotion programs; pharmaceuticals purchased at independent pharmacies or shops; and administration.

PHR*plus* is leading a collaborative process with the Child Survival Partnership, USAID, WHO, and others to develop the child health subanalysis methodology.

EXPANDING PUBLIC HEALTH INSURANCE TO COVER CHILDREN IN JORDAN

Prior to 2003, 40 percent of Jordan's population of 4.7 million were without any form of formal health insurance for fees at Ministry of Health facilities. More than 745,000 of the uninsured are children. In January 2003, the newly appointed General Secretary of the Jordan Higher Health Council asked PHR*plus* to provide options for a workable, and politically and financially feasible plan for reducing the number of uninsured in Jordan.

PHR*plus* developed a set of recommendations to cover all children by extending the Civil Insurance Plan, which had previously only covered children who were dependents of civil servants. The recommendations aim at improving the health status of children by maximizing the number of children receiving primary and preventive health care and by promoting parental responsibility for children's health. To also reduce future health care expenditures, the recommendations incorporate child-health promotion activities. The plan will first cover all children 6 years of age and younger and then will be gradually extended to all children under 16 years. Consistent with the government's principle of personal responsibility, health authorities are considering modest co-payment requirements for outpatient care and for prescription drugs. The Parliament's Health Policy Committee passed legislation to expand the insurance plan's coverage, and began implementation in 2004.

ESTIMATING COSTS AND FINANCING NEEDS FOR MORE EFFECTIVE TREATMENT OF MALARIA

Malaria is one of the top five causes of mortality of children ages 0-5 in sub-Saharan Africa, but there is growing resistance to the standard treatment of chloroquine and sulfadoxine-pyrimethamine (SP) in malaria-endemic countries, which threatens to reverse progress in child health. Many countries have begun to switch to artemisinin-based combination therapy (ACT) following WHO guidelines. However, ACT can cost ten times more than the previous standard treatment. Affected countries and the Roll Back Malaria Partnership are concerned about how countries and people with malaria will be able to afford the new standard treatment.

In the Democratic Republic of (DR) Congo, malaria is the number-one killer of children. In Eastern Congo, drug resistance to SP is as high as 60 percent, meaning that there is need for ACT. In collaboration with the Roll Back Malaria Partnership and based on an analysis of the current epidemiological situation, utilization of health services, and cost of ACT, PHR*plus* estimated that DR Congo would need approximately US\$ 12.7 million for the first year of switching from SP to artesunate-amodiaquine (an ACT). Following the preliminary results of the costing, the government of DR Congo modified its policy on treatment, naming artesunate-amodiaquine as the national first-line treatment for malaria. The PHR*plus* analysis also contributed to the preparation of the World Bank Health Rehabilitation project, which will include US\$ 30 million for malaria.

SUSTAINED FINANCING FOR CHILD IMMUNIZATIONS IN UGANDA

GAVI developed Financial Sustainability Plans (FSP) as a required methodology for countries to examine the resource requirements of their immunization program and prepare for the end of assistance from the GAVI Vaccine Fund. In 2003, PHR*plus* assisted Tanzania, Uganda, Ghana, Rwanda, and Malawi with their FSPs. The FSPs lay the groundwork to ensure that the benefits of increases in coverage and the introduction of new vaccines would be sustained beyond GAVI's five years of support.

Uganda receives GAVI support to strengthen immunization service delivery, introduce the DTP-Hepatitis B-Hib vaccine, and improve injection safety. With PHR*plus* support, Uganda integrated cost-effectiveness analysis into its FSP to make the case for increased EPI program funding. PHR*plus* also worked with Uganda to develop advocacy documents targeted at the Ministry of Health, Ministry of Finance, and donor stakeholders to quantify how increases in funding to combat vaccine-preventable diseases will result in lives saved and disability averted. These internal advocacy efforts, combined with improved submissions to GAVI, are helping Uganda achieve sustainable financing from country and donor funds for these lifesaving interventions for children.

