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PERFORMANCE-BASED INCENTIVES IN MOZAMBIQUE: A SITUATIONAL ANALYSIS



January 2011

This publication was produced for review by the United States Agency for International Development. It was prepared by Catherine Connor, Amélia Cumbi, Paulo Borem (Abt Associates Inc.), Alix Beith, Rena Eichler (Broad Branch Associates), Jodi Charles (USAID/W) for Health Systems 20/20.



Mission

The Health Systems 20/20 **cooperative agreement**, funded by the U.S. Agency for International Development (USAID) for the period 2006-2011, helps USAID-supported countries address health system barriers to the use of life-saving priority health services. Health Systems 20/20 works to strengthen health systems through integrated approaches to improving financing, governance, and operations, and building sustainable capacity of local institutions.

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Office of Health, Infectious Disease and Nutrition
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Abt Associates Inc. | 4550 Montgomery Avenue | Suite 800 North
| Bethesda, Maryland 20814 | P: 301.347.5000 | F: 301.913.9061
| www.healthsystems2020.org | www.abtassociates.com

In collaboration with:

| Aga Khan Foundation | Bitrán y Asociados | BRAC University | Broad Branch Associates
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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

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ACRONYMS

ACA	<i>Avaliação Conjunta Annual</i> (Joint Annual Evaluation of the Health Sector)
AIDS	Acquired Immunodeficiency Disease
AM	<i>Agente de Medicina Curativa</i> (Basic Level Two-year Trained Technician in Diagnosis and Treatment of Common Conditions)
APE	<i>Agente Polivalente Elementar</i> (Community Health Worker)
CDC	United States Centers for Disease Control and Prevention
CHW	Community Health Worker
CMAM	Central Medical Store
CPN	<i>Consulta Pre-Natal</i> (Prenatal visit)
CUT	<i>Conta Única do Tesouro</i> (Single Treasury Account)
DPS	<i>Direcção Provincial de Saúde</i> (Provincial Health Directorate)
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
HAI	Healthcare Associated Infections
HC	Health Centre
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HU	Health Unit
MCH	Mother and Child Care
MD	Medical Doctor
MDG	Millennium Development Goals
MISAU	<i>Ministério da Saúde</i>
MOH	Ministry of Health
MPD	<i>Ministerio de Planeamento e Desenvolvimento</i> (Ministry of Planning and Investment)
MTEF	Medium-term Expenditure Framework
NGO	Nongovernmental Organization
NHS	National Health Service
PAF	Performance Assessment Framework
PAP	Program Assistance Partners
PARPA	Action Plan for the Reduction of Absolute Poverty
PBI	Performance-based Incentive

PES	<i>Plano Económico Social</i> (Annual Social Economic Plan)
PESS	<i>Plano Estratégico do Sector Saúde</i> (Health Sector Strategic Plan)
PHC	Primary Health Care
PMTCT	Prevention of Mother-to-Child Transmission
ProSaúde	Common or Pooled Fund of Donor Funds for Health
PVT	<i>Prevenção da Transmissão Vertical</i> (Prevention of vertical transmission)
SB	State Budget
SDSMAS	<i>Serviços Distritais de Saúde Mulher e Acção Social</i> (District Health Directorate)
SIS	<i>Sistema de Informação de Saúde</i> (Health Information System)
SISTAFE	<i>Sistema de Administração Financeira do Estado</i> (State Financial Administration System)
TB	Tuberculosis
TC	<i>Técnico de Cirurgia</i> (Surgical Technician)
TMG	<i>Técnico de Medicina Geral</i> (Mid-level Three-year Trained Clinician)
UN	United Nations
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

The United States Agency for International Development (USAID), the United States Centers for Disease Control and Prevention (CDC), the World Bank, and other donors are interested in exploring performance-based incentives (PBIs) as a complement to other interventions to improve health outcomes. This report presents the findings of the first visit by USAID's Health Systems 20/20 Project in October 2010 to assess local interest in and capacity to implement PBIs.

Main Conclusions

- PBIs are legally and culturally feasible. Already there are several examples in Mozambique's health sector of supply-side and one of demand-side incentive arrangements that are similar to PBIs, but do not carry the PBI label. CDC and its implementing partner, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), will embark on a form of PBI in January 2011 in Maputo and Gaza provinces.
- Given the low level of health spending, limited population coverage, and estimates of unmet need in Mozambique, PBIs should be designed to improve system efficiency but not be expected to reduce spending in absolute terms.
- Mozambique has many of the capacities required to implement PBIs, although some need further strengthening. There is already an established culture and practice of conducting regular performance monitoring against well-known indicators and set targets at the facility, district, provincial, and central levels. Because health sector decentralization is "in process," the capacity and authority to take action varies. Some facilities have limited capacity to absorb a higher volume of patients without affecting quality. The routine health information system (HIS) is well designed and has many strengths; however, because its data quality, timeliness, and completeness are not consistent, it has limited capacity to be the main or exclusive source of data to measure performance as the basis for PBIs. The automated public financial management system, e-SISTAFE, may have the capacity to transfer monetary reward payments to provinces, some districts, and hospitals.
- Shortages and waste of essential drugs, supplies, and commodities plague the health system. Without an effective supply management system Mozambique will not be able to achieve needed health improvements. PBIs could be introduced into multiple levels of the supply chain from the central medical store (CMAM) at the national and regional levels and through connections with drug depots at the provincial and facility levels.
- New commitment to enable a cadre of community health workers or *agente polivalente elementars* (APEs) provides a strategic opportunity to shift service delivery and health education to the communities, which will hopefully expand coverage and free up clinical staff to deliver services that require more training and expertise. PBIs have the potential to support task shifting, motivate APEs, and rationalize service delivery.
- Local stakeholders are open to the PBI concept; CDC, USAID, and World Bank are ready to support introducing PBIs in Mozambique; however, some authorities and health worker staff express concerns about sustainability and equity of paying for performance.

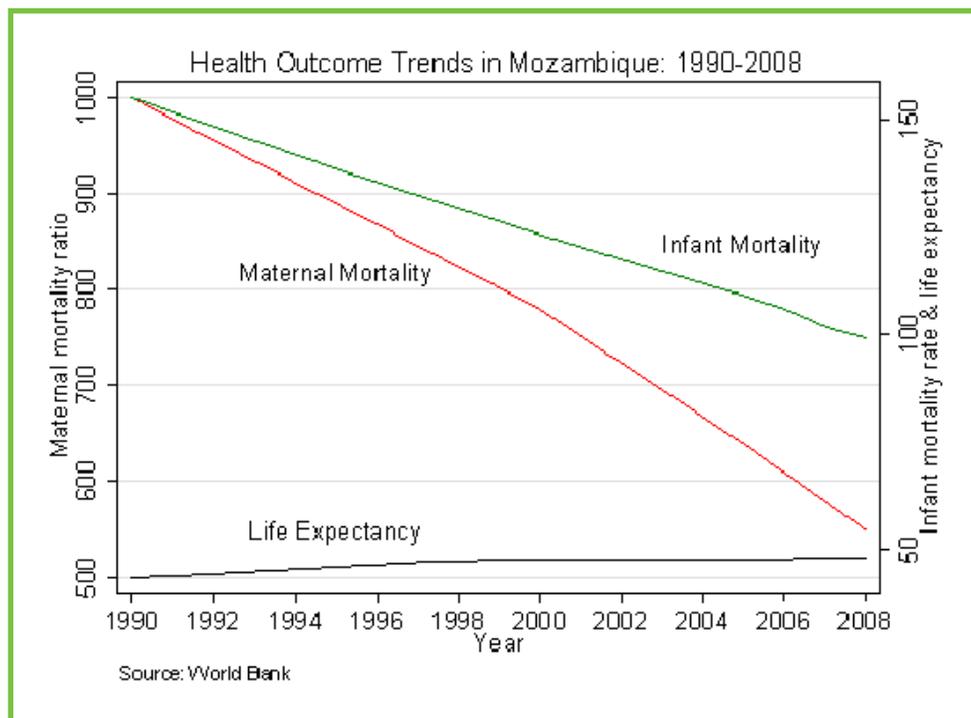
Main Recommendations

- Design and pilot PBIs with strong local leadership.
- Establish local multilevel teams in select provinces to lead problem analysis, design, and implementation.
- Establish a PBI point person at the central Ministry of Health (MOH) who closely monitors pilots.
- Establish a national coordination group dedicated to joint learning.
- Provide external technical support in a way that builds local capacity and expertise.

I. INTRODUCTION

After emerging from two decades of civil war in 1992, Mozambique (population 20.2 million) has achieved significant success in political stability, economic growth, and poverty reduction. However, indicators in health and human development remain low. Mozambique is near the bottom of the United Nations (UN) Human Development Index—172nd of 182 countries measured (United Nations Development Programme 2009). Poverty rates are high (55 percent in 2007–2008); literacy rates are low (47 percent); and the percentage of the population with access to an improved source of water or sanitation is low (42 percent). Despite these development challenges, such health outcomes as maternal and child mortality have improved and now exceed averages for the sub-Saharan Africa region. Life expectancy, however, remains flat and below the regional average (See Figure 1), in part due to the continued high prevalence of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) and malaria, poverty, and the population’s limited access to health services. The health sector’s planning and budgeting system are highly incremental with separate planning and financial reporting systems. Also, there are signs that the pace of health system improvement is stagnating and the promise of decentralized management has yet to be realized, despite the existing legal framework for decentralization.

FIGURE 1: HEALTH OUTCOME TRENDS IN MOZAMBIQUE 1990–2008



In this context, the United States Agency for International Development (USAID), the Centers for Disease Control and Prevention (CDC), and the World Bank, and other donors are interested in exploring performance-based incentives (PBIs) as a complement to other interventions to improve health outcomes. Fueling this interest in PBIs is the positive results achieved by a few countries in sub-

Saharan Africa, notably Burundi and Rwanda, which have PBI arrangements functioning in a majority of health facilities; plus smaller PBI pilots in the Democratic Republic of Congo, Kenya, Lesotho, Liberia, and Uganda, among others. In fact, already in Mozambique the CDC and its implementing partner, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), will embark on a form of PBI in January 2011 in Maputo and Gaza provinces. While Ministry of Health (MOH) officials and health workers are open to the concept and can even cite several types of incentives currently used to improve the performance of the health system in Mozambique, it is important to note that initial interest in PBIs has come from donors.

This report presents the findings of the first visit by USAID's Health Systems 20/20 Project in October 2010 to assess local interest in and capacity to implement PBIs. The team visited four of Mozambique's 11 provinces (Manica, Maputo, Niassa, and Sofala), within which the team visited six of the 33 municipalities (Beira, Chimoio, Lichinga, Manica, Maputo, and Matola) and four of the 128 districts (Mandimba, Manica, Ngauma, and Nhamatanda). The team visited four hospitals (Chimoio, Lichinga, Manica, and Nhamatanda), and four health centers (Mandimba, Manica, Matola, and Ngauma). Based on input from local stakeholders, the report identifies "low hanging fruit" opportunities for exploring PBIs.

Section 1 looks at Mozambique's priority health problems. Section 2 presents PBI concepts, good practices, international examples, and how they may be relevant to Mozambique. Section 3 summarizes the country's recent experiences with incentives, both monetary and in kind. Section 4 analyzes local capacity to implement an incentive scheme safely and successfully, and local concerns and suggestions about the scheme. Section 5 presents options for implementing PBIs in Mozambique, and a process for moving ahead with design and implementation. For background information on the health system in Mozambique, please see Annexes A and B.

2. HEALTH SYSTEM PRIORITIES

Mozambique faces a number of health and development challenges. Table I summarizes key health status and service delivery indicators. Mozambique performs better than the regional averages for many indicators except child mortality, family planning, HIV/AIDS prevalence and mortality, use of mosquito nets, and access to clean water and improved sanitation.

TABLE I: SNAPSHOT OF KEY HEALTH INDICATORS IN MOZAMBIQUE

Indicator	Mozambique	WHO/AFRO regional average	SSA average
Life expectancy 2007 (United Nations Development Programme 2009)	48	53	55
Infant and Child Health			
Measles immunization coverage among one year olds	77%	73%	76%
Diphtheria, tetanus, pertussis ³ immunization coverage, one year olds	75%	72%	85%
Neonates protected at birth against neonatal tetanus	83%	78%	
Children aged 6–59 months who received Vitamin A supplementation	50%	43%	N/A
Children aged under five underweight	21%	N/A	24%
Under five mortality rate per 1,000	130	142	120
Deaths under five caused by HIV/AIDS	14%	4%	
Children under five with diarrhea receiving oral rehydration	54%	N/A	45%
Maternal Health, Reproductive Health and Family Planning			
Maternal mortality ratio per 100,000 2008 (World Health Organization 2010)	550	900	832
Births attended by skilled personnel	48%	47%	51%
Births by Caesarian section	2%	3.4%	N/A
Contraceptive prevalence	17%	24%	20%
Adolescent fertility rate per 1,000	185 ^a	118	N/A
Total fertility rate	5.5	N/A	4.7
Unmet need for family planning	18%	24%	N/A
Antenatal care coverage: at least one visit	89%	73%	81%
Antenatal care coverage: at least four visits	53%	44%	48%

Indicator	Mozambique	WHO/AFRO regional average	SSA average
HIV/AIDS			
Prevalence of HIV among adults aged 15–49	13%	5%	5.75%
Males aged 15–24 with comprehensive correct knowledge of HIV/AIDS	33%	30%	N/A
Females aged 15–24 with comprehensive correct knowledge of HIV/AIDS	20%	23%	N/A
Antiretroviral therapy coverage among HIV-infected pregnant women (PMTCT)	42%	45%	N/A
ART coverage among people with advanced HIV infection	24%	44%	22%
HIV/AIDS-specific mortality rate per 100,000	379	174	N/A
Malaria			
Malaria mortality rate per 100,000	92	104	N/A
Children under five sleeping under insecticide-treated nets	7%	17%	29%
Children under five with fever who received treatment with any antimalarial	23%	N/A	N/A
Tuberculosis (TB)			
Incidence of TB per 100,000	420	350	N/A
TB mortality rate among HIV-negative people per 100,000	36	51	N/A
Drinking Water and Sanitation			
Population using improved drinking-water sources	47%	61%	66%
Population using improved sanitation	17%	34%	32%

SSA=Sub-Saharan Africa, N/A=not available, PMTCT=Prevention of Mother-to-Child Transmission

*Per 1,000 girls aged 15–19

Source: World Health Statistics 2010, World Health Organization (WHO). Data are available online at <http://www.who.int/whosis/whostat/2010/en/index.html> and Health Systems 20/20 Database for SSA data is available online at <http://healthsystems2020.healthsystemsdatabase.org/>

Underlying these health outcomes are well known challenges of limited coverage of health facilities, insufficient qualified staff and limited health financing.

Limited coverage in terms of physical access to facilities with minimal quality of services:

The health system in Mozambique the National Health Service (NHS), is predominantly public. However, the public health sector reaches less than 60 percent of the population (See Table 2). With a predominantly rural population (63 percent), geographic barriers and limited transportation, along with low health worker density, contribute to low coverage. According to the WHO, only 36 percent of people have access to a health facility within 30 minutes of their homes; 30 percent of the population is unable to access health services; and only 50 percent have access to an acceptable level of health care. There are very few private sector facilities. Private nonprofits, including many national and foreign nongovernmental organizations (NGOs) and faith-based organizations, are perceived to provide better coverage at the community level, but the team did not encounter any documentation to support this.

The private, for-profit health sector is developing slowly and primarily serves urban areas. There is also a large, informal network of traditional medicine and lay practitioners. In general, the laws and regulations to ensure the quality of private sector services are not enforced. Also, these providers are not well integrated into the public sector.

TABLE 2: AVAILABILITY OF HEALTH SERVICES, WITH COMPARISON BETWEEN WORSE-OFF AND BETTER-OFF PROVINCES

Health Service Availability	1997	2001	2003	2005	2008
Consultations per inhabitant^a					
National average	0.50		0.91		1.02
Cabo Delgado, worse-off province			0.64		
Zambézia, worse-off province	0.33	0.59	0.70	0.68	
Maputo City, better-off province	1.15	1.72	1.50	1.55	
Ratio better-off/worse-off provinces	3.48	2.92	2.34	2.28	
Maternity beds per 1,000 women of child bearing age^b					
National average	0.93	1.18	1.10	1.10	
Zambézia, worse-off province	0.47	0.67	0.57	0.60	
Maputo City, better-off province	2.10	2.32	2.18	1.43	
Ratio better-off/worse-off province	4.47	3.46	3.82	2.38	

Sources: ^a1997–2005, MOH statistical information; 2008 data, 9 Health Sector Performance Review ACA Version 8; ^b1993–2005 data, MOH statistical information

Shortage of human resources for health: In the years following the war, Mozambique’s shortage of health professionals was legendary, a handful of doctors for the entire country. Since then, staffing levels in terms of quantity, type, and level of training have increased, and distribution has improved. As illustrated in the Table 3, availability of health staff compared to population served has improved, and the gap between worse-off and better-off provinces has been closing; the NHS has managed to deploy at least one medical doctor in every district. However, in spite of increased production of medical doctors and maternal and child health (MCH) care nurses, their deployment to most needy rural areas can be delayed for months due to lack of housing near the health facility. It is the responsibility of the Provincial Health Directorate or *Direcção Provincial de Saúde* (DPS) to provide adequate housing for new doctors. Although improving at the facility level (health units), maternity services tend to employ the less trained MCH nurses.¹ The newly deployed medical doctors in the districts are often young and inexperienced, and typically stay only for two years. Medical doctors tend to have a substantial amount of administrative work, which limits their time available for patient care. The workload indicator study (Cumbi and Langa 2010) found that medical doctors spend only around 50 percent of their time on direct patient care.

