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# STRATEGIC PURCHASING OF HEALTH CARE SERVICES IN BOTSWANA

August 2018

This publication was produced for review by the United States Agency for International Development. It was prepared by Tihomir Strizrep for the Health Finance and Governance Project.

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# ACRONYMS

<b>ART</b>	Antiretroviral Therapy
<b>ARV</b>	Antiretroviral Drugs
<b>CMS</b>	Central Medical Stores
<b>DHIS</b>	District Health Information System
<b>DHMT</b>	District Health Management Team
<b>DRG</b>	Diagnosis-related Group
<b>GoB</b>	Government of Botswana
<b>GP</b>	General Practitioner
<b>HFG</b>	Health Finance and Governance
<b>HMIS</b>	Health Management Information System
<b>HTA</b>	Health Technology Assessment
<b>ICT</b>	Information and Communication Technology
<b>IPMS</b>	Integrated Patient Management System
<b>MAS</b>	Medical Aid Schemes
<b>MoHW</b>	Ministry of Health and Wellness
<b>NCD</b>	Non-communicable Disease
<b>NHA</b>	National Health Accounts
<b>NHS</b>	National Health Service
<b>P4P</b>	Payment for Performance
<b>PBRs</b>	Performance Based Reward System
<b>PCT</b>	Primary Care Trust
<b>PHC</b>	Primary Health Care
<b>QOF</b>	Quality and Outcomes Framework
<b>SHI</b>	Social Health Insurance
<b>THE</b>	Total Health Expenditure
<b>UHSP</b>	Universal Health Services Package
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization





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# EXECUTIVE SUMMARY

This report provides a set of recommendations to the Government of Botswana for establishing a roadmap for the implementation of primary health care (PHC) financing reform and to support efforts aimed at achieving effective and sustainable universal health coverage in Botswana.

The public health system in Botswana is dominated by inefficient hospital spending largely because of inappropriate incentive systems and allocation formulas. The lack of an effective purchasing function in the health financing system perpetuates inefficiencies and deprives more cost-effective PHC services of much-needed resources. There are no strong incentives to improve the cost effectiveness of services provided by individual institutions, stemming largely from lack of strong performance improvement incentives. Besides that, Botswana is facing a number of health system problems like variable quality of care, serious limits on availability of important services in the country, and limited access to additional budget monies to develop skills and acquire equipment to provide services. Improving the performance of health financing in Botswana will therefore be dependent on a strategy that improves the efficiency of public spending to maximize the health impact of these investments.

Public health facilities do not have the status of a legal entity and they have very low levels of autonomy. The facilities do not have financial independence or their own treasury accounts. Managers of health facilities do not have the right to hire and fire staff, set the rules, and implement incentive payments. Financial management is carried out with a primary focus on cost control and interaction with the financial authorities rather than on strategic planning, and analysis of costs and efficiencies. A cost-effectiveness analysis is not part of the usual management process at the facility level.

The level of use of information systems for management decision making is quite low. In most cases, even if individual electronic systems and/or registers are in place, the data from these systems are used for external reporting purposes, but not for internal management.

Generally, from the point of view of the strategic purchasing system, providers play a rather passive role. Although the first step in the contracting process is to analyze contract proposals from providers, in practice providers are not involved in the preparation of contracts and decisions, and they receive from the Ministry of Health and Wellness contracts containing the total amount of funding. The budget is determined based on historical funding, which leads to fixation of the existing imbalances and violation of the principles of justice.

To maximize the health, economic, and political benefits of public health spending, it will be vital to allocate funds with maximum efficiency. This will require spending resources primarily on cost-effective PHC interventions including disease prevention and curative care delivered at the community and health center level. As well as ring-fencing funds for PHC services, efficiency would improve if the whole purchasing function were reoriented to fund service outputs rather than pay for inputs. This may require structural changes in the health system to build stronger purchasing agencies either within government or as semi-autonomous entities strongly regulated by government. On provider payment, the current system needs to move toward a contemporary payment system for PHC services based on capitation with various risk adjustment factors, as well as performance and quality indicators. Some relatively simple interventions, such as implementing a cancer screening strategy, or developing disease registries, could bring about quick gains at low cost. Overall, we propose that policymakers should develop an innovative model for PHC financing and we encourage policymakers to prioritize the PHC system.



# I. INTRODUCTION

In light of declining donor financing, rising medical inflation, and the Government of Botswana's (GoB) directive to develop public-private partnerships, Botswana must complement resource mobilization with strategic purchasing reforms that improve efficiency. Only by pairing increased resources with more efficient and effective mechanisms for purchasing health services will Botswana be able to sustain the gains made against HIV and tackle the population's growing non-communicable disease (NCD) burden.