INCREASING IMMUNIZATION THROUGH MANAGEMENT INFORMATION SYSTEM AND INFECTIOUS DISEASE SURVEILLANCE REFORM IN GEORGIA

Immunizations are one of the most cost-effective means to improve child health. In Georgia, PHR*plus* worked jointly with a local NGO, the Curatio Foundation, and Georgian health personnel at the subnational, district, and facility levels to systematically obtain and use quality information for effective immunization program management. Through the active involvement of the Ministry of Health, National Center for Disease Control, and local public health offices, measurable results were achieved countrywide over approximately four years; they include:

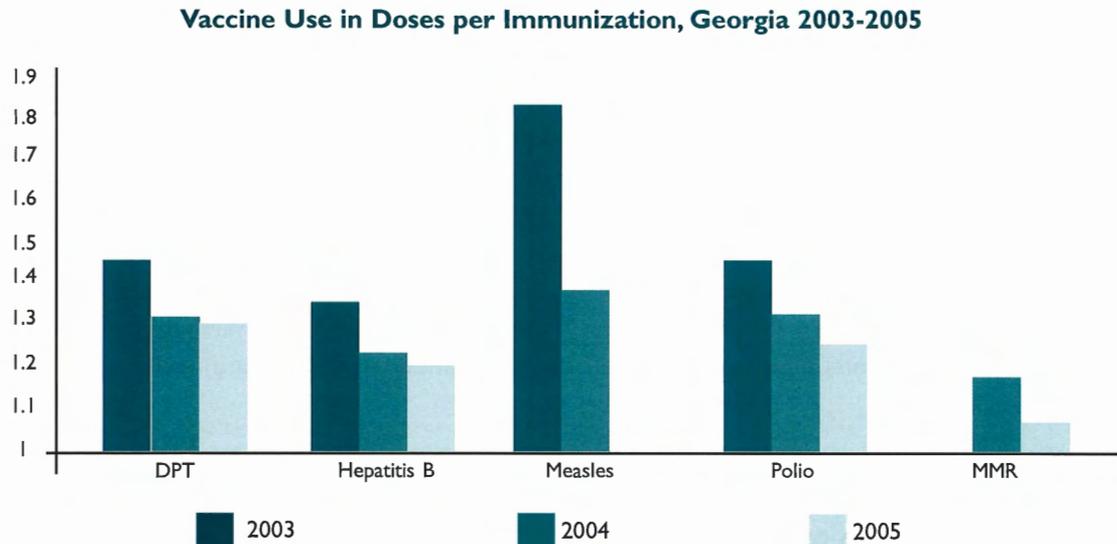
- ▲ Immunization management information system (MIS) and infectious disease surveillance reforms were implemented nationwide
- ▲ Immunization coverage (DPT-3 served as a marker) increased countrywide from 61 percent in 2001 to 81 percent in 2005. In the past two years alone, the number of regions meeting the 80 percent DPT-3 coverage target increased from four to nine (out of 12) (see Table 1).

**TABLE 1
IMPACT OF IMMUNIZATION MIS REFORMS IN GEORGIA**

Coverage/Antigens	2003	2004	2005
DPT-3	75%	79%	81%
No. of regions with DPT-3>80%	4 of 12	5 of 12	9 of 12
Polio-3	75%	67%	81%
Hepatitis B-3	48%	65%	71%
Measles-1	82%	89%	88%
Measles-2	57%	76%	83%
Mumps	77%	85%	88%

- ▲ Vaccine wastage decreased (see Figure 5).
- ▲ Detection and reporting of infectious diseases improved.
- ▲ Health system constraints to the effective functioning of the immunization and disease surveillance systems were identified and are being addressed through several response interventions such as the development of a new public health law, the development of a network of reference laboratories, special projects to improve human resource management and supportive supervision, and an initiative to establish a National School of Public Health to train national cadre of public health professionals including dedicated health information officers.

FIGURE 5
WASTAGE DECLINED SIGNIFICANTLY WITH IMPROVED VACCINE
MANAGEMENT IN GEORGIA



Much of the improvement stems from PHR*plus* assistance in developing and introducing in Georgia a series of tools, including a new MIS model, disease surveillance guidelines, a handbook for providers of health services, workbooks for district public health workers, and Georgia-specific immunization and surveillance software applications for regional public health workers. The MIS model features innovations that allow better immunization program management and more rational use of resources at all levels through:

- ▲ Identification of district-specific factors preventing children from being immunized (such as vaccine stockouts, medical contraindications, parental refusals);
- ▲ Determination and monitoring of area-specific vaccine utilization/wastage patterns;
- ▲ Monitoring of vaccine distribution from storage facilities to the point of consumption;
- ▲ Up-to-date tracking of vaccine stocks in all facilities.