¹ The percent of *parteira elementar* (PEs), one-year trained midwives, in the maternity wards is very high; in the visited health units (HUs) the PEs represented 40 percent of the nurses working shifts in maternity. In some HUs, even though the nurse in-charge of the maternity ward was an MCH nurse, only PEs were working maternity shifts. In four HUs (two CSU A [urban health centers], one CSU B, and one CSR II [rural health center]), there were only PEs working the maternity shifts, and the MCH nurse was responsible for the maternity and MCH sector (Cumbi and Langa 2010).

**TABLE 3: AVAILABILITY OF HUMAN RESOURCES FOR HEALTH:
NUMBER OF INHABITANTS PER HEALTH PERSONNEL, NATIONAL AND COMPARISON
BETWEEN WORSE-OFF AND BETTER-OFF PROVINCES**

	1997	2001	2003	2005	2007	2008
National	2,296		1,696	1,638	1,381	1,310
Zambézia, worse-off province	4,589	3,010	2,957	2,685		
Maputo City, better-off province	645	592		737		
Ratio Better off/worse off province	7.11	5.08		3.64		

Source: The 1993-2005 data, *Informação Estatística MISAU*; 2007 and 2008 data, 9 Health Sector Performance Review ACA Version 8

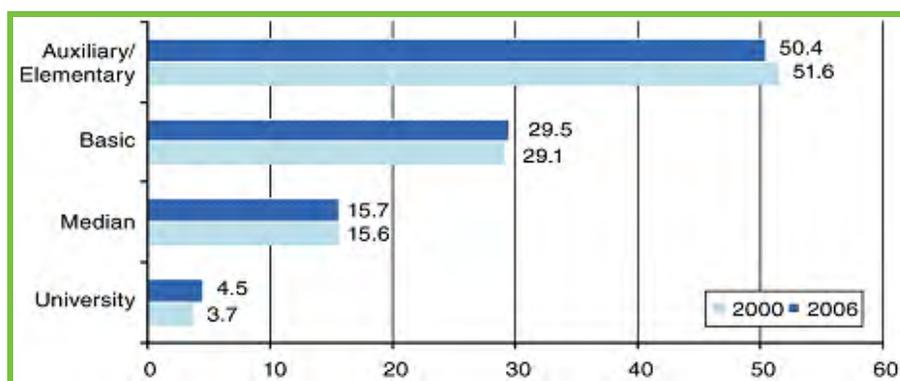
TABLE 4: SNAPSHOT OF HEALTH WORKERS AVAILABILITY, 2006

Health care worker category	Mozambique	SSA average
Physicians, per 10,000 population	0.27	0.85
Nurses and midwives, per 10,000 population	3.10	4.54
Pharmacists, per 10,000 population	0.40	0.20

Source: World Health Statistics 2010. Data are available at <http://www.who.int/whosis/whostat/2010/> Database for SSA data is available online at <http://healthsystems2020.healthsystemsdatabase.org/>

Looking at the supply of physicians and nurses can be a misleading indicator of service provision because these indicators fail to take into account that the majority of the health personnel are “primary health workers” who provide around 90 percent of care through the primary health care (PHC) network and account for approximately 50 percent of the workforce (See Figure 2) and more than half of NHS activities (output).

FIGURE 2: PERCENTAGE DISTRIBUTION OF NHS STAFF PER EDUCATION LEVEL



Source: Mozambique National Directorate of Human Resources, 2008

Table 5, which shows the distribution of employees in the NHS for 2000 and 2006, by education level and by their assignment to clinical or nonclinical duties, indicates faster growth of staff completing nonclinical duties during this period.

TABLE 5: HUMAN HEALTH RESOURCES DISTRIBUTION BY JOB AND EDUCATION LEVEL

Education Level	Job	2000	2006	Variation
University	Doctor	436	606	39.0%
	Other	140	537	283.6%
	Subtotal	576	1,143	98.4%
Secondary level	Clinical duties	2,132	3,115	46.1%
	Other	357	919	156.4%
	Subtotal	2,489	4,034	62.1%
Basic level	Clinical duties	4,128	6,642	60.9%
	Other	523	942	80.1%
	Subtotal	4,651	7,584	63.1%
Elementary level	Clinical duties	1,628	2,090	28.4%
	Other	582	1,007	73.0%
	Subtotal	2,210	3,097	40.1%
Other	Assistant workers	1,631	2,090	28.1%
	Laborers	5,003	8,987	79.6%
	Subtotal	6,634	11,077	67.0%

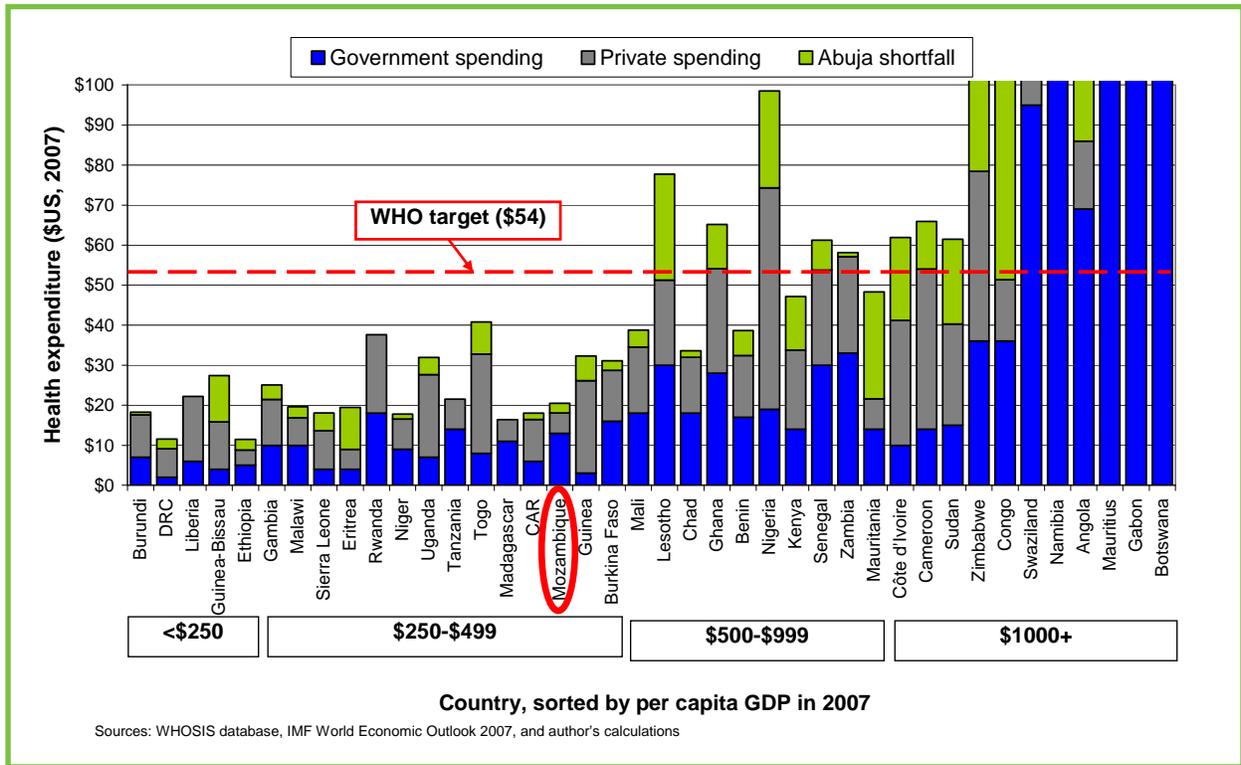
Source: Mozambique National Directorate of Human Resources, 2008

Improvements notwithstanding, adequate staffing levels and correct staff mix still constitute major challenges, especially in most remote rural areas. Thus, there is a renewed interest in **community health workers** to fill some of the gaps from lack of professional health providers, extend coverage, and increase prevention of such diseases as HIV/AIDS and malaria, which are clearly more costly to treat. In 2010, the government launched their Community Health Workers (CHWs) Strategy (also known as the APE program) that defines the role, qualifications, training, and compensation of this cadre of health worker.

Limited health financing and the challenge of financial sustainability in the context of inadequate resources: Mozambique's reality is that by any measure, health funding is inadequate, even with significant external assistance. Total health spending per capita rose from \$14 in 2004 to \$20 in 2008, but is still well below the \$54 recommended by WHO in 2008² to achieve the Millennium Development Goals. Figure 3 shows that even if the Government of Mozambique were to increase government spending on health to 15 percent of total government spending (the Abuja target), the country would still fall very short of the WHO target.

² http://www.internationalhealthpartnership.net/DMS_files/documents/taskforce_report_EN.pdf

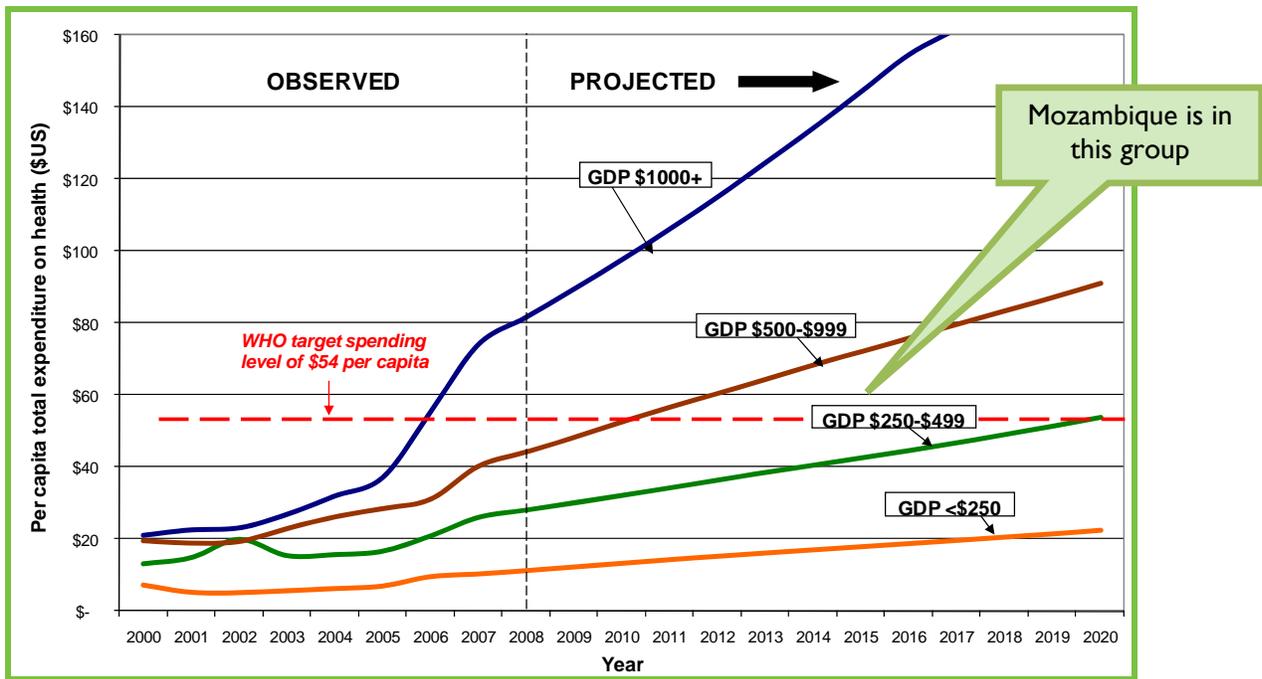
FIGURE 3: HYPOTHETICAL LEVELS OF TOTAL SPENDING IF THE ABUJA TARGET WERE MET TODAY^a



a Adapted from Atim et al. 2008

Even under optimistic assumptions regarding projected growth of the state budget (5 percent per year), population growth (2 percent per year), and allocation of public resources to health (15 percent of total state budget); Mozambique would not reach \$54, the per capita target, with domestic funds until 2020 (See Figure 4).

FIGURE 4: PROJECTED AVERAGE PER CAPITA GOVERNMENT AND PRIVATE SPENDING ON HEALTH (US\$), BY GROSS DOMESTIC PRODUCT PER CAPITA IN 2007^A

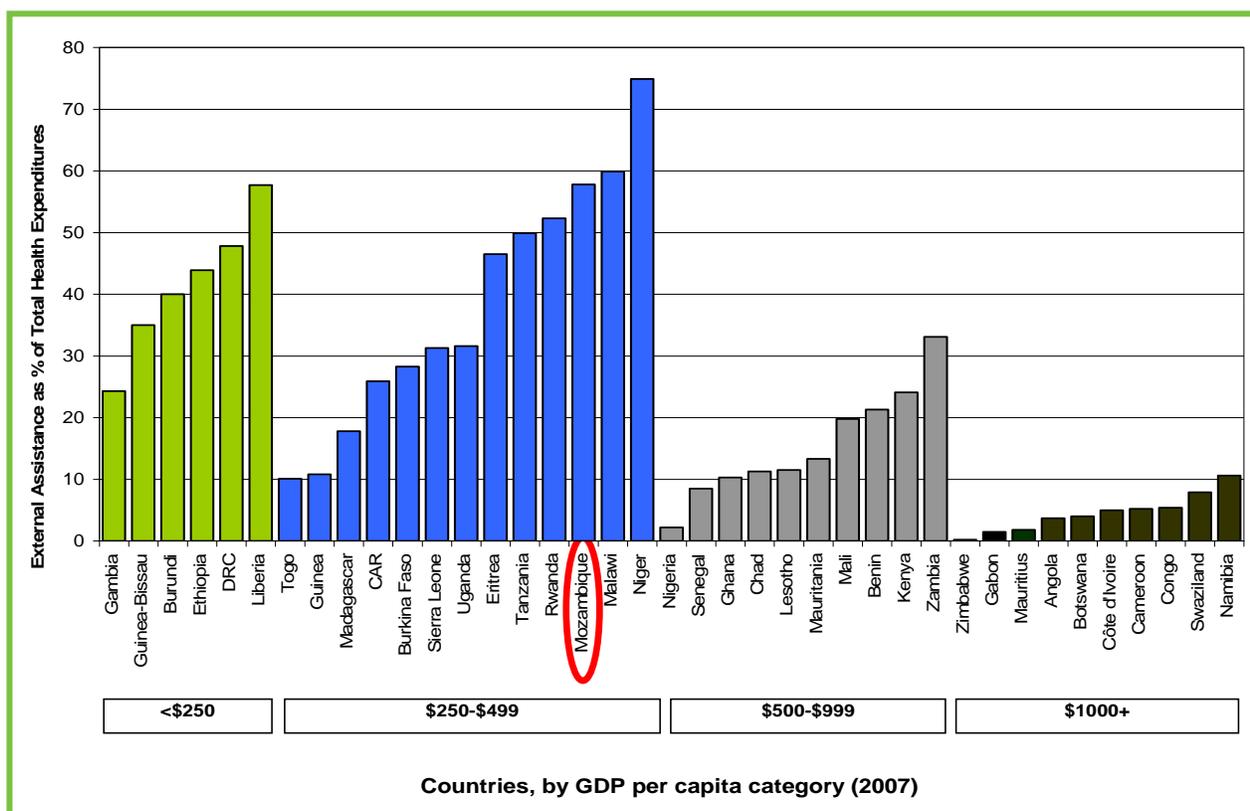


^a Adapted from Atim et al. 2008

Sources: WHO statistics, IMF World Economic Outlook database, and authors' calculations. Excludes S. Africa and countries with pop. < 1

As one of the poorest countries in the world, Mozambique is highly dependent on external assistance (See Figure 5). External funding in the form of the Common Fund or vertical funds, represents more than half of the national health spending, not including household out-of-pocket spending (See Table 6).

FIGURE 5: EXTERNAL ASSISTANCE FOR HEALTH AS PERCENTAGE OF TOTAL HEALTH EXPENDITURES, BY INCOME CATEGORY, 2007



^a Adapted from Atim et al. 2008.

Sources: WHOSIS database and IMF World Economic Outlook database 2007

**TABLE 6: HEALTH EXPENDITURES, 2004–2008
(MILLIONS METICAS AND PERCENT OF TOTAL)**

Source	2004	2005	2006	2007	2008
State Budget	2.73	2.704	2.808	3.302	3.588
Common Fund	1.638	2.756	2.574	3.25	1.924
Vertical Funds	2.21	3.38	3.666	3.9	7.8
Total	6.578	8.84	9.048	10.452	13.312
State Budget	42%	31%	31%	32%	27%
Common and Vertical Funds	58%	69%	69%	68%	73%
Total	100%	100%	100%	100%	100%

Source: MOH Directorate of Planning and Cooperation 2010

For these reasons, PBIs should seek to contribute to increased efficiency so scarce domestic and external resources are not wasted. For example, an insecticide-treated bed net costs a fraction of an outpatient visit to diagnose and treat malaria (See Box 1). However, PBIs should be expected neither to reduce health spending overall nor to reduce the need for external funding in the short or mid term. To the degree possible, PBIs should be integrated into local systems and structures, not a parallel system that adds an additional recurrent expense that is difficult to sustain.

Box 1: Malaria: A Costly, Preventable Disease

With 6,000,000 cases reported each year, malaria accounts for 40 percent of all outpatient visits and 60 percent of pediatric hospital admissions. It is the leading cause of death among children. All 21.5 million people in Mozambique are considered to be at-risk of malaria year-round, with a seasonal peak from December to April. The PMI-supported Malaria Indicator Survey provides 2007 baseline data for national prevalence of malaria:

- 38.5 percent among children six to 59 months, ranging from a high of 60.4 percent in Nampula Province to a low of less than 10 percent in Maputo.
- 16.3 percent among pregnant women, with 30.1 percent of women in their first pregnancy demonstrating parasites on blood slides
- Anemia due to malaria was found in 67.7 percent of children age six to 59 months and 48.1 percent of pregnant women (hemoglobin < 11 gm/dl)
- Severe anemia was found in 11.9 percent of children and 5.1 percent of pregnant women (hemoglobin < 8 gm/dl) (http://www.fightingmalaria.gov/countries/mops/fy10/mozambique_mop-fy10.pdf)

The next section of this report looks at international examples of PBIs and how they may be relevant to setting priorities for PBIs in Mozambique.