The Health Finance and Governance (HFG) project supports the Ministry of Health and Wellness (MoHW) in designing new provider payment mechanisms for primary health care (PHC) that incentivize efficiency and improve health outcomes. These payment mechanisms will provide policymakers with new tools to influence provider behavior and ultimately achieve policy objectives in the prioritization of resources and better outcomes, while improving efficiency. Thus, building on previous efforts, the design of appropriate and comprehensive provider payment mechanisms for PHC moves the GoB one step closer to operationalizing strategic purchasing.

Designing effective payment mechanisms requires a thorough understanding of existing purchasing arrangements and policy priorities. Together with GoB partners, HFG will facilitate an iterative consultative process to build consensus on designing payment mechanisms. With specific objectives agreed upon and a common understanding of existing institutional constraints, the HFG team will collaboratively design payment mechanisms for PHC. The activity will focus on the services included in the Universal Health Services Package (UHSP) to ensure that once the GoB adopts the UHSP, there is an agreed-upon provider payment framework ready to be implemented to operationalize the transition to providing the UHSP through PHC networks.

Developing countries everywhere are facing these kinds of challenges to reorganize their health care systems in order to provide high-quality services while promoting fiscal sustainability and financial protection to the population. Recent orientations in health care reforms pursue policies that improve purchasing (contracting) with changes in payment mechanisms, better monitoring and evaluation, decentralization, and more accountable and efficient health systems.

The tight control over health care providers in the current centralized system allows them almost no managerial freedom or opportunities to develop and raise the quality of their services. These dependencies limit the ability of health care providers to be proactive and positively change the quality of health care services in Botswana.

Organization and management of a strategic purchasing system are extremely important for ensuring the system's efficiency. To build such a system, it is necessary to first evaluate the structural efficiency of the overall management system, as well as the organization of supporting systems, like information systems and data analysis systems, which play a critical role in decision making at various levels.

Effective health restructuring strategies need holistic approaches that integrate changes in organization, financing, and delivery systems and shift from a bed-centric to a patient-centric approach. To this end, Botswana is in urgent need of health system reforms.



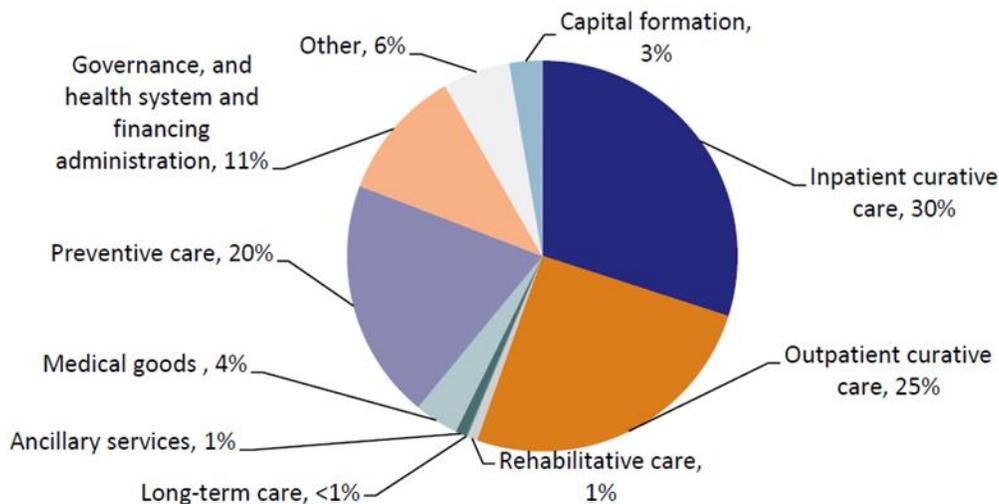


## 2. SITUATION ANALYSIS

### 2.1 Health Financing

Figure 1 breaks down health care spending by function, as estimated in the 2013-2014 National Health Accounts (NHA) report for Botswana (MoHW 2016).