It is expected that the reforms will yield improvements for the Georgian health system in terms of health outcomes – reducing mortality and morbidity from vaccine-preventable diseases through improved tracking and immunization of the child population. The Georgian immunization MIS, built on approaches developed through work previously done in Ukraine by PHR*plus* partner PATH and currently promoted throughout the region by WHO/EURO, can serve as a model for other countries. The MIS could be adapted and replicated at low cost in the region, by drawing on a growing pool of technical resources in Georgia and Ukraine.

INCREASING IMMUNIZATION COVERAGE IN YEMEN THROUGH GUIDELINES, BETTER MANAGEMENT, AND STRENGTHENING EMERGENCY RESPONSE

PHR*plus* exported the success with the immunization program in Georgia to Yemen. Yemen's Ministry of Public Health and Population's EPI, together with PHR*plus*, first conducted a mini-census survey in the USAID target governorate of Amran. Survey results revealed that the actual target population differed from administrative estimates by 20 percent to 30 percent; tetanus toxoid coverage of childbearing-age women was only about half the reported figure; and lack of female vaccinators, remoteness of health facilities, and rumored contraceptive effects of immunization were the main reasons for low coverage of women and children. Analysis of survey results led the governorate and district EPI management to modify the strategy for improving routine immunization coverage for greater emphasis on outreach, health education of women, and use of female vaccinators.

In addition, PHR*plus*, with EPI staff of the Ministry of Public Health, assisted the ministry to conduct an urgent polio immunization campaign to combat a polio outbreak affecting almost every governorate in the country. The door-to-door campaign vaccinated more than 68,000 children, visited more than 28,380 households, and recorded the number of children under age 5 in each household for a more precise baseline for future immunization targeting efforts. Previous campaigns in Al Jawf had been unsuccessful due to tribal violence and corruption (see Box 2).

BOX 2 DISPATCH FROM THE FIELD: IMMUNIZING FOR POLIO IN AL JAWF, YEMEN

The security force accompanying the polio immunization campaign team disappeared on the second day because they feared citizens who were angry at the government due to its abrupt increase in the price of gasoline. At the end of the campaign, the two-car team with PHR*plus* and Ministry of Public Health staff arrived at the Khob Wa Asha'af district to pay the leaders of the 82 vaccination teams. A mini-army (seven cars, 50 men with machine guns), sent by the local sheikh to take the money, ambushed the PHR*plus* cars. A shoot-out ensued, but the staff escaped. Despite all, our team was able to vaccinate about 7,000 children in Khob Wa Asha'af with their first dose of monovalent vaccine. The total number children in Al Jawf who received their *first dose* reached about 57,000.

Chief of Party, PHR*plus*-Yemen, July 2005

INFECTIOUS DISEASE SURVEILLANCE AND RESPONSE TRAINING CONTAINS MENINGITIS OUTBREAK IN GHANA

An outbreak of meningococcal meningitis in the Upper East Region of Ghana in early 2004 resulted in 66 cases and caused two deaths. To combat the outbreak, PHRplus held effectiveness training to strengthen the integrated disease surveillance and response capacity (IDSR) of regional and district officials from the Ministry of Health's National Surveillance Unit. Local health facilities, in collaboration with the district and regional personnel, identified, investigated, and responded to the outbreak according to the *Guidelines for Integrated Disease Surveillance and Response for Ghana*, which had been produced with PHRplus assistance. The guidelines are a roadmap to the operation of IDSR through improved availability of timely information regarding 23 priority diseases, including meningitis. Personnel used data generated during the outbreak to review the effectiveness of the meningitis outbreak response strategy ("mop-up" immunization campaigns) and adapt the strategy to better protect the communities affected.