3. BRIEF BACKGROUND TO PERFORMANCE BASED INCENTIVES

3.1 CONCEPTS AND TERMINOLOGY

What are PBIs? PBIs, also called pay-for-performance, seek to motivate demand- and/or supply-side behavior change and catalyze actions that lead to improved health outcomes. PBI strategies link incentives to results attained with the aim of stimulating achievement of health targets, making progress towards reaching the health-related Millennium Development Goals (MDG), while simultaneously strengthening health systems. A formal definition of PBI is the “transfer of money or material goods conditional on taking a measurable health-related action or achieving a predetermined target.”³ In short, PBI schemes provide financial incentives to recipients when predetermined desired results are achieved.

PBIs are being used in developing countries to tackle many health priorities. PBIs can be, and are increasingly being, used by developing country programs to tackle a number of health challenges. Common areas currently being addressed through PBIs include HIV/AIDS, immunization, malaria, maternal health, newborn and child health, reproductive health and family planning, and TB. There is also evidence of developing country PBI programs that are seeking to stimulate improvements in nutrition, safe water and sanitation and management of chronic conditions.⁴

PBI strategies can have a demand- and/or supply-side focus. As seen in Figure 6, PBI recipients may be demand-side recipients, such as mothers or other child care providers, who, for example, receive a payment when they bring children promptly and regularly for well-child visits. Another example of demand-side recipients are pregnant women who purchase (at a subsidized price) a set of vouchers enabling them to access a package of reproductive care (e.g., four antenatal care visits, facility-based delivery, and one post natal care visit) at a health facility. In some cases payment also covers client transportation costs to the health facility. Performance payments to households contribute to overcoming financial and social access barriers and can support health improving behaviors.

Supply-side recipients most commonly are public and/or private health facilities—hospitals and health centers—where the payment to the facility usually is shared to some degree by individual staff. Less commonly on the supply-side are innovative examples of payments to community health workers or from outside donors to national or sub-national levels of government, or from national level to subnational levels of government. In less stable settings, or where health infrastructure is minimal or weak, PBI is increasingly being used in different forms to contract NGOs and subsequently increase health service access. Providers paid on the basis of performance often can decide how to spend the

³ From the Center for Global Development Performance-based Incentives Working Group. See http://www.cgdev.org/section/initiatives/_active/ghprn/workinggroups/performance

⁴ See, for example, findings from a recent survey of performance-based financing interventions in developing countries: <http://www.healthsystems2020.org/content/resource/detail/2344/>

money – empowering them to think creatively about how to reward staff, improve facilities, and reach their community.

FIGURE 6: PAYERS AND RECIPIENTS OF PERFORMANCE-BASED INCENTIVES



PBI is being used to motivate changes in service utilization and, increasingly, service quality. In most settings PBI strategies were originally introduced to tackle problems of poor service access, inadequate service utilization, and low health provider motivation. PBI introduction was primarily meant to increase service utilization and, through increased access and use, improve health outcomes. Recent efforts (and a few schemes right from the start) have sought to go beyond simply increasing service utilization levels and include a quality of care component as part of PBIs. In some settings, “quality” refers mostly to availability and appropriate condition of inputs (medical equipment, drugs, procedures, and norms in place and being followed); however, in others, “quality” increasingly means tying a portion of payment to ensuring that a certain standard of care is delivered.

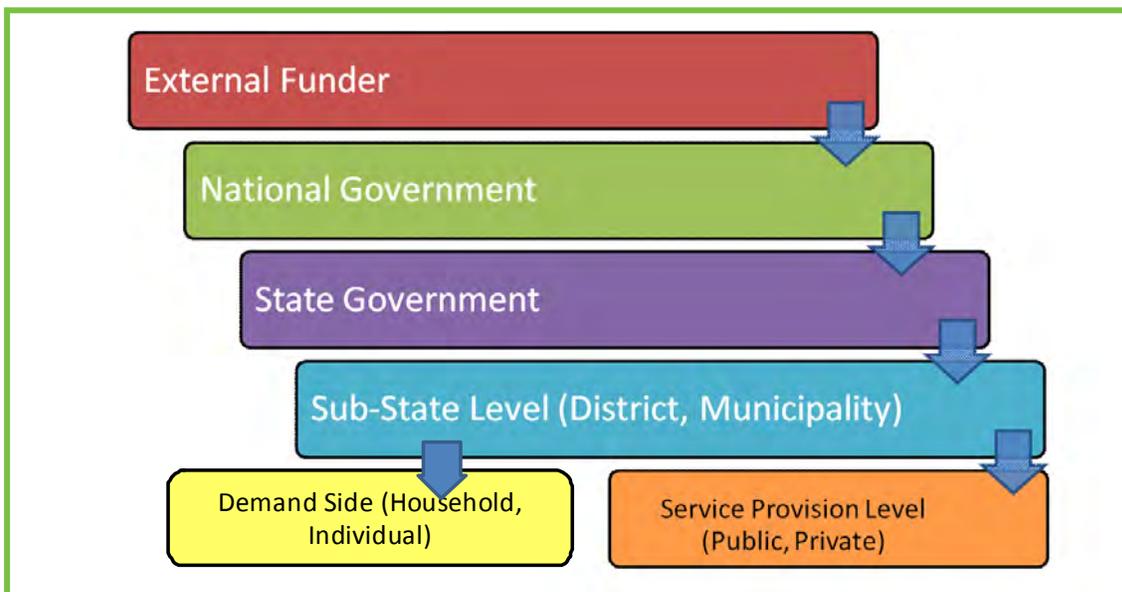
There are potential pitfalls to PBIs but, if anticipated, they can be avoided. Unintended negative consequences of PBIs have been observed. These include misreporting, providers neglecting services that are not being rewarded through PBIs, and undermining intrinsic motivations of health workers. It is therefore critical when considering implementing PBIs, to make sure to avoid such potentially perverse incentives as a poorly designed conditional cash transfer program that inadvertently encourages women to have additional children, or payment schemes to providers that result in excessive provision of unnecessary or potentially harmful services. A strong system to validate reporting on outputs that are rewarded and monitor outputs that are not being rewarded should be part of any performance-based incentive intervention. Incentives matter, and thinking through and observing how they work and why is an essential part of the design and ongoing management of any performance-based incentive program.

3.2 EXAMPLES OF HOW PERFORMANCE BASED INCENTIVES ARE BEING USED IN THE DEVELOPING WORLD TO MOTIVATE CHANGE FOR IMPROVED HEALTH OUTCOMES

This section provides a brief overview of country-specific examples that convey information on the different forms of PBIs. Examples that may be appropriate for PBI design in Mozambique are showcased in Boxes 2–10. Examples, which are classified by payer and recipient, follow the levels listed in Figure 7. As you will see, PBI setup can range from an external funder as the payer and the national government

or lower levels of government as the recipients to a government as the payer and health care providers (public or private hospitals and health centers or individual providers) and/or patients as the recipients.

FIGURE 7: LEVELS TO CONSIDER, FROM PAYER TO RECIPIENT



3.2.1 SUPPLY-SIDE EXAMPLES

PBI payment from external funder to national and/or state governments. PBI funding from an external donor to a national or subnational level of government is called performance-based aid. Performance-based aid embodies assumptions that incentives at this “higher” level will catalyze changes in leadership, planning, management, and systems, which will result in improved health. The evidence on the effectiveness of performance-based aid, however, is far from clear, partly because incentives provided at this higher level do not appear to trickle down to affect behaviors of providers and clients. Rigorous evaluation results are not yet available.

Box 2: Health 2015 Mesoamerica

Payments from the Bill and Melinda Gates Foundation and the *Instituto Carlos Slim de la Salud* will be made to nine poor states in Mexico and all national Central American governments partly based on performance on a set of predetermined health indicators.

A new regional performance-based aid initiative, called Health 2015 Mesoamerica, is currently in the design phase. Managed by the Inter-American Development Bank, this program will tie payments to indicators, ranging from immunization to maternal health (prenatal care, facility-based deliveries, family planning); from infectious diseases (malaria, dengue) to nutrition (vitamin A, iron, and zinc) and maternal and newborn health (postnatal care for both mother and infant). Interventions will target geographic areas or populations that are classified according to national definitions as extremely poor and/or indigenous. It is expected that contracts between the Mesoamerican Health Initiative and country and state governments will specify that incentives must be transferred to lower levels of the system.

Potential relevance for Mozambique: ProSaúde, CDC’s performance-based contracts through EGPAF in the provinces, the Global Fund’s performance-based funding, the potential for USAID to provide direct financing to CMAM, the national medical store and distribution system, and provincial health directorates, or incentive payments to the national level to create an enabling environment for PBI.

PBI payment from national to subnational government levels. PBIs can also be used by national governments during the process used to determine transfers to lower levels of government. By linking federal-to-state transfers to results, national governments can exert influence by providing incentives to hold lower levels of government accountable while preserving the principle of direct management of health at the state level. Effective performance-based transfers can stimulate state health leaders to identify and fix systemic weaknesses and bottlenecks. However, if the incentives do not translate into health-improving actions at the interface between providers and clients, performance-based transfers are likely to have little impact.

Box 3: Argentina

Argentina's federal government pays the provinces partly based on achievement of indicators related to newborn, child and maternal health.

Argentina's PBI scheme, introduced in 2004, is composed of federal government transfers to the provinces. Operating in the poorest regions in the country, an MCH insurance scheme called *Plan Nacer* specifically targets vulnerable population groups, namely children under six and pregnant women. Payment to provinces is based partially on *Plan Nacer* enrollment levels and partly dependent on performance on 10 performance indicators (called tracers), which primarily address MCH and family planning. One further indicator—inclusion of indigenous populations—seeks to stimulate increased health service access for indigenous women and children. Goals of *Plan Nacer* are to reduce the maternal and infant mortality rates, strengthen the incentive framework for efficiency, enhance the focus on results between the national level and participating provinces and between provinces and service providers, and strengthen the stewardship capacity of national and provincial ministries of health. *Plan Nacer* began as a World Bank project in 2002 with the expectation to transition to full government funding. Based on 2009 data, goals were achieved for six out of the 10 tracer indicators. For example, a 10–40 percent increase in the percentage of women receiving the required number of antenatal care visits was observed and is attributed to implementation of the program.

Potential relevance for Mozambique: The MOH and DPS could consider a performance component to allocation of ProSaúde funds to the DPSs, districts, and large health facilities; or MOH could use incentives to promote implementation of national policies in the context of decentralization, or accountability and efficient use of vertical funds.

PBI payment from government (and/or donors) to public and private, nonprofit facilities.

Another form of PBIs is government or donor payments to public and/or private health facilities based on their achievement against predetermined performance indicators. In some cases PBIs are used to reward improved referral patterns or a strengthened continuum of care. For example, several countries, such as Burundi (See Box 4) provide payments for referral for facility-based delivery. Another example is UNIMED-Belo Horizonte, a private, nonprofit health care organization in Brazil, which has implemented P4P to improve health service quality and efficiency among its network of 258 providers serving 800,000 individuals in the Belo Horizonte metropolitan area since 2007. The program seeks to improve the quality and efficiency of disease management of selected conditions including childhood asthma and well-child care (birth to age one), and reward appropriate referral (such as referral to tobacco cessation courses, for cardiac rehabilitation, or for annual eye exams).

Box 4: Burundi

In Burundi the national government, in conjunction with donors following a standardized national approach, pays additional fees (per service delivered) to health facilities, which are linked to the delivery of a list of priority services.

Burundi began piloting this supply-side PBI model in 2006, and it is currently being taken to scale. Health centers and hospitals receive monthly payments corresponding with utilization levels of a specific list of health services (child health, maternal health, family planning, and infectious diseases). In addition, quality is assessed quarterly through service-specific composite indicators. During the pilots (and now, as part of scale-up) contracts are established between government bodies and local associations that are responsible for validating health services received at the community level, to determine satisfaction with services used and to assess the extent of patient and community knowledge. Patients are asked how they were treated by providers, what medicines were prescribed (if any), and what follow-up took place. Findings from these quarterly community surveys are fed back to the respective health care providers, and a portion of the quality payment depends on the results of these surveys conducted by the local associations. During piloting, each facility could earn a quality bonus of up to 15 percent of the total amount obtained on quantitative results during the same time period; the Ministry of Health raised this bonus to 25 percent during nationwide scale-up. A portion of the monthly fees and quarterly quality bonuses are used for facility upgrades, and the rest is paid directly to health workers. Results associated with results-based financing in Burundi have been favorable: Service utilization, vaccination coverage of children the rate of assisted birth, and the use and uptake of new family planning services all have increased. Overall findings revealed an average 50–60 percent increase for each indicator compared to baseline levels.

Potential relevance for Mozambique: Giving health facility staff explicit incentives for providing certain priority services or to implement the recently approved integrated package of services (e.g.: HIV counseling and testing, PMTCT, ITN distribution, family planning counseling, the referral system, or hospital performance) could lead to increased motivation, innovation, and, ultimately encourage increased use. The CDC and EGPAF are implementing a similar model in Gaza and Maputo provinces.

For a detailed overview of PBI use in Burundi, see Busogoro et al, 2010, online at <http://www.healthsystems2020.org/content/resource/detail/2575/>.

Box 5: Honduras

In Honduras the national government, with support from donors, provides monetary payments to hospitals based on their implementation of quality improvement plans.

Plans emphasize appropriate and effective implementation of a package of maternal and newborn services, and the payment amount depends on the degree to which quality—primarily process indicators—are met. Targets are established by the central MOH and each individual hospital. A small portion of the hospital incentive payment goes directly to members of the quality improvement teams. PBI introduction has resulted in significant improvements in quality of care indicators. Additionally, other programs outside of maternal and newborn health have become adopted quality improvement methods.

Potential relevance for Mozambique: Combine incentives with the quality improvement system being piloted by the MOH and JPIEGO in hospitals and outpatient facilities.

PBI payment from government or donor(s) to private for-profit or nonprofit health facilities. Over the past decade fragile states and other low resource settings with limited public health service delivery infrastructure and capacity have increasingly experimented with contracting NGOs to increase service delivery and improve health outcomes. These settings have in common a relatively weak public service delivery system and a history of relatively strong NGOs delivering services in the context of fragility from conflict or lack of government leadership. Examples include Afghanistan, Democratic Republic of Congo, Haiti, Liberia, and Southern Sudan.

Box 6: Haiti

Prior to the devastating earthquake that demolished the capital of Haiti in January 2010, nongovernmental organizations in more than one third of the country were engaged in performance-based, donor-supported contracts.

In Haiti, the use of PBIs meant that NGOs were no longer paid for documented spending on inputs but rather for achievement of output and performance results. The objective of the PBI pilot, which provided services to roughly 500,000 Haitians, was to increase access to a comprehensive package of child, maternal, and infectious disease services and to strengthen the capacity of service delivery NGOs. Payment consisted of a portion that was regular and reliable and paid in four lump sum quarterly payments, and an annual award fee that was based on whether targets that were established at contract signing were achieved. Through 2005, roughly 95 percent of an NGO's historical budget was regular and reliable with the opportunity to earn the 5 percent withheld amount, plus an additional 5 percent bonus linked to attainment of performance targets. After 2005, the withheld amount increased to 6 percent (94 percent regular and reliable), and up to an additional 6 percent could be earned if all targets were reached. Targets were established relative to each NGO's baseline level from the previous contract period. Each target had a performance payment associated with it, and payment for attainment of each target was "all or nothing." PBI implementation resulted in rapid improvements in immunization levels and institutional deliveries. Other indicators took longer to show results. PBI expansion to the public sector was planned until the devastation brought about by the earthquake in January 2010.

Potential relevance for Mozambique: A performance element could be incorporated into contract agreements (MOUs) between donors (such as Global Fund grants), or their implementing partners (such as EGPAF) and their subrecipients (public and private agencies and providers). This could be an opportunity to build MISAU's ability to contract out health and/or such health-related services as community-based services, transportation, laundry, and cooking.

3.2.2 DEMAND- AND SUPPLY-SIDE EXAMPLES

PBI payment from government or donor(s) to public and/or private facilities and clients using vouchers. A number of countries are implementing voucher models that either provide at no charge, or sell for a small fee, books of coupons that enable access to health services. Voucher approaches are most commonly used to target poor and marginalized populations with the aim of helping them overcome access barriers. Voucher schemes incorporate incentives on both the demand and the supply side; providers receive payment for services covered by the voucher. In some settings voucher holders are assigned to specific providers (which can be public and/or private), while in others individuals have a choice of provider.

Box 7: Bangladesh

Voucher schemes in Bangladesh, Kenya, Pakistan, and Uganda provide payments to promote uptake of maternal health services, including family planning.

Voucher programs in all four countries seek to strengthen reproductive health care through promotion of a package of antenatal care, safe delivery, and postnatal care services, which sometimes explicitly includes family planning (Kenya, Pakistan), sexually-transmitted infection treatment, and/or HIV counseling and testing (Uganda). Vouchers often cover the costs of client travel to and from the health facility. Voucher schemes have the potential to greatly increase uptake of health services; for example, in Pakistan more than 98 percent of voucher holders delivered babies at health facilities, while more than 78 percent returned for family planning counseling following delivery. In Kenya, population uptake of a safe motherhood voucher exceeded expectations with more than 60,000 women delivering babies using the voucher during the first two years of the program; uptake of a second voucher for family planning; however, fell far short of anticipated levels, reflecting the fact that, while vouchers may reduce financial barriers to accessing family planning services, there are often other barriers that are as great or greater in importance than financial barriers. In these cases, vouchers may be insufficient in and of themselves at generating increased utilization.

Potential relevance for Mozambique: Voucher schemes could be used to increase access to prioritized services, such as institutional deliveries, HIV/AIDS counseling and testing, PMTCT and ART, malaria, and TB, especially in rural areas.

For a detailed overview of PBI use in Kenya, see Kilonzo et al, 2010, online at <http://www.healthsystems2020.org/content/resource/detail/2608/> and Bellows et al, 2009, online at <http://www.healthsystems2020.org/content/resource/detail/2563/>. Details about how PBIs are being used in Pakistan are found in Bashir et al, 2010, online at: <http://www.healthsystems2020.org/content/resource/detail/2577/>. To learn more about the Uganda PBI program see Bellows and Hamilton (2009), online at <http://www.healthsystems2020.org/content/resource/detail/2576/>.

PBI payment from government to CHWs and clients. CHWs are a critical link in the health care chain in most countries. Their ability to reach out and liaise with community members can be enhanced by introducing performance-based incentives. It is not uncommon for PBI schemes to provide incentives for both CHWs and clients. For example, offering payments when women come to a health facility to give birth has proven to be an effective way to increase institutional deliveries by the poor. There is considerable potential in many settings to motivate CHWs to achieve improved results in many different health care areas, from reducing malnutrition levels to increasing bed net distribution and from boosting PMTCT coverage to raising family planning counseling levels.

Box 8: India

In India, a government-led national program pays community health “link workers” (thus called since they establish a link between the formal health system and individuals who are not accessing the health system) for a full package of activities, along the maternal–newborn health continuum of care (identifying pregnant women, enrolling them in the scheme, developing birth plans, ensuring that beneficiaries receive at least three antenatal care visits, escorting beneficiaries to a qualified facility for delivery, arranging for newborn immunizations, carrying out a postpartum visit and providing counseling for appropriate breastfeeding and family planning). This program (called *Janani Suraksha Yojana*) or safe motherhood scheme) is the largest conditional cash transfer program in the world in terms of the absolute numbers of beneficiaries—nearly 8.4 million in 2008-9. Recent findings from the first national-level evaluation of the program suggest that the program has had a large impact on facility-based deliveries in India and on perinatal and neonatal deaths (Lim et al, 2010). The evaluation also found, however, that implementation of the program has been highly variable by state, and there is a considerable need to better target the poorest and least educated women.

Potential relevance for Mozambique: There is significant potential to see how incentives can complement the MOH’s new Revitalization of CHWs Strategy. CHW’s could receive an incentive for identification and appropriate management of chronically underweight children, or for carrying out family planning counseling specifically targeted to adolescents.

For a detailed overview of the JSY PBI scheme, see Dagur et al. 2010, online at <http://www.healthsystems2020.org/content/resource/detail/2563/>.

3.2.3 DEMAND-SIDE EXAMPLES:

PBI payment from governments to clients. Incentives to consumers to use services can be a powerful strategy to increase utilization. Paying consumers at the point of service or linking payments to health improving behaviors can overcome financial and social barriers and incentivize action.

Box 9: Latin America

Payments to households in Latin America are made to improve child health outcomes. Conditional cash transfer programs in Latin America (for example Bolivia, Brazil, Honduras, Mexico, and Nicaragua) link regular payments from national or subnational levels of government to households based on such predetermined, pre-agreed measures as whether children are immunized and receive regular health check-ups.

Potential relevance for Mozambique: This program is very relevant given the widespread poverty and economic barriers to demand in Mozambique. Such a design would require leadership of the Ministry of Finance, and face challenging logistical obstacles to distribute funds to families. There is an interesting experience of paying food subsidy to poor families at the Ministry of Women and Social Assistance that is institutionalized and budgeted within the state budget.

For a detailed overview of the JSY PBI scheme, see Dagur et al. 2010, online at <http://www.healthsystems2020.org/content/resource/detail/2563/>.

Box 10: Malawi

In Malawi a demand-side PBI pilot tested providing discrete payments to individuals for getting HIV/AIDS testing and counseling and rewarded those who remained HIV negative for a year.

Potential relevance for Mozambique: The program may be highly relevant to Mozambique where HIV prevalence is very high and prevention efforts have been disappointing.

4. LOCAL PRECEDENTS FOR PERFORMANCE BASED INCENTIVES

There are several examples of supply-side and one of demand-side incentive arrangements in Mozambique's health sector, which are similar to PBIs, but without the PBI label. Table 7 summarizes the three examples. The existence of these experiences clearly establishes the potential for PBI and a degree of cultural and institutional acceptability. While none of these experiences has been formally evaluated, people report a mix of positive and negative results. Negative experiences were associated with inconsistent implementation when expectations were raised but not met. Not surprisingly, stakeholders repeatedly expressed concern about the sustainability of any PBI arrangement.

TABLE 7: PERFORMANCE-BASED INCENTIVES: MOZAMBIQUE'S EXPERIENCE (EXPERIENCIAS EM MOZAMBIQUE)

Elementos	Nome do Programa		
	Programa Provincial do Enxoval	Erate (PSE) em Nampula	Fundo de Habitação em Manica
Problema a ser resolvido	MMR alta	Falta de funcionários qualificados, enfermeiros médios, na periferia	Saída de funcionários bons
A solução	Aumentar o número de partos institucionais	Aumento e retenção de enfermeiros médios nas unidade sanitaria na periferia	Retenção de funcionários
Pagador ou financiador	A DPS	Cooperação Espanhola através da programa saúde ERATE(PSE)	Misau através da DPS capitalizou um fundo de habitação
Recipiente	A mulher grávida	Enfermeiras básicas já trabalhando numa unidade sanitaria na periferia, que já demonstraram bom desempenho.	Funcionário seleccionado: boa classificação, maior número de anos, e título de terreno
O incentivo	O enxoval	Oferecer bolsa ou curso para promoção	Empréstimo para construir ou reabilitar a casa
Como funcionar	A mulher recebe o enxoval depois do parto na US	O enfermeiro é seleccionado baseado no desempenho avaliado através da consulta ao supervisor, comunidade, e outros que tem trabalhado com o enfermeiro candidato	<ol style="list-style-type: none"> 1. A solicitação do funcionário é verificado 2. Uma comissão avalia as solicitações 3. O valor é retirado do Fundo de Habitação 4. O empréstimo é pago pelo funcionário
Resultado ou impacto	Na unidade sanitaria Vicunho a % de partos feitos	« 50 enfermeiras básicas formadas e promovidas a ser enfermeiros médios nas unidade sanitaria na periferia	« 17 funcionários beneficiaram « Impacto final não conhecido

Elementos	Nome do Programa		
	Programa Provincial do Enxoval	Erate (PSE) em Nampula	Fundo de Habitação em Manica
	no CS aumentaram de 45% para 70%	« Melhor qualidade de prestação de serviço aos utentes	
Validação do resultado	Registo de partos na US	Dados dos recursos humanos da província	Fotos das casas

4.1 SUPPLY-SIDE INCENTIVES FOR HEALTH FACILITIES AND WORKERS

Some provinces have started an **incentive program in order to retain the health personnel**, especially the ones that are more marketable (Economic Commission for Africa. Commission on HIV/AIDS and Governance for Africa 2003). No reported results are available.

Twice a year the district offices **select a high-performing employee to receive a reward** based on his or her performance rating score by his or supervisor according to the official system. The rewards have been a bicycle kit, a radio, and school supplies; a voucher for 10,000 meticas for construction materials (for the employee to improve his home); or a set of bedding. No reported results are available.

In 2010, MOH initiated a **housing fund** in Manica that is managed by a commission that approves applications. This is a revolving fund for small home construction projects directed to low-income health workers who have more years of service and a plot of land to construct (or finish construction) a home. The employee gets money from the fund as a loan at a subsidized rate. He or she pays back the loan as deductions from his or her salary. Currently, there are 17 workers participating, and the team saw photos of the homes. Staff in Manica province said that this benefit would also be welcomed by technical staff even though MOH transfers them to different locations in Mozambique. Workers want houses in their home towns where their extended families live. Houses are incentives for them to return to their home communities.

In 2005, a USAID project had to end a monetary **incentive program for nurses** who counseled pregnant women to accept HIV testing where PMTCT services were available. The end of the monetary incentive was associated with a decline from a total of 74 percent of women accepting HIV testing in antenatal care in 2004, to approximately 60 percent in the first eight months of 2005. “The fall in testing from 2004 to 2005 may be explained by a number of factors, including the expansion of new PMTCT sites short of personnel, sick leave for some nurses at existing sites, and decreased staff motivation at some sites where monetary incentives for counseling nurses were terminated in January 2005” (Healthcare Associated Infections [HAI] 2005).

A midterm evaluation of a USAID project recommended changing payment policies implemented for HIV/AIDS services that generated appreciable differences between professionals with similar qualification and job descriptions. The MOH should reconsider **incentives for HIV specific workers** such as voluntary counseling and testing counselors. A wider performance-based approach to incentives would be helpful in reducing disruptive disparities (HAI 2005).

Cultural Activists Programs are active in many districts through dozens of [community theater] performances that have focused on malaria, bed nets, HIV/AIDS, family planning, and maternal and postnatal care. A USAID project provides the PAC programs with assistance to improve performance, financial management, and monitoring systems. In addition, the **USAID project paid incentives to the young activists**. DPSs and SDSMASs “contract” Cultural Activist Programs to implement their activities within the community.

The Directorate of Planning cited the **Global Fund grants** as having performance-based elements to release funds based on receipt of progress reports and data. They mentioned that one or more Global Fund grants include scholarships for MOH staff. The Directorate for Human Resources staff cited the earlier years of the **Global Alliance for Vaccines and Immunizations using a PBI** approach by paying countries for each additional child vaccinated and the difficulty to accurately measure additional vaccinated children in locations with poor baseline data. This was a great example of the importance of a credible information system for PBIs. In the area of training, the MOH, with funding from JHPIEGO, conducts an annual **national competition to award the best training institute, best professor, and best class**.

Officials interviewed by Health Systems 20/20 in October voiced reluctance to raise staff expectations if the incentive scheme cannot be sustained. There are cases of similar initiatives that have not continued or in some cases, were never implemented, including

- **Bonus payments** (*bonus de rentabilidade*) for public sector workers is specified in the Mozambique law were never paid due to lack of funds;
- **Lunch subsidies** of \$30 a month per worker, which began and were fully paid in 2007, fell to single payments in 2008 and 2009; there has been no payment yet in 2010;
- A vision program, which **paid \$20 per cataract referral in 2006**, led to a significant increase in referrals, but the referral level fell back to previous levels when the incentive payment stopped;
- New system for evaluating and **rewarding individual performance of public sector workers** is being rolled out now, but funds have not been set aside to pay the bonus for workers who receive a high score.

As mentioned earlier, a new PBI program is being introduced by CDC through EGPAF. In December 2010, **EGPAF will sign agreements with the DPS in Gaza and Maputo** that are essentially **performance-based contracts**. The DPS will receive a combination of a cost-based reimbursement grant and a fixed obligation grant linked to performance. They expect that 50 percent of the full funding envelope will cover documented spending on inputs. The other 50 percent will be linked to results, with half linked to quantities of services (14 HIV/AIDS indicators and six MCH indicators) and the other half linked to quality using a combination of the score on JHPIEGO’s Standard-Based Management and Recognition tool and the score on a HIV/AIDS quality assessment instrument. Each of the indicators has a per unit fee, which is designed to signal relative importance as well as to equalize the funding for MCH and HIV services. Per unit fees for HIV services are significantly higher than for MCH services since the quantities of HIV services are much lower. To ensure that EGPAF has sufficient funds to pay for outputs and quality, each facility will have a maximum target that, when attained, will result in a 4 percent bonus. Performance that exceeds this target will not be rewarded

4.2 DEMAND-SIDE INCENTIVES FOR PATIENTS

A demand-side approach to promote **institutional deliveries** has been implemented in a few provinces, including one facility in Manica province since 2009. The facility gives each woman who delivers her baby at the facility a gift, enxoval (fabric baby carrier, baby outfit, diapers, and baby bathtub). In 2009, the percentage of facility-based births reportedly grew 45–70 percent. The gifts were purchased by USAID through the HAI project (now taken over by DPS) from a private vendor and cost about 1,500 meticas (\$42) each. The Chief of Planning, Sr. Javier, said that he has heard of other enxoval sites in other provinces paying much less for the gifts by buying them from women in prison (The women keep the money.). There may be other options such as working with a local cooperative of women that works with the United States Government on an income-generation project. The MOH Directorate of Planning noted that the enxoval programs have been going on since 2008 and had the advantage of being low cost, successful, and sustainable because they were entirely managed by local health authorities.

5. LOCAL CAPACITY TO IMPLEMENT PERFORMANCE BASED INCENTIVES

5.1 CAPACITY TO SELECT INDICATORS AND SET TARGETS

There is already an established culture and practice within the public sector broadly and the health sector specifically of setting targets and conducting regular performance monitoring at the facility, district, provincial, and central levels. Indicators and targets selected for any PBI scheme should be consistent with one or more of the several mechanisms and tools already in use (See Table 8). Annex C presents the annual calendar for planning, budgeting, and reporting.

TABLE 8: PLANNING AND PERFORMANCE MONITORING MECHANISMS, GOVERNMENT OF MOZAMBIQUE AND HEALTH SECTOR TOOLS AND DOCUMENTS

	Government of Mozambique	Health Sector	Comments
Overall Strategy	Plano Quinquenal	Plano Estratégico do Sector Saúde (PESS) 2007-2012, or Health Sector Strategic Plan	Submitted to parliament
	Action Plan for the Reduction of Absolute Poverty (PARPA)	Health is within Pillar II: Human Capital	PARPA strategic matrixes are submitted to parliament as an annex to the <i>Balanço do Plano Económico Social</i> (PES)
	Medium-term Expenditure Framework (MTEF)	MTEF	3 years rolling plan
Annual Planning Tools	PES	PES	Approved by parliament
Review Mechanisms and Tools	<i>Balanço do Plano</i>		
	<i>Balanço do PES</i>	<i>Balanço do PES</i>	
	Joint Review Performance Assessment Framework (PAF)	Health working group for Joint Review of health PAF indicators	National level with the participation of civil society
		ACA (<i>Avaliação Conjunta Annual</i>) Annual Joint Evaluation of the Health Sector)	Joint evaluation with visits to provinces
Monitoring Indicators	PARPA Indicators	Health Sector Indicators-- PES/PESS	
	MGD Indicators	Health MDG are reflected in the health indicators of the strategic matrix in the PARPA	

	Government of Mozambique	Health Sector	Comments
	PAF	PAF is used by the health partners (donors)	Indicators selected in the PARPA strategic matrix are the basis for PAF
Provincial Involvement		PES provincial annual plans and reports (Balance do PES) Participation in the health sector annual meetings	Since the last elections, there are provincial parliaments that are supposed to approve the provincial PES and its balance
District Involvement		PES and reports (Balanço do PES)	Relatório de Actividades (annual)
		Participation in the provincial health sector semester and annual planning and monitoring and evaluation meetings	
Sector Management		<i>Conselho Consultative do Ministro</i> and <i>Conselho Consultivo Alargado</i> ; GTP <i>Conselho Coordenador de Saúde</i> and National Coordinating Council for Health or <i>Conselho Nacional de Coordenacao de Saúde</i> and donors)	
Funding Mechanisms	State budget via the single treasury account (CUT)	State budget via CUT	All provinces and many districts have online financial management system (e-SISTAFE)
		ProSaúde via CUT	
		Global Fund via CUT	
		Several vertical/parallel funding streams off CUT via MISAU, DPS and districts	

The most important national planning and budgeting process is the preparation of the annual PES, which defines targets for multiple sectors to be achieved in the following year for national, provincial, and district levels. The national PES shows only national targets, and the linkage with the provincial targets is not clear. The provincial PES shows provincial targets, which are an aggregate of the district targets. The planning process is, to some extent a complex exercise that involves two parallel tasks, the activity planning and budget preparation at different levels involving various actors. Planning of activities at the national level mainly is the responsibility of the national managers, while at provincial level the DPSs plan jointly with the districts.

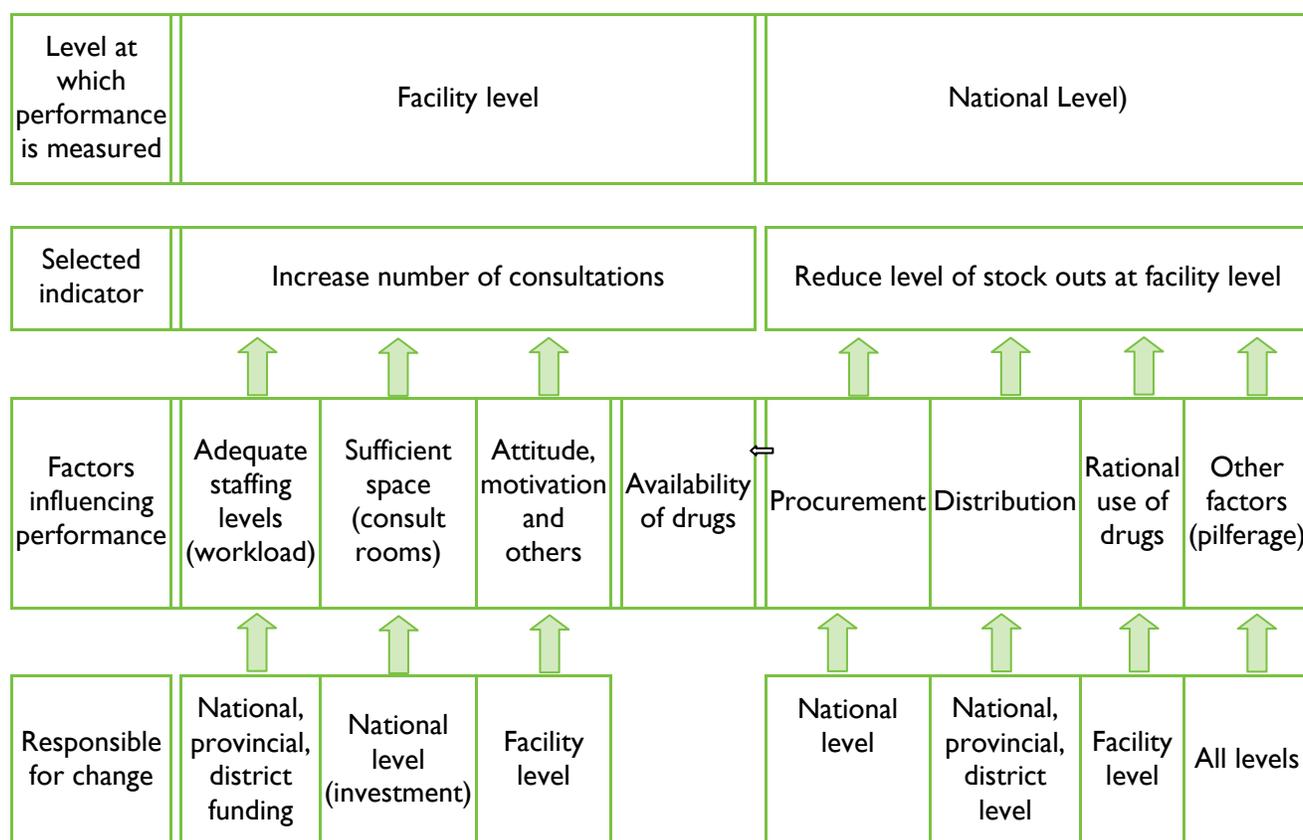
The SB is allocated to the DPS by the provincial governor and to the SDSMAS by the district administrator. The only function for health authorities is to distribute the state budget by different line items. Since the SB covers only 50–65 percent of all planned health expenditures (NHA 2010), to fill the gap the MOH allocates the donor funds from ProSaúde to the provinces based on a formula which is under revision. At the provincial level, provincial and district managers together set targets on an incremental basis and distribute the ProSaúde funds for each district using the formula mentioned above.