TRADITIONAL COST-EFFECTIVE APPROACHES WITH A HEALTH SYSTEMS TWIST REDUCE CHILDHOOD DIARRHEAL DISEASE IN YEMEN

In Yemen, PHRplus introduced in the district of Thula (population 41,000) cost-effective hygiene interventions addressing environmental sources of child morbidity and mortality. PHRplus:

- ▲ Trained 44 female health promoters to promote hygiene by educating local women in visits to homes. On follow-up visits, mothers reported that children in those homes no longer suffered from bouts of diarrheal disease.
- ▲ Rehabilitated the largest cistern in Thula through a competitive bid process (see Box 3);
 - ▲ Trained the community to manage and maintain the cistern;
 - ▲ Assisted the community to introduce sustainable practices to reduce solid waste;
 - ▲ Worked with the USAID/Yemen education project that is rehabilitating schools to ensure that each school has proper hand-washing and toilet facilities, and held a summer school that focused on hygiene, sanitation, and water.

BOX 3 DISPATCH FROM THE FIELD: ENSURING ACCOUNTABILITY IN YEMEN

When the largest cistern in the Thula District was found to need renovation, the work was let through a competitive bidding process. Nine Yemen companies submitted proposals. Upon awarding a contract for renovating the cistern, the Thula project committee remarked that it was the first time that there had been no corruption related to a donor-funded construction project.

Chief of Party, PHRplus-Yemen, July 2005

These interventions were introduced using a health systems approach to promote sustainability. *PHRplus*:

- ▲ Facilitated the election of a community health committee to direct the interventions;
- ▲ Supported the committee to use the results of the household survey (271 households and 13 villages) to inform their decisions;
- ▲ Helped the female health promoters to register as an NGO and expand to additional districts and villages;
- ▲ Ensured that governorate and national authorities learned from activities in Thula.

REFERENCES AND ADDITIONAL PHR_{plus} RESOURCES

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ACRONYMS

ACT	Artemisinin Combination Therapy
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ATC	AIDSTreatCost
CBHF	Community-based Health Financing
CDC	U.S. Centers for Disease Control and Prevention
DR Congo	Democratic Republic of Congo
EPI	Expanded Program on Immunization
FSP	Financial Sustainability Plan
GAVI	Global Alliance on Vaccines and Immunization
HIA	Health Insurance Act
HIDN	Health, Infectious Disease and Nutrition
HIV	Human Immunodeficiency Virus
HSAN	Health Systems Action Network
HSS	Health System Strengthening
IDS	Infectious Disease Surveillance
IDSR	Integrated Disease Surveillance and Response
ITN	Insecticide-treated Net
MDGs	Millennium Development Goals
MHO	Mutual Health Organization
MIS	Management Information Systems
NGO	Nongovernmental Organization
NHA	National Health Accounts
NHS	National Health Services
PhilHealth	Philippines National Health Insurance
PEPFAR	President's Emergency Plan for AIDS Relief
PHN	Population, Health and Nutrition
PHR <i>plus</i>	Partners for Health Reform <i>plus</i>
PRSP	Poverty Reduction Strategy Paper

SO	Strategic Objective
SP	Sulfadoxine-Pyrimethamine
SPARHCS	Strategic Pathway to Achieve Reproductive Health Commodity Security
SWAp	Sectorwide Approach
SWEF	Systemwide Effects of the Global Fund
TB	Tuberculosis
THE	Total Health Expenditures
UN	United Nations
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VPD	Vaccine-preventable Diseases
WHO	World Health Organization

PHR*plus* PROJECT FACTS AT A GLANCE

MISSION

Partners for Health Reform*plus* has been USAID's flagship project for health policy and health system strengthening in developing and transitional countries from 2000 to 2006. Building on the predecessor Partnerships for Health Reform Project, PHR*plus* focuses on health policy, financing, and organization, with additional emphasis on community participation, infectious disease surveillance, and information systems that support the management and delivery of priority health services. PHR*plus* results include the following:

- ▲ Implementation of appropriate health system reform.
- ▲ Generation of new financing for health care, as well as more effective use of existing funds.
- ▲ Design and implementation of health information systems for disease surveillance.
- ▲ Delivery of quality services by health workers.
- ▲ Availability and appropriate use of health commodities.