In parallel with the internal planning, budgeting, and monitoring systems described above, the health donor group and MOH use the PAF to monitor annual progress on 33 health indicators toward set goals (Republic of Mozambique 2009). Annex D presents the PAF articles.

5.2 CAPACITY TO PRODUCE DESIRED PERFORMANCE

For a supply-side PBI approach, care is needed to select indicators according to the responsibility, power, and legal competences of each level (facility, district, etc) to achieve the intended outcomes. Decentralization is in progress, and it is not always clear who is responsible for specific tasks or costs. Such “shared” responsibilities might influence results at different levels. Figure 8 illustrates the complexity of determining responsibility.

FIGURE 8: EXAMPLE OF SHARED RESPONSIBILITIES AT DIFFERENT LEVELS



5.3 CAPACITY OF THE INCENTIVE TO AFFECT BEHAVIOUR—OTHER INCENTIVES

The target recipient of the incentive is the person, team, community, or organization whose behavior we want to influence. In order to succeed, the PBI scheme must consider other incentives that influence the target recipient.

- The PBI methodology recognizes and seeks to reinforce intrinsic motivation, both personal and professional. The Health Systems 20/20 team heard and observed intrinsic professional motivation and commitment among health workers during the field visits.

- The Health Systems 20/20 team heard from many stakeholders that per diem payments are an existing incentive with significant influence on health workers in Mozambique because the amounts are often higher than their salaries. Per diem is paid to a health worker whenever he or she moves out of their usual workplace on duty, for example to participate in meetings and training, or to deliver vaccinations and other health services as part of a mobile team. The per diem payments are for such costs as transportation, accommodations, meals, and incidentals (“pocket money”). The current rate for per diems is reportedly much higher than a doctor’s daily salary. Consequently, it is a powerful incentive. The Health Systems 20/20 team is not aware of any study or monitoring of per diems that estimates the pervasiveness of the practice.
- Of course there are other workplace influences on health workers as individuals and members of teams, such as the planning and performance monitoring mechanisms and existing incentives used by the Government of Mozambique and the health sector, as discussed above. PBI design should be consistent with these mechanisms and/or seek to improve them.
- Finally, we recognize that there are social and cultural influences that can have a significant influence either to reinforce or weaken the desired behavior.

For all these reasons, it is essential that local actors lead the design and implementation of PBI efforts with support as needed.

5.4 CAPACITY TO ABSORB HIGHER VOLUME OF PATIENTS

For a demand-side PBI approach or a supply-side approach that rewards higher volume (e.g., fee-for-service), it is critical to determine whether there is physical capacity to absorb higher volumes of patients without sacrificing quality. When discussing expansion of the demand-side enxoval program, maternal health workers expressed some concern about capacity to handle increased volume of institutional deliveries, worried that a woman may have a low-quality experience and tell other women.

There are indications that some facilities are already near capacity. During the workload indicator study, it was observed that in general mid-level health workers have high workload over a five-day work week, especially in the outpatient consultation sector (Cumbi and Langa 2010) (See Table 9).

TABLE 9: AVERAGE WORKLOAD IN SIX HEALTH UNITS, 2010

Type of Primary Health Care Unita	Number of Health Workers	Consultations per Health Worker per Day	Range
Urban Health Center A (1)	3	74	53–106
Urban Health Center A (2)	1	173	
Urban Health Center A (3)	1	100	
Rural Health Center II (1)	1	68	
Rural Health Center I (1)	2	106	9 –106
Rural Health Center I (2)	2	60	50–69

a The primary health care level provides curative and preventive services and is comprised by Urban (A, B & C) and Rural (I & II) Health Centers (HC). The Urban C & B and Rural II HCs have very limited staffing and provide very basic services. The Urban A and Rural I HCs have larger numbers of staff, in-patient ward services (medicine and paediatrics), more sophisticated equipment, and a laboratory.

Source: Calculations from unused data from the workload indicator study 2009–2010.

Several causes are cited for the long lines and high patient loads:

- Maldistribution of health workers among provinces, districts, facilities and services within health units;
- High levels of absenteeism due to illness and training seminars;
- Inadequate infrastructure of existing health units (HUs) means there is not always enough space to receive the actual volume of patients. According to the study on workload indicators, in several HUs there were two health workers sharing the same office to see their respective patients and in a few HUs three MCH nurses shared the same office to provide mother care services;
- Most HUs “finish” seeing the majority of their patients around 13:00–14:00, which reinforces patient behaviour to arrive early morning to avoid being turned away after 14:00.

High workload, among other reasons, leads to short consultation time (less than five minutes) which is a proxy measure of the quality of care provided (See Table 10). A PBI scheme to increase the volume of patients at a particular HU would need to review the capacity of the HU to accommodate more patients without compromising quality.

TABLE 10: CONSULTATION TIMES IN 26 HEALTH UNITS, 2009–2010

	First contact	Follow-up visit	Global average
Outpatient consultation	N/A	N/A	4 minutes, 12 seconds
Dentistry	N/A	N/A	9 minutes, 54 seconds
Antenatal care	13 minutes, 50 seconds	4 minutes, 36 seconds	6 minutes, 48 seconds
Postnatal care	8 minutes, 6 seconds	5 minutes, 54 seconds	7 minutes, 18 seconds
Family planning	6 minutes, 12 seconds	4 minutes, 06 seconds	5 minutes, 18 seconds
Vaccination	N/A	N/A	2 minutes, 30 seconds
Growth monitoring	N/A	N/A	1 minute, 42 seconds

N/A=not available

a Average time for consultations by appointment with the medical doctors and *técnico de medicina* (medical assistant equivalent) are longer (10 minutes, 24 seconds), and average with other staff who see a lot more patients is shorter (3 minutes, 24 seconds).

Source: Cumbi and Langa 2010

In response, over the last few years health facilities have been trying to expand consultation hours to cope with the increasing flow of patients (See Annex E). Depending on local initiative, organization and availability of staff, HUs have been trying different schedules, expanding the daily working hours up to 19:30 to opening some consultation offices on Saturdays until 12:00 or later. These arrangements were brought about through the staffing of mid-level health workers on shifts and payment of overtime for extra hours worked.

5.5 CAPACITY TO MONITOR PERFORMANCE THROUGH ROUTINE HIS

Literature reviews on other countries that have embarked on PBIs, stresses the vital role of a well-functioning and reliable HIS to monitor performance for a successful PBI initiative. As described in Annex B, Section 3, there is in place a well-built HIS, called e-SIS, which collects data on health services from the health facility and aggregates to the district, province, and national levels. e-SIS has an

automated feature to produce a wide range of indicators, and each activity is evaluated against set targets. Nonetheless, a number of evaluations have pointed out shortcomings that need to be addressed in order to improve reliability and data quality. These shortcomings are all related to the functioning and use of the HIS, not its design. There is a need to strengthen data quality assurance, feedback and supervision systems, and procedures, as well as feedback on data quality at all levels, with particular attention to lower levels of the system. Table 11 summarizes characteristics and weaknesses of the routine HIS system for performance monitoring.

TABLE 11: E-SIS CHARACTERISTICS, PROBLEMS, AND POSSIBLE SOLUTIONS

Characteristics of e-SIS	Problems and Limitations	Possible Solutions
The system has preset denominators (total population, target groups for all health activities) to calculate coverage indicators	Denominators are based on annual adjustments to the national census of 2007. Margin of error will grow until next census (2017)	None. Typical limitation for any country
The system has a feedback system on missing data	The feedback mechanism is used sporadically	Strengthen the use and if needed improve the design of the feedback mechanism. Provide incentives for complete data. Maintain support staff at Hus, such as receptionists who fill out patient encounter ledgers and forms
Database (up to national level) maintains the original data input by HU and by month; thus preserving facility identity and monthly data	Activities not adjusted when there is missing data	Complete the system by introducing a system to project activity for the missing data
Under notification of data due to missing data, there errors in subtotals	The system produces reports with monthly data that can help detect part of data anomalies	Provide automated quality assurance (range limiters; identify anomalous data); strengthen data trend analysis through the use of the existing automated reports showing monthly data
Data quality and control are almost nonexistent		Strengthen the system in order to improve data quality and control

Based on stakeholder input, the conclusion of the team is that currently PBIs cannot rely on the routine HIS because it does not consistently produce complete and accurate data. In fact, introducing incentives could hamper ongoing efforts to improve data quality. The team recommends support for the integrity of the HIS, such as a data clerk in the statistical unit who is incentivized to work with the health facilities to deliver complete and accurate data, an independent data quality audit system (internal or external) that reaches the health facility level, and automatic data quality checks into the *Sistema de Informação de Saúde* (SIS) software.

5.6 CAPACITY TO VALIDATE REPORTED PERFORMANCE

Given the limitations of the e-SIS, the team recommends several temporal horizon methods to measure performance:

- At all levels (facility, district, provincial), monthly performance should be measured through routine HIS adequately supported to ensure data quality.

Validation of reported monthly performance:

- At the facility and/or district levels, quarterly performance measured through survey of community residents is the relevant catchment area; for example, in Burundi the local authorities subcontract a local community association to survey the community in order to validate some measures of facility performance.
- At the provincial level, long-term (2–5 years) performance should be measured with the same indicators using national surveys to triangulate and validate HIS data. The Multiple Indicator Cluster Survey and the Demographic Health Survey could be used to this end.

As stated above and observed elsewhere, there is a potential risk of data manipulation due to the rewards that might be at stake. It has also been mentioned that the weakest aspects of the e-SIS are its data quality and reliability. Some measures for data quality and control are proposed above. Data triangulation of a chosen set of indicators is another option that could work well as well. Table 12 presents few examples.

TABLE 12: DATA TRIANGULATION EXAMPLES, SHORT- AND LONG-TERM PERSPECTIVES

Outcome	Indicator	Primary Data Source	Verification Data Source	Level
Short term, quarterly or yearly verification				
Children immunized against measles	Number of children vaccinated	Immunization book at facility	Facility cold chain storage inventory control: number of doses of measles vaccine used	Health facility
Reduce malaria	Number of bed nets distributed to mothers	Facility records of bed nets distributed at antenatal visits	Community survey of households who have and use bed nets, by facility catchment area	Health facility
Number of AIDS patients in treatment	Number of patients on antiretroviral therapy	AIDS patients' records	Pharmacy (number of patients picking up drugs)	Health facility, district, province
Long term, 3-5 years verification				
Number of children immunized against measles	Coverage rate	See above	Multiple Indicator Cluster Survey ; Demographic Health Survey	Province

5.7 CAPACITY TO PAY MONETARY INCENTIVES

The Ministry of Finance manages an automated public financial management system called e-SISTAFE. Since 2007, e-SISTAFE has been rolled out to the health sector to manage the flow of the SB as well as ProSaúde funds. The central MOH, all the DPSs, and most of the SDSMASs manage and administer SB and external funds using e-SISTAFE to execute and record payments and spending (See Annex F).

A brief discussion took place with the Health Systems 20/20 local team that is assisting with Global Fund regarding the option for channelling the funds through the State Financial Administration System, or *Sistema de Administração Financeira do Estado (SISTAFE)*. The response was promising. The charter of accounts is flexible to allow the creation of designated accounts associated with specific sources (e.g., Global Fund) and uses (e.g., grant to district X in province Y to cover program Z).

Independent from a decision to adopt PBI, USAID discussed with MOH representatives the option of direct funding to the health sector. This could be done by channelling funds through the CUT mechanism that uses the online financial management system e-SISTAFE to record all transactions. The MOH, DPS, many SDSMASs, and large hospitals are all using e-SISTAFE to receive and spend funds from the CUT. Level I facilities that provide most PHC do not have this authority or ability, so monetary incentives at this level would be in cash. The SDSMAS in many districts already has experience managing cash to pay salaries.

5.8 ACCEPTABILITY: INPUT FROM LOCAL STAKEHOLDERS

Ministry staff at all levels and donor representatives are open to the PBI concept. However, authorities and health workers expressed concerns about sustainability and equity.

Sustainability: Stakeholders cited some incentive programs launched by the government to motivate public sector workers, such as payment of a 13th month of salary and a lunch subsidy, were not linked to performance and were not consistently funded, eroding the motivational effect. Many stakeholders questioned how incentives could be sustained when donor support for incentive payments stops. They recommended not losing sight of the importance of public praise (*elogios*) for teams or individuals.

Equity: There was a consistent preference for collective or institutional incentives that were seen to be more equitable. After one meeting ended, two participants stayed behind to express some distress with the perception that we were advocating individual incentives. Facility workers discussed how the whole facility team contributed to good performance including the cleaning and administrative staff, not just the health workers. Many stakeholders recommended using incentive payments to improve capacity and quality. For example, the MOH Directorate for Human Resources suggested funding of operational costs such as gas for supervision and community outreach, and equipment maintenance, as a way to motivate staff and improve quality at the same time. One facility was unmotivated to keep up their HIS because all three of their computers were not able to be used due to viruses (lack of routine maintenance). Their understanding of the set up in Gaza province (an EGPAF province) is that United States Government will fund operational costs based on the province's operational plan.

Another equity issue was setting fair targets. Officials would be wary to introduce an arrangement that merely favored districts, facilities, or staff that already perform well in environments that facilitate better performance. PBIs can and should be designed to reward improvement instead of absolute targets that are the same for all recipients and locations. The idea is to “raise all boats.” Also, the pilot could be focused on the poorest districts.

6. PROCESS AND OPTIONS FOR PERFORMANCE BASED INCENTIVES IN MOZAMBIQUE

6.1 PBI OPTIONS

Given that the government stakeholders the team consulted were open to PBIs but raised concerns, we recommend piloting PBI with strong local leadership. While Health Systems 20/20 feasibility study will look at a range of PBF options, the team identified a few of particular interest to the USAID Mission:

1. To strengthen utilization and quality of an integrated package of services, USAID envisions providing direct funding to provinces or districts using a fixed-price contract model with an award fee that would be transferred if pre-specified health results are achieved. The vision is to provide incentives to DPS or district teams to ensure that the full population they cover is reached. Health Systems 20/20 would facilitate a planning and action process with district teams that ensure that incentives cascade down to the service delivery and community level and that districts have the information they need to provide support to the elements of the district health system that most need it.
2. To strengthen the performance of the supply chain, USAID envisions providing funding to CMAM, the national medical store and distribution system, using a fixed price contract with an award fee that would be linked to attainment of improvements in pre-specified indicators of supply chain performance. Performance incentives would complement the technical support from USAID projects such as DELIVER and Strengthening Pharmaceutical Systems (SPS) to implement warehouse and distribution systems, quantification, and procurement assistance. Performance incentives would be designed to motivate the many relatively low-paid teams of workers in the supply chain to improve performance and reduce stock outs and waste.
3. Mozambique's CHW program is moving slowly from planning to implementation. Since CHWs are an excellent way to expand coverage, this approach could overlap with the first approach described above. CHWs may also enhance health system efficiency by successfully increasing disease prevention and thereby reducing or service utilization.
4. Mozambique's Global Fund Unit of the Finance Directorate of the MOH has recently reorganized and cleaned up a backlog of reporting to the Global Fund. As a result, for the first time in years, Mozambique has received new disbursements of much-needed grant funding to combat HIV/AIDS and malaria. The Finance Directorate is interested exploring use of PBI to reward and retain the staff in the Global Fund Unit as the MOH faces many years ahead of grant funding.
5. To improve hospital quality through accreditation programs, the first step should focus on diagnosing the hospitals' situation with respect to minimum legal operating standards and help them strengthen the information system. Then, the incentives and technical support will be given to hospitals that initiate and achieve quality accreditation. Hospitals may received accreditation following the Brazilian model, in which the National Organization for Accreditation

(<https://www.ona.org.br/>) is a nongovernmental, nonprofit organization that assesses and accredits several categories of health care organizations. The National Organization for Accreditation uses measures based on the Pan American Health Organization, the World Health Organization, and the Joint Commission of Healthcare Organizations, and its methodology is based on Donabedian’s concept of quality: structure, process, and results. There are three levels of certification. In level 1, the provider must meet minimum standards in patient safety and legal documentation. Level 2 checks the hospitals’ processes: their design, documentation, standardization and organization. Finally, to reach level 3, the provider must demonstrate a culture of continuous quality improvement and results. The three levels assist hospitals in step by step improvement. The other option is to use the JHPIEGO methodology— Standards-Based Management and Recognition—that uses four steps to improve quality: set standards, implement standards, measure progress, and reward improvement.

In each of these cases, it is important to do a thorough problem analysis to determine if PBIs are the best approach and identify what else is critical to success.

6.2 PROCESS FOR INTRODUCING PERFORMANCE BASED INCENTIVES

If there is agreement to move ahead, the process for introducing PBIs should emphasize local ownership. It is recommended that the process be led by local actors with external technical support so the process and expertise is institutionalized within the country.

TABLE 13: INTRODUCING PERFORMANCE BASED INCENTIVES, TASKS AND RESPONSIBILITIES

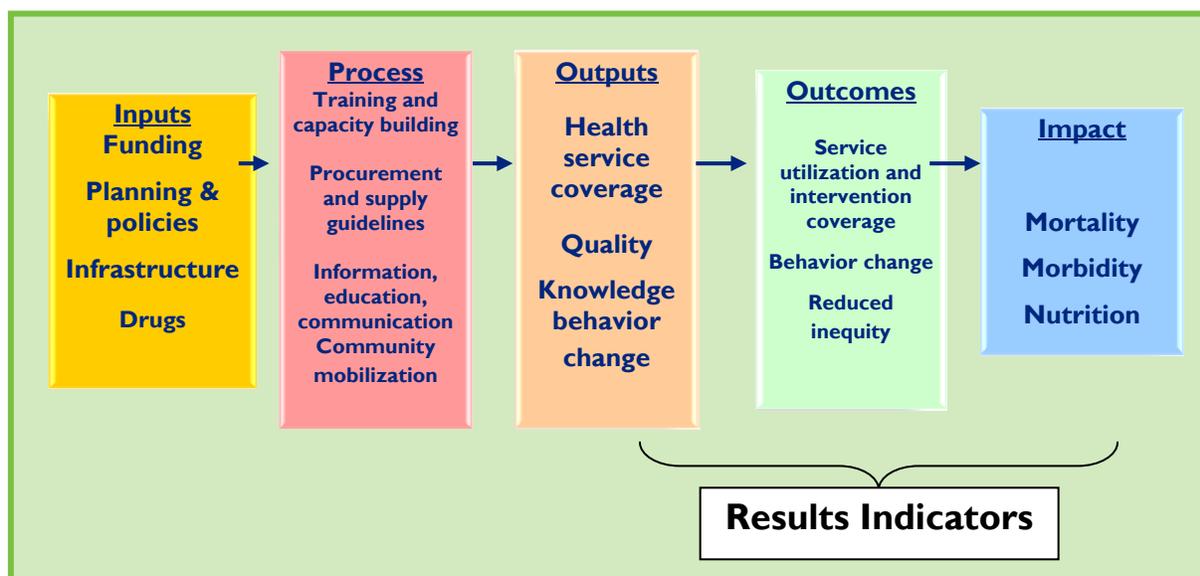
Task	Responsible
<p>Design of PBI pilot</p> <p>The PBI design process must address the following interdependent elements</p> <ol style="list-style-type: none"> 1. Identify performance problems and critically analyze which problems are most amenable to improving through PBIs, and not ignoring other solutions or complementary actions; 2. Determine recipients and payer(s); 3. Determine indicators and targets and how performance will be reported; 4. Determine reward type (monetary/non-monetary, individual/collective/institutional), amount, frequency, disbursement mechanism, source of funding; 5. Determine roles and responsibilities for the operation of PBIs (Who will manage? Who will communicate to potential recipients and other stakeholders? Who will validate reported performance?); and 6. Determine how the PBI pilot will be evaluated in consultation with a national coordination group. 	<p>At the provincial level, a local design team would lead the design of the PBI pilot with technical support</p> <p>The local team should include a mix of staff from the provincial, district, facility, and community levels</p>
<p>Link PBI Pilot with MOH</p> <p>Design and implementation of PBI pilots should be closely monitored by the central MOH in order to ensure central-level</p>	<p>A senior MOH official from one of the four Directorates –Planning, Finance and</p>

<p>support and buy-in, provide central guidance to the local team during the design phase, and monitor implementation (separate from impact evaluation)</p>	<p>Administration, DPC, or Medical Assistance</p>
<p>National Coordination</p> <ul style="list-style-type: none"> • There is a need for a central repository of information regarding PBI experiences. The primary role would be to advance a joint learning agenda including • Joint training (e.g., the World Bank is funding the translation of the Health Systems 20/20 Project’s PBI Blueprint Guide); • Sharing work-in-process information (e.g., host local PBI design teams to present); • Collaborating on strengthening the routine HIS (e-SIS) that is critical for performance reporting; and • Collaborating on evaluation of pilots (e.g. co-fund major surveys) and consideration of a separate, independent contract. 	<p>At the national level, a multisectoral group that represents the central MOH (one representative from each directorate), other ministries such as finance, planning, state administration and public administration, donors, and possibly implementing partners.</p> <p>The recently established Health Financing Working Group, linked to the Health Partners Group, was identified as a possible group to assume this role.</p>
<p>Technical Support</p> <p>Support the local PBI design team(s) to work through all six elements listed above, benefiting from lessons learned in other countries.</p> <p>Make specific recommendations to the national coordination body for actions that would be most useful to support local implementation.</p> <p>Build the capacity of local individuals in PBIs to become local experts-in-training and connect them with PBI communities of practice in order to reduce the need for external technical support.</p>	<p>Health Systems 20/20 team who will coordinate closely with EGPAF, World Bank, and other organizations with PBI expertise.</p> <p>Other donor projects can also provide technical and day-to-day support such as USAID’s Clinical HIV/AIDS Services Strengthening (CHASS) Project in Sofala, Manica and Tete; or the SCMS/Deliver Project that work with CMAM.</p>

6.2.1 SELECTION OF INDICATORS

Selection of indicators should be based on a careful analysis of the factors that affect impact by moving down the monitoring and evaluation logical framework to identify measures of outcomes and outputs that can be rewarded (See Figure 9). Good results indicators are measures of outcomes closely correlated with impact, and outputs closely correlated with outcomes. Countries may consider process measures initially to establish critical systems (information, management, financial, etc.), but should be careful not to tie the hands of managers. Discretion and flexibility should be allowed since performance-based incentives encourage innovation from the “bottom up.” Input measures should be avoided.

FIGURE 9: MONITORING AND EVALUATION LOGICAL FRAMEWORK FOR IDENTIFYING INDICATORS



PBI experience in different countries tells us that indicators are more successful at motivating the desired behavior or action when they

- Are only a few (less than 10);
- Are easily understood by potential recipients;
- Require a short time between action and reward;
- Can be influenced by recipients' actions (attributable);
- Can be replicated and confirmed by others (reliable);
- Are feasible to measure and validate because data are available from different levels and sources (e.g., routine HMIS and periodic audit or surveys); and
- Reflect a consensus among stakeholders on their importance.

There are many indicators in Mozambique that meet these criteria such as the number of women delivering at a facility or number of eligible patients on antiretroviral therapy.

6.2.2 SETTING TARGETS

As with selection of indicators, local actors should set targets for the indicators informed by baseline data and their intimate knowledge of contextual factors that help judge the target's degree of difficulty. Targets should be realistic but challenging. If they are too easy, potential recipients can become complacent. If they are too difficult, recipients become discouraged and de-motivated. There are different methods for setting targets (See Box 11). Targets can be tailored to reflect the starting point (baseline) of each recipient given that larger increases are possible when starting from a low baseline; and higher baselines often provide little room for growth or change. In general, good targets are:

- Unambiguous,
- Fixed during the period of performance,
- Clearly linked to the intended recipients who are responsible for achievement,
- Attainable within the period defined to give the reward, and
- Reviewed periodically to be adjusted, following the period of performance.

Box 11: Three Ways to Set Targets with Examples from Immunization

1. **Absolute change:** Increase the total number of children under one immunized against measles from 800 (existing baseline) to 1,000 by June 2009 (i.e., 200 additional children immunized).
2. **Proportional or percentage achievement:** Increase coverage of children under one immunized against measles by 25 percent, from 40 percent (baseline) to 65 percent by December 2009.
3. **Additional service provided:** Pay \$5 for each additional child vaccinated.

One way to establish reasonable targets is to estimate unmet need. Table 14 provides an example for the unmet needs for antiretroviral therapy. These national estimates would need to be disaggregated by province and even district to establish targets that are valid for each recipient based on the unmet need population in their area.

TABLE 14: PROJECTIONS OF PATIENTS UNDERGOING AND NEEDING ANTIRETROVIRAL THERAPY, 2004-2008

Number of Beneficiaries	2004	2005	2006	2007	2008	2009
Adults needing antiretroviral therapy	249,091	282,098	315,204	348,982	385,982	425,089
NHS Goal (Health PAF Indicator)	N/A	N/A	N/A	N/A	132,280	N/A
Adults taking antiretroviral therapy	6,779	17,325	40,684	82,001	118,937	156,498
Unmet needs	242,312	264,773	274,520	266,981	267,045	268,591

N/A=not available

Source: MDG Report (2010)

6.3 SPECIAL CONSIDERATIONS FOR PBI INDICATORS AND TARGETS IN MOZAMBIQUE

Special care should be taken to consider only a limited number of performance indicators selected from the existing review mechanisms and other sector performance monitoring tools. The package of indicators should reflect the country priority setting and existing national strategies unless local stakeholders strongly recommend differently. To avoid overburdening the system, these indicators should be routinely collected through the e-SIS.

A number of issues have been raised when designing and evaluating PBI schemes regarding perverse incentives originating from the way and range of indicators included to measure performance. Some

authors point out as potentially jeopardizing health system performance as there is a risk for health workers to overlook or neglect activities that are not measured which may also be important or To intentionally over or under notify events to influence positively results that are rewarded (“gaming”).

One solution is to establish a set of indicators that correspond to a “balanced score card” of basic health service delivery. This would help limit problem overlooking activities. It may be useful to work out a balanced group of indicators in terms of quantity, quality and equity. Equity and fairness are a major concern given different resource allocation between urban and rural areas, worse-off northern and central and southern better-off provinces, PHC and larger hospitals.

Indicators should not necessarily be uniform across HUs, districts, and provinces. Targets should be set at different levels or as improvement over current performance and existing conditions, so that they are not more difficult to attain for some HUs and very easy for others. This would still allow comparison of performance across units in terms of progress against their targets.

Overall, the package of indicators has to be well constructed to avoid unfair rewards or penalties.

- External factors such as natural disasters can greatly influence certain results in a certain target area; for example, if chosen indicators include health facility morbidity and mortality data on malaria and or diarrhea, floods can easily increase the incidence of these two conditions. In this case, experts advise to not make exceptions or amend the PBI rules, even though the affected area will likely not meet its targets. Instead, the MOH or donor should separately address the disaster with emergency assistance.
- The impact of parallel activities by other entities or projects can appear to give a recipient an unfair advantage; for example, if Facility A is renovated by another donor and improves its performance significantly. Facility B works very hard in their old building and makes much less progress against its indicators. A solution may be to anticipate the effect of other projects and set higher targets for the recipients that benefit from significant external inputs.
- There is a need to define adequate levels of improvement for different settings that have different levels of resources, infrastructure, and other factors that affect performance. The solution is to begin with accurate baseline measures of the chosen indicators and set targets tailored to each location that motivate improvement.

ANNEX A: ABBREVIATED CHRONOLOGY FOR THE HEALTH SECTOR OF MOZAMBIQUE

Period	General	National Health Sector and Donors
The Period of War, Instability, Emergency and Project Aid		
1982–1985	Economic crisis and escalation of the civil war	The NHS becomes a military target. Internal financing is reduced. Coverage contracts
1985–1992	Emergency: war, famine, epidemics, and drought (1986–1987) Structural adjustment (1987)	Fragmentation of health services along vertical lines. Proliferation of emergency-oriented projects The NHS, struggling for survival, becomes largely dependent on external aid for its basic functioning MOH prepares plans for reconstruction
	Donor dependence: aid agencies and NGOs pour into the country and take the lead	
	The preparation of a National Reconstruction Plan	Swiss budget support and the provincial management strengthening in the context of decentralization (1989)
Coordination Initiatives in a War-to-Peace Transition		
1992–1994	Transitional period; progressive unification of the country under the same administration	Rehabilitation of the health network starts. Health services return to previously closed areas
	Peace Agreement (1992)	MOH launches the Health Manpower Development Plan 1992–2002 (HMDP) ^a
		First donor geographical concentration (USAID–Niassa, Zambézia and Gaza; Finnida–Manica) ^b
	First initiatives in donor coordination. Establishment of coordinating national body for emergency and food aid. Sweden becomes focal donor for education sector	Donor coordination with designation of sectoral focal donors. Swiss Agency for Development and Cooperation is the focal donor for health (1992)
		Swiss Agency for Development and Cooperation (SDC), United Nations Children’s Fund and SCF-UK, pilot a joint planning system. Funds are channelled through DPPF in separate accounts. The decentralisation pilot in Zambézia (1992)
	The 1994–1996 National Reconstruction Plan is presented to the donors (1994). First attempt for decentralized planning ^c	The pilot is expanded to more six provinces and renamed the integrated planning exercises (PPI) in 1993. Participants are health authorities, SDC, United Nations Children’s Fund, and various NGOs. By the mid 1990’s PPI is the <i>de facto</i> coordination mechanism at provincial level
1994	First democratic elections The National Reconstruction Plan is presented to donors (1994)	

Period	General	National Health Sector and Donors
Political and Economic Stabilization Period, the Common Funds & Building Blocks for a Sector-Wide Approach		
1995–1999	Progressive normalization, economic recovery: Decentralisation is endorsed by the government and slowly introduced. Local elections (1998)	The Health Sector Recovery Programme (HSRP), a World Bank-supported Sector Investment Programme, is launched in 1996
	National Census (1997)	Pooling Arrangement for Technical Assistance (1996), the first common fund, is established in the health sector. It is administered by United Nations Development Programme, funded by the Netherlands, Norwegian Agency Development for Cooperation, and SDC, Norway, and the Netherlands
	The 1997 state accounts were the first since 1975 to be formally closed and audited, with the audit report prepared in 2000 and debated by Parliament ^d	The new integrated programme for MCH, family planning, Expanded Program on Immunization (EPI), youth and school health (1996), funded by Norwegian Agency for Development Cooperation, SDC, and United Nations Children’s Fund, and United Nations Population Fund
		The common fund for pharmaceuticals the Pharma Common Fund, is established following a successful initiative launched a few years earlier by SDC. The Pharma Common Fund is administered by SDC and funded by SDC, the Norwegian Agency for Development Cooperation, and later many other donors join the scheme
1998	Mozambique was declared eligible for debt relief under the Highly Impoverished Poor Country (HIPC) initiative, ensuring some US\$1.4 billion (in nominal terms) in debt relief much of which goes to the social sectors	A common fund for developing and launching the health strategy is created and funded by various donors Integrated programme for communicable diseases (1998) Progressive integration of selected vertical programmes in the National Health Directorate, funded by Norway, UE, United Nations Development Programme, United Nations Children’s Fund, and WHO ^e (1998/9)
1999		AIDS National Strategic Plan (2000–2002) was finalized
		The Provincial Common Fund is formally established following a successful initiative launched by SDC a few years earlier (1999)
	Second democratic elections: the ruling party is re-elected	New minister and vice-minister of Health are appointed
2000–2006 Sector-Wide Approach		
2000	Cyclones and severe floods devastate swathes of the country National Aids Council is established (2000) The Action Plan for the Reduction of Absolute Poverty (PARPA, the local equivalent of the PRSP) is launched with a focus on social sectors	Large inflow of relief resources. The MOH attention is largely absorbed by the new emergency The Kaya Kwanga Agreement is signed. This is the code of conduct for government and development partners in the health sector. The agreement makes explicit reference to the intention of government to set up a sector-wide approach
2001	AIDS Common Fund (2000/2001) Government of Mozambique’s Strategy for Public Sector Reform is approved	PESS 2001-2005-2010 is formally approved (2001)

Period	General	National Health Sector and Donors
	SISTAFE is introduced	
2003	Memorandum of Understanding for Programme Aid (direct budget support and balance of payment support) was signed between the Government of Mozambique and donor agencies, which are part of the Programme Aid Partnership	The ProSaúde health common fund is established in November 2003 (it substitutes the first common fund for the Plan)
2004		The provincial and the medicines common funds are put entirely under MOH management (2004) Global Fund to Fight AIDS, Tuberculosis, and Malaria are to be channelled through the ProSaúde common fund (2004)
2005	Third democratic elections: the ruling party is re-elected	New minister of health is appointed
2007	Anticorruption strategy developed and approved by the Council of Ministers	
Sector Budget Support		
2008	Introduction of programmatic classifier for the external component of investment for 2009 and overall expenditure for 2010, for the MTEF and budget proposal	July 2008, 15 health development partners sign the Sector Budget Support Memorandum of Understanding
		The Provincial Common Fund and the Common Fund for Drugs were merged into ProSaúde II, which became the only joint funding mechanism to the sector
2009	Fourth democratic elections: the ruling party is re-elected	The former minister of health is re-appointed
	Public Expenditure and Financial Accountability	Public Financial Management and Procurement assessments

^aGish O. and Pavignani E. (1991) Health Manpower Development 1992–2002, Ministry of Health.

^bAlmeida M. (1993) WHO in Mozambique—Resource flows in the health sector of Mozambique.

^c(a) Fozzard A. (2002) How, When and Why does Poverty get Budget Priority? Poverty Reduction Strategy and Public Expenditure in Mozambique, Overseas Development Institute, (b) F310.Country_Notits_1994 (21). Cooperation. Page 9, (c) Abrahamson H. and Nilsson A. (1994) *Moçambique em transição—Um estudo da história de desenvolvimento durante o período 1974-1992*, (d) Hallam A., Halvorsen K., Lexow J., Miranda A., Rebelo P. and Suhrke A. (1997) Evaluation of Norwegian assistance to peace, reconciliation and rehabilitation in Mozambique.

^dWorld Bank (2005) An Independent Review of World Bank Support for Capacity Building in Africa: The Case of Mozambique

^eMOH *Plano Integrado da DNS – subcomponente de doenças transmissíveis 1999–2003*.