COUNTRIES WHERE PHR*plus* HAS WORKED

LATIN AMERICAN & THE CARIBBEAN

LAC Regional
Bureau
El Salvador
Guatemala
Honduras
Mexico
Nicaragua
Peru

AFRICA

Africa Bureau
REDSO
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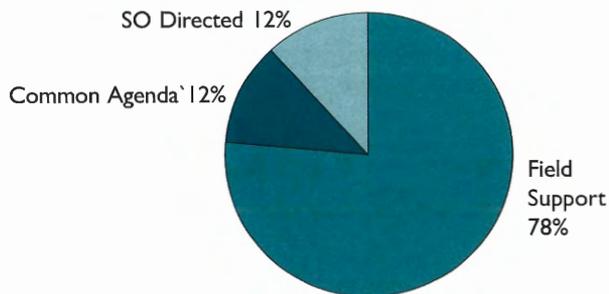
PHRplus STAFFING

- ▲ 10 site offices (Albania, Benin, Egypt, El Salvador, Eritrea, Ghana, Jordan, Peru, Senegal, and Yemen)
- ▲ More than 120 staff around the world
- ▲ 6-person Senior Management Team

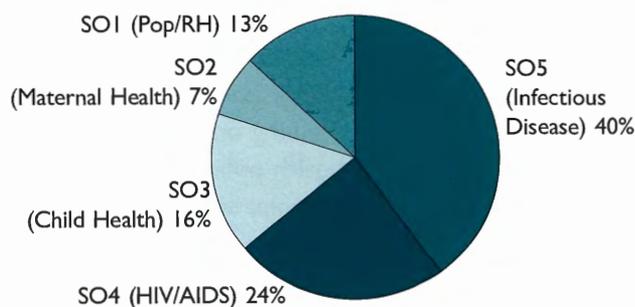
PHRplus THEMATIC AREAS

- ▲ Community-based health insurance
- ▲ National Health Accounts
- ▲ Global alliances
- ▲ Decentralization
- ▲ Infectious disease surveillance and response
- ▲ HIV/AIDS
- ▲ Applied research
- ▲ Mainstreaming
- ▲ Country field support