ANNEX B: OVERVIEW OF THE MOZAMBIKAN HEALTH SYSTEM

The Government of Mozambique has made significant strides in developing national strategies, including the Action Plan for the Reduction of Absolute Poverty (PARPA II), the Economic and Social Plan (Plano Económico e Social or PES), and the Health Sector Strategic Plan, 2007–2012 (Plano Estratégico do Sector Saúde, or PESS). Through these documents, the Government of Mozambique has articulated a national health policy focused on strengthening PHC, improving infrastructure, and increasing community-level engagement. The PESS, in particular, outlines several expected outcomes that point to a progressive approach to improving the health care system, including increased progress toward universal health coverage; quality improvement; strengthening integration of health services and referral systems; strengthening emergency and urgent care; and development of human capacity.

I. ORGANIZATIONAL STRUCTURE/HIERARCHY OF THE HEALTH SERVICES

In line with government processes, the Mozambican public health sector has been for years undertaking a gradual but slow process of decentralization. Thus, the MOH, which is the main government body with the responsibility of applying health care policy for all public, private and community sectors, still retains substantial control over most management functions.

The MOH is comprised by three levels of administration/management: central agencies, the DPS, and the District and City Health Directorate (SDSMAS). These three levels of administration constitute state government bodies; the DPS and SDSMAS have dual subordination, technical to MOH and political to the provincial and district government, respectively.

Central agencies consist of five National Directorates⁵ responsible for:

- Policy formulation/definition of strategies and sector objectives;
- Standards setting and quality assurance;
- Resource mobilization and budgeting and allocation;⁶
- ProSaúde;
- Human resources allocation to the provinces;
- Procurement and distribution of drugs, vaccines, and other medical supplies;

⁵ The five National Directorates are Planning and Cooperation, Administration and Finance, Human Resources, Medical Assistance, and Public Health Promotion and Disease Control.

⁶ The role of the MOH central agencies regarding budget allocation has changed over the last few years as a result of the decentralization process under way within the government system as a whole. Until 2000, the MOH allocated state budget (SB) and external funding (ProSaúde). Since 2000, the MOH only distributes the external funding to the provinces; while the provincial governor allocates the state budget to the DPS, and the district administrator to the SDSMAS.

- Logistics and maintenance of equipment;
- Epidemic control;
- Capacity development and technical support/service supervision;
- Decides upon and overviews large investment projects; and
- Monitoring and evaluation of overall sector performance.

Besides the National Directorates, MOH administers and manages several other central agencies, the subordinated central institutions,⁷ and all three central hospitals (Beira, Maputo, and Sofala).

- **DPS:** The provincial health team has the responsibility for the administration and management of part of the provincial budget (recurrent expenditure and salaries), maintenance operations, and small investment projects, and has a limited role in planning and budgeting. In addition the provincial team is in charge of all provincial health activities and responsible for monitoring and evaluating district performance.
- **SDSMAS:** This corresponds to the lowest level of the national system, which has a more direct role in service provision through the PHC network. The management team at this level is in charge of management of resources allocated through the state budget (SB) and the ProSaúde funds allocated by the DPS.

The Mozambican health system includes public, private, and community sectors.

The public sector, which is organized under NHS, plays an overwhelming role, providing most of the health care. According to Visser-Valfrey and Umarji (2010) over 95 percent of health care is provided through the NHS network. The NHS is organized in four levels of care. The PHC, level I, provides curative and preventive services. This level is comprised by urban (A, B & C) and rural (Type I & II) health centres. The urban C & B and rural II health centers have very limited staffing and provide very basic services. The urban A and rural I health centers have larger numbers of staff, inpatient ward services (medicine and pediatrics), more sophisticated equipment, and a laboratory. However, there are wide variations across facilities within the same category of health centres. The level II of care has more developed facilities and represents the first level of referral. It includes rural, district, and general (in urban areas) hospitals providing curative care (emergency care, general, trauma, and obstetric surgery) as well as laboratory and X-ray capabilities. Patients in need of more specialized care are referred to the next two levels, the tertiary and quaternary. These include large health facilities at provincial capitals, seven provincial hospitals, and three central hospitals (Maputo, Nampula, and Sofala). Maputo is the largest and most sophisticated facility in the country and is also the main university teaching hospital.

⁷Subordinated Central Institutions include National Institute of Health, National Laboratory of Health, National Laboratory of Food and Water Hygiene, National Laboratory for Quality Control of Pharmaceuticals, Supply Centre, Centre for Pharmaceuticals and Medical Supplies, Regional Centre for the Development of Health, and the Institute of Health Sciences of Maputo, Office of the Inspector.

TABLE 15: NATIONAL HEALTH SERVICE LEVELS OF CARE

Level of Care and Type of Facility	Catchment Area	Technical Staff	Medical Doctor	Facilities			Number of Inpatient Beds
				Laboratory	X-ray	Maternity	
Primary Level							
Rural Health Centre II	7,500–20,000	2	No	No	No	Yes (3 beds)	
Rural Health Centre I	16,000–35,000	12–15	Yes	Yes	Few	Yes (6–8 beds)	10–18
Urban Health Centre C	10,000–25,000	3	No	No	No	No	
Urban Health Centre B	18,000–48,000	10	Very few	Yes	No	Some	
Urban Health Centre A	40,000–100,000	22–29	Yes	Yes	Yes	Yes (14–20)	
Secondary Level							
District Hospital	50,000–250,000	25–33	Yes	Yes	Yes	Yes (10–18)	25–60
Rural Hospital	150,000–900,000	41–73	Yes	Yes	Yes	Yes (20–30)	60–200
General Hospital	150,000–900,000	41–73	Yes	Yes	Yes	Yes	
Tertiary Level							
Provincial Hospital							
Quaternary Level							
Central Hospital							

Bypassing: Shortcomings regarding availability of care and services, quality of care, and organizational issues, often encourage direct use of higher levels of care by urban dwellers. As such, there is no neat division of functions among the different levels of care, with a substantial overlap of functions occurring among them. For example, in maternity care, all health facilities may provide care to uncomplicated deliveries; however, in some cities, the only available maternity services are at higher level. In addition, pregnant women who perceive unsatisfactory quality of care at lower-level facilities bypass this level of care. Second and higher level facilities provide first-contact care as usually they are the sole source of emergency services in cities. Frequently level I (rural I and urban A health centers) share functions, facilities, and personnel, with the majority of level II facilities providing PHC services.

Referrals: Because the referral system is very weak, access to care for most patients, especially in rural areas, is limited to primary care.

Referral functions are similar: every large hospital serves first the urban population, and second, the nearby districts. Referrals from remote districts or other provinces are less common. The whole referral system, from the health post up to the Maputo Central Hospital, is largely theoretical, due to the costs incurred in climbing the ladder, the remoteness of many areas, etc. For most of the population, the only accessible services are those located within the home district or along main roads/railways (MOH 1997).

In spite of observed improvements, referral services are still very limited due to such access problems as depicted in the above paragraph. The work by Lindelow (2001) suggests that the majority of the population has access only to PHC due to constraints of the referral system. Unpublished work (Master Plan for Tete City and Provincial Hospital) shows that in 2005, 50 percent of the patients utilizing emergency services and 20 percent in the inpatient wards lived within five kilometers of the provincial hospital.

Transportation: SDSMASs usually have 1–2 cars to support staff in implementing all activities in the district: logistic and administrative tasks, mobile immunization teams, supervision of the district health network, and patient referral. Districts that have larger HUs have more cars, up to four in some rural hospitals. In the last few years some SDSMASs and hospitals have received specific vehicles to be used for ambulance services. Theoretically, patient referrals should include the transportation of seriously ill and obstetric emergencies from their homes to HUs as well as possible referral from this to higher level facility. However, due to problems related to transportation, the health sector only manages to transfer patients from one level of care to the next level. Various schemes to improve patient transportation have been attempted—for example, transportation of pregnant women and the use of ambulance bicycles—but apparently none of the various schemes have had sustainable successful results. Relying on public transportation, which is very scarce at the district level and in some areas is nonexistent, is not an option.

Services Provided—Organizational Issues

The first level of care, which is comprised by urban and rural health centres, provides curative care services for the most common health conditions (outpatient and inpatient); mother care, including antenatal and postnatal care and family planning; under-five growth monitoring and immunizations; deliveries. Most activities are facility based, but some are also population based through mobile teams organized by the district in collaboration with CHW in the catchment area who are in charge of mobilizing the communities.

Secondary level (first referral level), which is comprised by district, general, and rural hospitals, provides medical and surgical emergency care; inpatient services for medicine, surgery, pediatrics, and gynecology and obstetrics

Tertiary and quaternary levels (referral hospitals), which are comprised by provincial and central hospitals, respectively, provide all of the secondary-level functions as well as types of surgical interventions and specialized care.

Officially, most services are available five days for eight hours a day. Over the past few years, in order to cope with the increasing flow of patients, health facilities have been trying to expand consultation hours. Depending on local initiative, organization, and availability of staff, HUs have been trying different schemes, from expanding the daily working hours until 19:30 to opening some consultation offices on Saturdays until 12:00 or later. These arrangements were made possible the organization of mid-level health workers on shifts and payment of overtime salary for extra hours worked. Table 14 summarizes average working days and hours from 17 HUs. In general, mid-level health workers can see from 30 to 150 patients per day. However, most HUs “finish” seeing the majority of their patients around 13:00 – 14:00. Consultation time length in general is very short.

TABLE 16: AVAILABILITY OF OUTPATIENT CONSULTATIONS (TRIAGE)

N° of days per week	Average hours per day	N° and Type of Health Unit
5	8	10 Health Units 3 Urban Health Centres B 3 Health Centres annexe to a Rural Hospital 1 Urban Health Centre A 3 Rural Health Centres II
5.5	8	2 Health Units 1 Urban Health Centre B 1 Rural Health Centre II
5	12	2 Health Units 2 Urban Health Centre A
6	7	1 Health Unit 1 Health Centres annexe to a District Hospital
6	8	2 Health Units 1 Rural Health Centre I 1 Rural Health Centre II

Source: Cumbi and Langa 2010

Community-based Health—The main activities in this field are the provision of health care, social mobilization, and health education. These are provided through a plethora of different types of CHW, such as the APEs, *socorristas*, and activists.

- **APEs**—Since the mid-1970s a network of CHWs designated APEs was put in place in order to expand the health sector’s reach. This network was in practice run by the NHS. The APEs were trained, provided with a short list of essential drugs, and supervised by the district health authorities. For several years this was only figure in the community responsible for health promotion and treatment of minor ailments. The APEs were to receive support (monetary or in-kind) from the communities. Problems notwithstanding, a number of APEs are still in place and functioning. Other community health workers (e.g., *socorrista*, activists)—There is a wide range of other CHWs, trained mainly by NGOs and faith-based organizations; they usually receive a very short training for a specific health problem such as cholera, HIV/AIDS, malaria, and nutrition . Most of them are used as health educators, and in the specific case of HIV/AIDS, they can be trained for home-based care as well. This mass of health educators has been joined by the community leaders who are being trained as health promoters in some of the same areas/specific health problems. The arrangements vary greatly from one district to another and from one NGO to another. Each NGO has its own activities, modalities for providing incentives, etc.

However, community-based health care, including revitalization of the APE program is undergoing a major revision in the country, which will probably change immensely the current situation. A large amount of donor money is committed to fund the APE program, and a number of donors are involved in the initiative (MISAU 2009). In Mozambique, as elsewhere, the CHW programme has had ups and downs. The new focus on community participation and the use of CHWs at the international and national levels are partly in response to the problems faced by the health systems inability to respond adequately to the increasing health needs (Haines 2007). In the Mozambican case, some of the issues are:

- Incapacity to expand the health facility network and improve coverage,
- Deceleration of the gap reduction between well off and worst off provinces, and
- Reversal of the trend towards increased allocation of resources to PHC, to a strong urban and big hospitals biases.

The need to address these issues coupled with the rush to reach the MDG is in part playing a role in reviving the interest in community participation (Haines 2007).

2. LOCAL CAPACITY

In spite of registered improvements, capacities related to patient care, planning, and management of all sorts of resources still face some difficulties. Capacities are influenced by quantity and quality of human resources, competences of the human resources, legal and institutional capabilities, and availability of general infrastructure, among others.

Health Human Resources, Facilities, and Patient Care

Health facility capacities have improved substantially over the past few years in terms of coverage and type of services provided, increasing the capacity of NHS facilities to receive and attend to more patients. Specific improvements include

- The health network has expanded, and many health facilities have been upgraded, increasing system capacity and reaching more people geographically; The staffing levels in terms of quantity, type, and level of training have increased, and distribution has improved; for example, NHS has managed to deploy at least one medical doctor in every district;
- The type of services provided has been expanded and reorganized; for example, the ongoing integration of HIV/AIDS care.

Nonetheless, the system still faces major challenges to further expand the health network and to staff it with an adequate number and correct mix of staff, especially in remote, rural areas.

- In spite of the increased production of medical doctors and MCH care nurses, their deployment to most needy rural areas has encountered many obstacles. Deployment of newly graduated doctors and nurses to the neediest locations can be delayed for months due to lack of housing near the health facility. It is the responsibility of the DPS to provide adequate housing for new doctors. Although improving at the level of HUs, maternity services still tend to employ less well-trained MCH nurses.
- The newly deployed medical doctors in the districts are often young and inexperienced, and typically stay only for two years.

- Medical doctors tend to have a substantial amount of administrative work, which limits their time available for patient care. At the provincial capitals, medical doctors and general medical technicians work one day out of five working days in larger health facilities.
- Workload is another constraint. Maldistribution among facilities, provinces, districts, and services within HUs, high levels of patient flow at HUs and high levels of absenteeism due to disease and training seminars often result in health workers providing care to up to 150 patients per day (Cumbi and Langa 2010).
- Moreover, infrastructure in existing HUs is lacking; there is not always enough space to adequately treat to the actual volume of patients. According to the study on workload indicators, in several HUs there were two health workers sharing the same patient consultation space, and in few HUs, two or more MCH nurses shared the same office to provide mother care services (Cumbi and Langa 2010).

General Infrastructure

As with the health network and human resources, availability of other infrastructure has improved substantially including the electrical grid, mobile phone service, potable water, sewage, and roads. Improvements notwithstanding, the system still faces many constraints, especially in rural areas; lack of electricity and water hamper the quality of care provided. Bad road conditions reduce vehicle lifespan and limit the ability to reach patients in remote areas with such services as immunizations. Limited commercial networks limit the options for procurement and acquisition of essential goods and services at the district level. The lack of general infrastructure hampers provision of health care, limits management effectiveness, and efficient use of resources.

Planning and Management Capacity

The most important national planning and budgeting process is the preparation of the PES, in which targets for multiple sectors to be achieved in the following year are defined for national, provincial, and district levels. The national PES shows only national targets; the linkage with provincial targets is not clear. The provincial PES shows provincial targets, which aggregate district targets. The planning process is, to some extent, a complex exercise that involves the two parallel tasks of activity planning and budget preparation at different levels involving various actors. Planning of activities at the national level mainly is the responsibility of the national managers. State budgets are allocated to the DPS by the provincial governor and to the SDSMAS by the district administrator. The only function for health authorities is to distribute the budget among line items.

The SB covers only 50–65 percent of all planned health expenditures. To fill the gap, the MOH allocates the donor funds from the ProSaúde to the provinces based on a formula. At the provincial level, provincial and district managers set targets together and distribute the ProSaúde funds to each district using the same formula.

**TABLE 17: TOTAL NATIONAL HEALTH EXPENDITURES BY SOURCE, 2004-2008
(MILLION METICAS)**

Source	2004	2005	2006	2007	2008
State Budget	2.730	2.704	2.808	3.302	3.588
Common Fund	1.638	2.756	2.574	3.250	1.924
Vertical Funds ⁸	2.210	3.380	3.666	3.900	7.800
Total Expenditure	6.578	8.840	9.048	10.452	13.312

Source: MISAU–DPC: *Relatório IHP*

Vertical funds have become an increasingly significant source of health financing. The allocation of these funds may or may not be coordinated with central, provincial, or district health planning, depending on the donor and implementing partners. Visser-Valfrey and Umarji (2010) state that although deemed crucial, provincial participation in the planning process is somewhat theoretical due to limited capacity at both provincial and district levels.

As noted before, strategic management tasks are overwhelmingly concentrated at the central level. At provincial and district levels, management is more related to routine tasks. Both DPSs and SDSMASs manage and administer state budget and external funds. All DPS and many SDSMASs are using e-SISTAFE, the online State Financial Administration System run by the Ministry of Finance and Treasury to execute and record payments/spending.

At the provincial level, the management team includes administrative staff and health technical staff in charge of various health programmes. Over the past few years the number of professional managers at the DPS level has increased, with more professional managers and some of the cadres possessing university degrees. The SDSMAS management team is less skilled, and most of the members are also health care providers. However, also at this level, capacities have improved substantially; there are more accountants, and districts with electricity have modern equipment such as computers. Regarding the HUs, only large health facilities (hospitals) have some professional managers and also receive state budget and ProSaúde funds.

3. MOZAMBIKAN HEALTH INFORMATION SYSTEMS

The health sector maintains several routine information systems:

- Health information system (SIS), which is mainly health activity-oriented system. The SIS is facility based, and contrary to many information systems that are disease-oriented, it collects very little data on morbidity and mortality. It includes a surveillance subsystem, the weekly epidemiological surveillance bulletin, which collects data on few infectious diseases, with the aim of identifying outbreaks. SIS was originally developed and introduced in the beginning of the 1980s. At the beginning of the 1990s, SIS underwent a major revision, which resulted in the introduction of an electronic system at the provincial and national levels, calculation of workload indicators by area of activity (curative, EPI, maternity, and MHC), among other improvements.

⁸ Vertical funds are funds that flow directly from donors to external, nongovernmental, implementing partners.