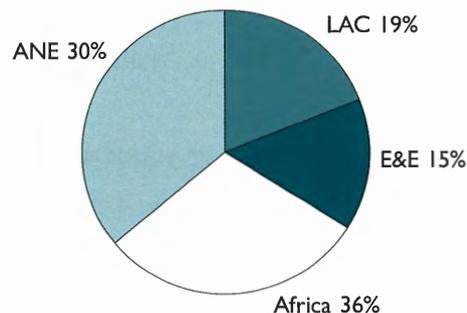
Distribution of Total Project Funds



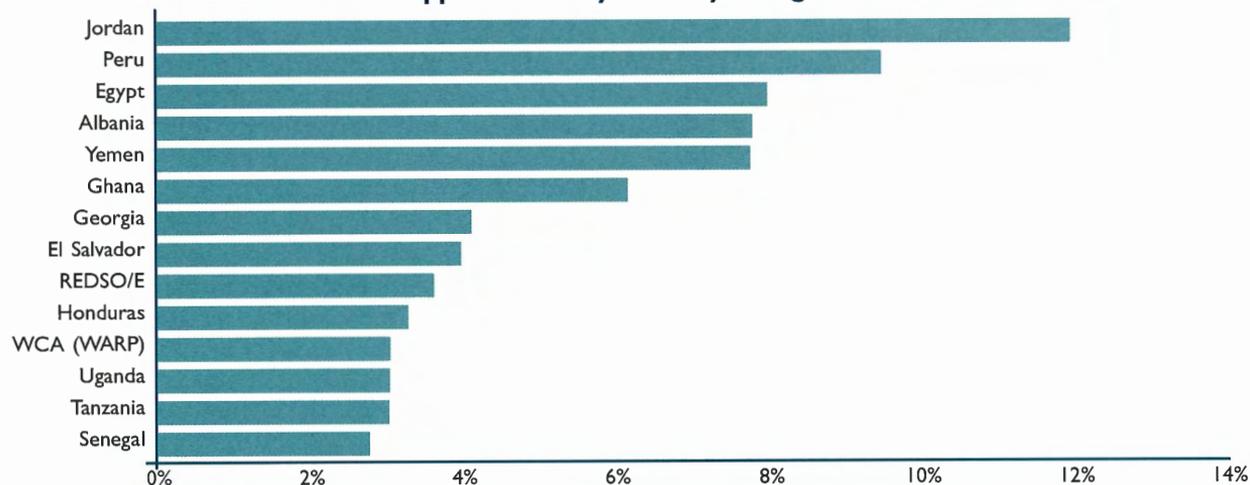
Distribution of SO Directed Funds

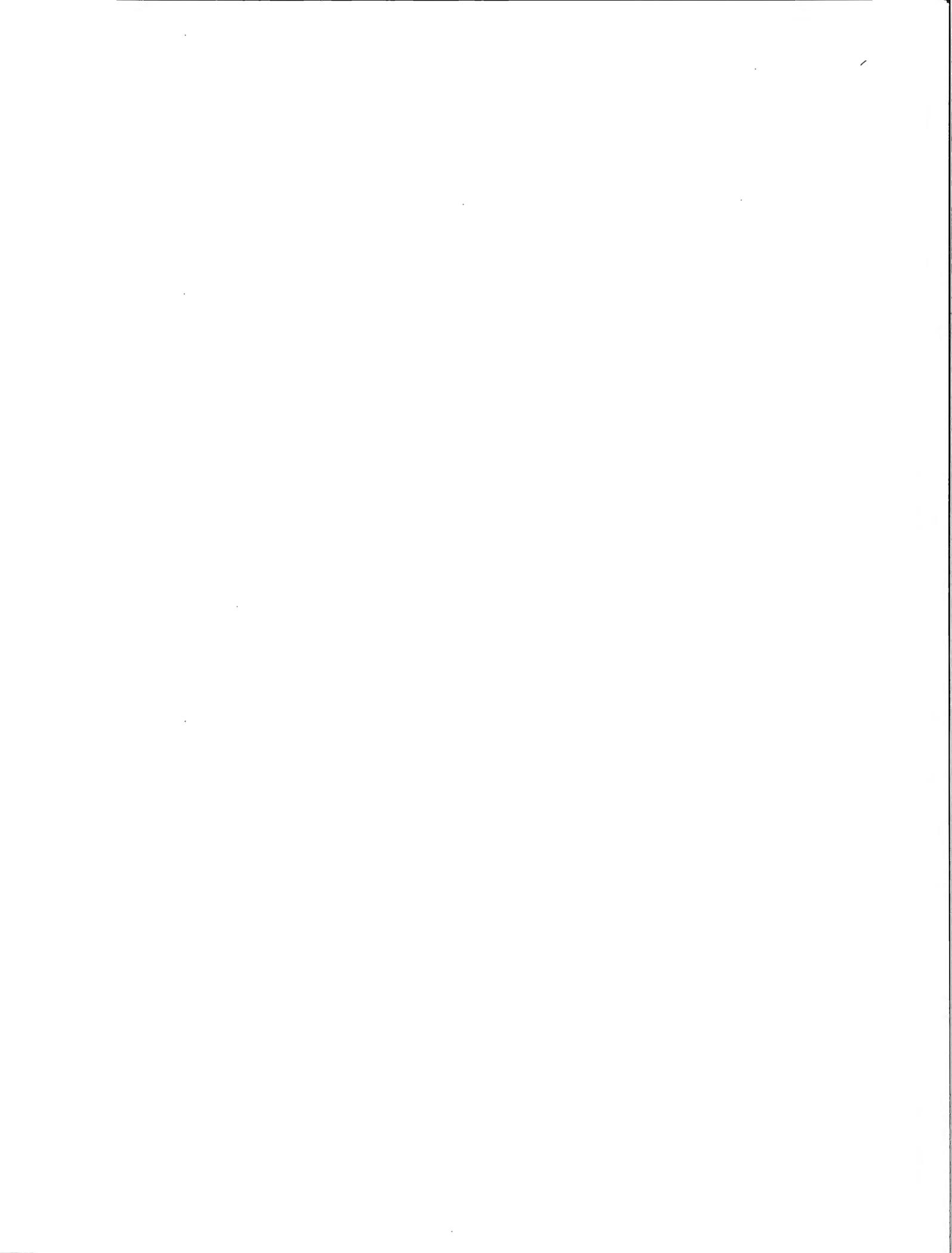


Distribution of Field Support Funds, by Region



Distribution of Field Support Funds by Country - Programs of \$2M or More





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