In 2006, SIS underwent subsequent revisions, including a new electronic e-SIS database *Modelo Básico*, in which each facility records data in ledgers and forms and delivers the data to the SDSMAS on a monthly basis. All SDSMASs have a planning and statistical unit, and most have computers. Planning and statistical unit staff is responsible for data input and displaying graphs that monitor actual performance against targets for such services as immunization, family planning, and HIV testing. The district data is sent to the provincial planning and statistical unit electronically, with paper back-up. The data are mostly from primary and secondary facilities, with very limited data from the tertiary and quaternary levels. The data include:

- Data collection forms and the e-SIS have built-in indicators related to service utilization and coverage, which are calculated according to population and target groups of the district, province, or country. These include consultation and service unit per inhabitant, coverage by type of vaccination in children under one, and coverage of maternal services, deliveries, ANC, postnatal, and family planning care.
- Curative care (number of outpatient consultations in dentistry, inpatient admissions, discharges of medicine, pediatric, surgery, all other services aggregated, and surgical interventions; inpatient causes of morbidity and mortality specified as diarrhea, measles, malaria, pneumonia, malnourishment, anaemia, TB, HIV/AIDS, and all other diseases aggregated).
- Indicators of i) efficiency—global workload measured as service units per health professional—however, the new e-SIS no longer calculates workload indicators by area of activity; ii) hospital performance, such as case fatality rate from specific conditions (anemia, diarrhea, HIV/AIDS, malaria, measles, pneumonia, and TB) and hospital maternal mortality rate; iii) malnourishment indicators, such as growth faltering and maternity low birth rate.
- Child health including immunization (by type of vaccine) and growth monitoring.
- Maternal care including assisted deliveries, antenatal care, postnatal care, and family planning.
- HIV/AIDS data (outpatient consultations, antenatal care, and maternity).
- Diagnostic aids including laboratory, X-ray, blood as measured by workload, efficiency, inputs, etc.

In addition to e-SIS, the other information systems in the health sector are

- Administrative information system for health personnel under the responsibility of the Human Resources National Directorate and in line with the Ministry of Public Administration.
- The national financial management information system run by the Ministry of Finance (SISTAFE) tracks budget and expenditure data.
- Drug inventory management system, consisting of stock cards at facility pharmacies and district stock rooms and a more automated management information system at the provincial warehouses and central medical store.
- Health network data on facilities and resources, such as the number of beds, equipment, vehicles, and other assets (*patrimonio*).
- Specific information systems for selected diseases and services such as central and provincial hospital reports, HIV/AIDS, malaria, and TB.

Vital registration: births, deaths and migration are not part of the HIS. At the district level and in rural areas the routine approach for registering these events is very weak.

Strengths and weaknesses of these health information systems were noted by the Joint Annual Review of Health Sector Performance for 2009.

Positive Aspects, Strong Points And Opportunities Of The Information System

DATA COLLECTION

- There are various methods locally and individually adapted to replace and streamline the tools

DATA CONSISTENCY AND INFORMATION FLOW (in three evaluated indicators: antiretroviral therapy-Prevenção da Transmissão Vertical (PVT)-institutional births)

- Data consistence at the SU level was high in regard to institutional births and PVT/Consulta Pre-Natal (CPN).
- Data flow from the periphery to the higher levels in institutional births, antiretroviral therapy and PVT in the CPN is adequate.

INFORMATION FLOW

- Acceptable from the periphery to the higher levels

Constraints, Weaknesses And Threats Of The Information System

DATA COLLECTION

- Stock outs of cards, forms, and other materials and tools
- Errors in the transfer of data from the registration books for monthly summaries
- Illegible hand writing
- Poor conservation of the registration books
- Inadequate or inexistent filling systems
- Lack of standard tools in various subsystems (e.g., PVT)
- Poor maintenance of computer equipment and anti-virus protection

INFORMATION FLOW

- Minimum habit of data analysis in the health units and lack of pre- analysis before their transfer to the districts and provinces
- Persistence of parallel data flows in vertical programs (e.g., antiretroviral therapy, PVT)

BASIC MODULE (Módulo Básico)

- Needs updating of all information subsystems
- Needs updating the anti-virus and good maintenance by the DPS in the Districts

DATA CONSISTENCE (in three indicators evaluated: antiretroviral therapy-PVT- institutional births)

- As a consequence of lack of standardized tools, it is not possible to verify data in the ARVT and the margin of error in the PVT was high. The data inconsistency for PVT from the district to the national level was high and also comparing the SIS with the PVT Program

RETRO-INFORMATION (Feedback) AND SUPERVISION

- There is no clear supervision strategy from the higher levels to the health units, nor feedback regarding data quality control
- There is no updating of the norms for filling in the different forms; there are no control routines for data quality in the health units; lack of special training in the health units

Source: Extracted from Health Sector Performance Eight Joint Annual Review ACA VIII

ANNEX C: ANNUAL CALENDAR FOR PLANNING, BUDGETING AND REPORTS

January	<p>Closure of the first financial year and <i>Balanço annual do PES</i>. Start of CP disbursements to ProSaúde II accounts for year n in accordance with the agreed disbursement plan.</p> <p>(In the previous November, ACA begins for year n-1 including health PAF indicators.).</p>
February	<p>The Government of Mozambique sends to CPs audit reports for year n-2, prepared by the administrative court for all sector funds in the CUT and by the general finance inspectorate for all sector funds in the CUT.</p>
March	<p>Conclusion of ACA for year one, including the Health PAF Indicators.</p> <p>First meeting of the sector coordination committee</p> <ol style="list-style-type: none"> 1. Presentation of the progress report (<i>Balanço do PES Sectorial</i>) for year n-1; 2. Presentation of ACA for year n-1. Evaluation of compliance with/implementation of recommendations from the last ACA. The results are included in the ACA for year n-1; 3. Change of focal partner team. <p>National Coordinating Council for Health (without partner participation).</p> <p>Delivery to <i>Ministerio de Planeamento e Desenvolvimento</i> (MPD) of MTEF for years n+1, n+2 and n+3.</p> <p>MISAU sends by 31 of March to the administrative court the final accounts for year n-1.</p>
April	<p>Aide memoire on Joint Review: Program Assistance Partners (PAPs) and the government.</p> <p>Complete 12-month progress report (<i>Balanço do PES</i>), including the budget execution report and the pertinent information previously included in the summary of statistical information (to be revised before the end of 2008).</p> <p>Start of audits:</p> <ul style="list-style-type: none"> • External for all sector funds in the CUT for year n-1 and the respective expenditure, by the administrative court; • Internal for all sector funds and respective expenditure for year n-1 by the general finance inspectorate; • External, by a private, independent accounting company, for the i) flow of funds from the ProSaúde II foreign exchange account to the transitional account, and from there to the general CUT and the ii) flow of funds from the Credit Suisse account to the supply of drugs and medical items.
May	<p>Final aide memoire of the <i>Conselho Coordenador de Saúde</i> of March</p> <p>MPD and MF provide PES guidelines and budget ceilings for each public sector and provinces</p> <p>Commitments for year n+1 of the CPs (common and vertical funds) based on the performance evaluation (Health Sector PAF).</p> <p>Start of the planning process of MISAU (SectorPES for year n+1), including recommendations of the last ACA.</p>

June	<p>Start of the planning process of MISAU, DPS and districts (sector PES for year n+1), including recommendations of the last ACA.</p> <p>Continuation of preparation of the PES for year n+1, including the matrices for cost centers, the pharmaceutical subsector, the allocation plan for the provinces and vertical funds.</p>
July	<p>Continuation of preparation of the PES for year n+1, including the matrices for cost centers, the pharmaceutical subsector, the allocation plan for the provinces and vertical funds (all PES proposals are due by July 31 to MPD)</p> <p>Second meeting of the sector coordination committee:</p> <ol style="list-style-type: none"> 1. Presentation of the final external audit report for year n-1 of the ProSaúde Foreign exchange account and the Credit Suisse account for the pharmaceutical subsector; 2. CP approval of final proposal for PES and sector budget for year n+1 to be submitted to MPD, including the PAF for the health sector with targets for year n+1.
August	<p>Start of the mid-year review of the PAPs and the government including review of the indicators and targets of the general PAF.</p> <p>6-month progress report (<i>Balanço do PES-Saúde Semestral</i>) for year n.</p> <p>Decision on the type of public financial management assessment to be done in year n+1.</p>
September	<p>Conclusion of the mid-year review.</p> <p>Final aide memoire of the <i>Conselho Coordenador de Saúde</i> of July.</p>
October	<p>Joint coordination committee-extended (Alargado):</p> <ol style="list-style-type: none"> 1. Presentation by the respective working groups and evaluation of their performance; 2. Approval of the terms of reference for the ACA for year n+1.
November	<p>Start on preparation of MTEF: The CPs make their medium-term commitments to facilitate the start of the elaboration of the MTEF for years n+2, n+3 and n+4.</p> <p>MISAU sends to the CPs the PES of year n, approved by the Parliament, including the harmonized operational matrices.</p>
December	<p>Joint coordination committee-extended (Alargado):</p> <ol style="list-style-type: none"> 1. Presentation of final treasury plan; 2. Confirmation of disbursement plan; 3. Approval of the priorities of the working groups for year n. <p>MISAU sends letters to CPs requesting disbursements of funds of ProSaúde II, to be effected in year n in agreement with the agreed disbursement plan.</p>

ANNEX D. THE HEALTH SECTOR PERFORMANCE ASSESSMENT FRAMEWORK

The Health Sector Performance Assessment Framework for ProSaúde II Maputo, July 2008

Article 1: Introduction

In order to annually assess the performance of the health sector, there is a need for a unique framework jointly agreed by MISAU and cooperation partners.

The Health Sector PAF is an agreed matrix of input, output, outcome, impact, and process indicators and their respective targets to measure performance of the sector in delivering quality services through effective and efficient management and utilization of human and financial resources at national, provincial, and district levels.

The purpose of a Health Sector Performance Assessment Framework (Health Sector PAF) is to enable all health sector partners (not only those contributing to ProSaúde) to develop a joint assessment with MISAU of results achieved each year. It is intended to look at performance against targets in high-priority areas. It is important that the ProSaúde II memorandum of understanding is complementary to direct budget support, and therefore the Health Sector PAF indicators and targets should complement and supplement both those of the direct budget support PAF and the PARPA.

Article 2: The Indicators

The indicators have been chosen from across the width of the sector, including issues such as financial management, budget execution, human resources management; process issues such as the timely completion of policies and strategies; and progress made in taking forward institutional reform. In addition to targets for year $n+1$, the Health Sector PAF will also include indicative targets for the succeeding three years (year $n+2$, $n+3$, and $n+4$), based on realistic medium-term commitments against each indicator, and targets already set in the PESS, PARPA and MTEF.

While drafting the health sector PES for the coming year (year $n+1$), MISAU will each year review and confirm indicators and targets in the Health Sector PAF. Indicators should, however as far as possible remain the same over the medium term to allow the identification of trends, and targets should only be changed if appropriately justified, such as by a significant change in context. This will be done through a process of dialogue between directorates within MISAU and between ministries, in particular MPD and MF.

Article 3: Process

The Health Sector PAF will orient the dialogue between MISAU and CPs on health services performance. MISAU will therefore make the assessment of performance against the Health Sector PAF matrix an integral part of its annual health sector implementation report (*Balanço do PES Saúde*).

At the first *Conselho Coordenador de Saúde* meeting of each year, the main focus will be on MISAU's and CPs' performance in the previous year (year n-1), where the performance against Health Sector PAF targets will be a core topic for discussion.

In the context of the annual assessment of performance in year n-1, CPs and MISAU will also review indicators and targets for the Health Sector PAF for the next year (year n+1). This will prepare for the Health Sector PAF proposal for year n+1, which MISAU will define by means of intra- and inter-ministerial dialogue, during the same period as the definition of the health sector PES for year n+1. The Health Sector PAF, including targets for year n+1, will then be agreed at the same time that the health sector PES is agreed between MISAU and CPs, at the second biannual *Conselho Coordenador de Saúde* at the end of July. The Health Sector PAF, complete with targets, will then be annexed to the health sector PES that MISAU submits to MPD.

Article 4: Performance-based financial commitments

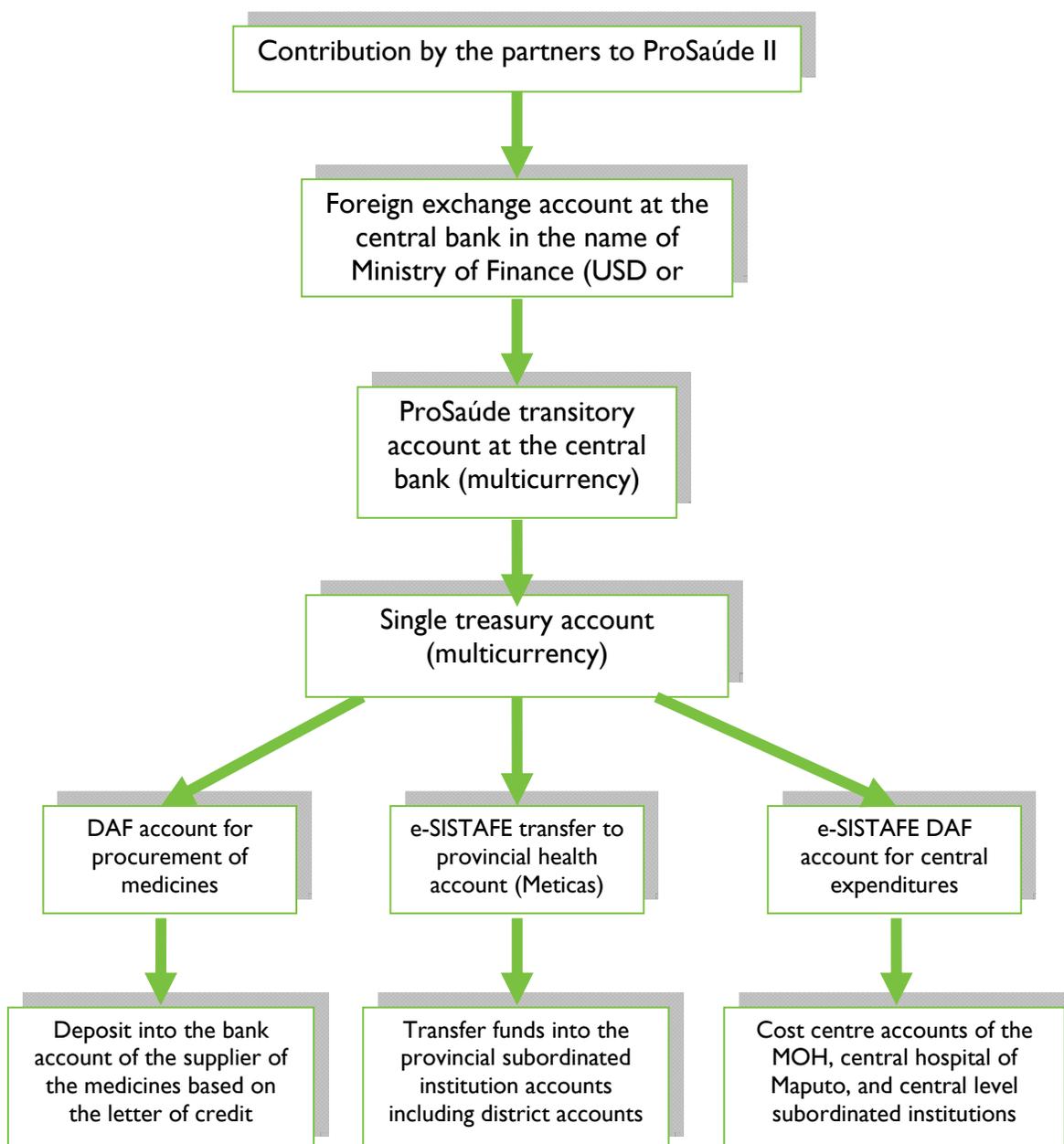
The assessment of the results in year n-1 against PAF targets will determine CPs' indicative financial commitments for year n+1. The assessment process will culminate in a joint agreement among signatories on the adequacy of the overall performance. This will be sufficient for some donors to provide their full indicative commitments, but others may wish to provide (a proportion of) their funds against the achievement of a specific set of indicators and targets.

ANNEX E. SERVICES PROVIDED BY THE NHS

Type of Facility	Service/ Activity	Main Provider	Availability
Urban Health Centre C	Outpatient	AM/nurse	5 days, 8 hours
Rural Health Centre II/ Urban Health Centre B	Outpatient	AM/nurse	5 days, 8 hours
	EPI and growth monitoring	AMP/MCH nurse	5 days, 8 hours
	Mother care	MCH nurse	5 days, 8 hours
	Deliveries	Same at MCH care	7 days, 24 hours
Rural Health Centre I/ Urban Health Centre A	Outpatient	AM/TMG/MD/MCH nurse	5,5 days, 8 hours
	EPI and growth monitoring	AMP/TMP/MCH nurse	5 days, 8 hours
	Mother care	MCH nurse	5 days, 8 hours
	Deliveries	MCH nurse	7 days, 24 hours
	Inpatient service	MD/TMG/MD on call (HC I)	7 days, 24 hours
District Hospital	Emergency service	AM/nurse	7 days, 24 hours
	Outpatient	AM/TMG/MD/MCH nurse	5,5 days, 8 hours
	Deliveries	MCH nurse	7 days, 24 hours
	In-patient service	MD/ TMG	7 days, 24 hours
	Emergency service	AM/TMG/nurse/MD on call	7 days, 24 hours
Rural Hospital/ General Hospital	Surgery, some hospitals	TC	7 days, 24 hours
	Outpatient	AM/TMG/MD/MCH nurse	5,5 days, 8 hours
	Deliveries	MCH nurse	7 days, 24 hours
	Inpatient service	MD/TMG	7 days, 24 hours
	Emergency service	AM/TMG/nurse/MD on call	7 days, 24 hours
Provincial Hospital	Surgery, some hospitals	TC	7 days, 24 hours

AM=basic-level, two-year trained technician in diagnosis and treatment of common conditions;
MD=medical doctor; TC=surgical technician; TMG=mid-level trained technician

ANNEX F. FINANCIAL FLOW MECHANISM FOR THE PROSAÚDE II



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