**Figure 1. Total Health Expenditure by Health Care Function**

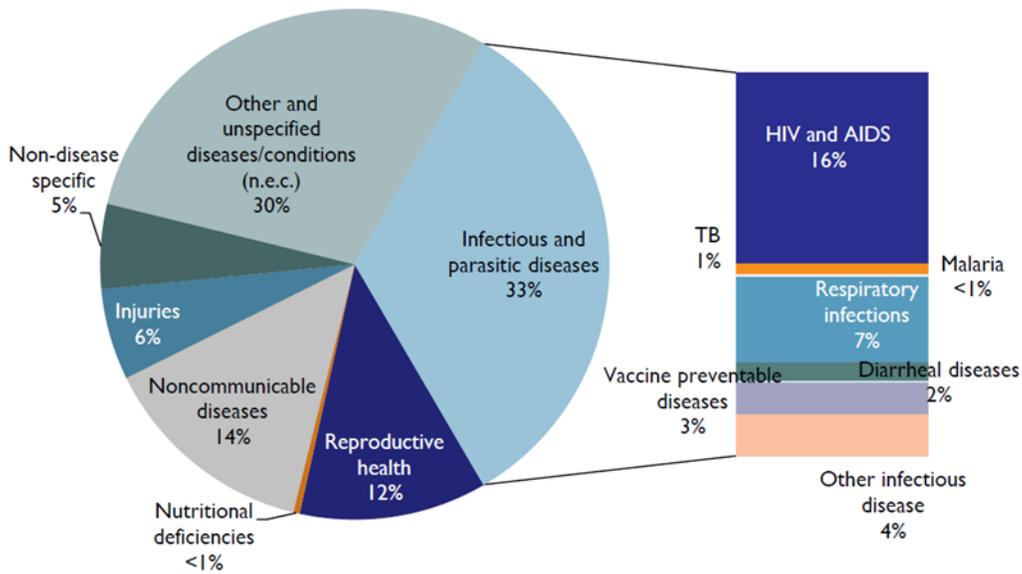


Source: MoHW (2016)

As noted above, the majority of health funds are spent on secondary and tertiary care. To improve allocative efficiency, more should be allocated to primary care. To do this, introducing gatekeeper clinics within hospital premises to discourage self-referrals/bypassing should be explored. Another option is the introduction of contractual agreements between the government and private sector, as well as civil society organizations, to provide PHC services in remote areas where the government is not able to retain health workers to run public PHC facilities.

The 2013/2014 NHA results also show that the largest proportion of spending, 33 percent, is on infectious and parasitic diseases, followed by NCDs at 14 percent and reproductive health at 12 percent (Figure 2). Among the infectious and parasitic diseases, 16 percent of THE went to HIV and AIDS and other sexually transmitted diseases; distribution of THE by other infectious and parasitic diseases is as follows: respiratory infections (7 percent), vaccine-preventable diseases (3 percent), diarrheal diseases (2 percent), tuberculosis (1 percent), malaria (less than 1 percent), and other and unspecified infectious and parasitic diseases (4 percent).

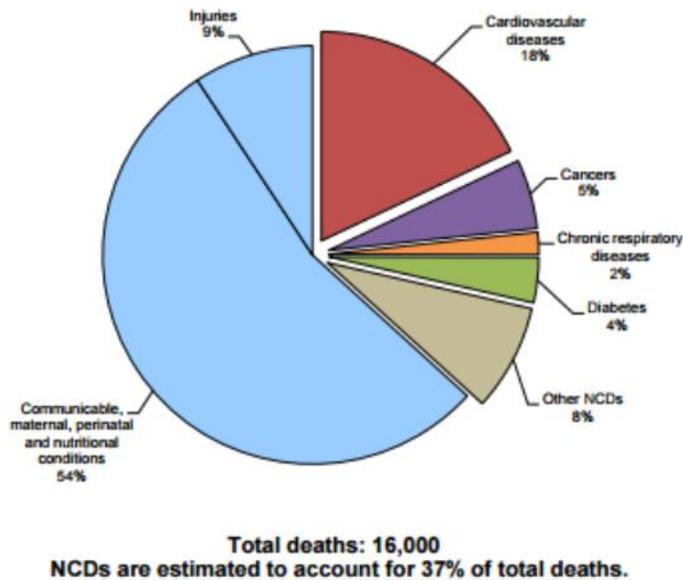
**Figure 2. Total Health Expenditure by Disease**



Source: MoHW (2016)

As noted above, 14 percent of THE was spent on NCDs. The largest contributors were cardiovascular disease at 5 percent of THE, mental and behavioral disorders at 2 percent of THE, diabetes at 1 percent of THE, and cancer at 1 percent of THE. The World Health Organization (WHO) estimates that NCDs account for 37 percent of all deaths in Botswana (WHO 2014) (Figure 3). Together with promoting people’s lifestyle changes through information, education and communications activities, the best place to intervene to strengthen management of NCDs is at the PHC level of the health sector; one way to incentivize this would be to stimulate early NCD screening mechanisms through a PHC payment model.

**Figure 3. Botswana Proportional Mortality (Percentage of Total Deaths, All Ages, Both Sexes), 2012**



Source: WHO (2014)

Returning to Figure 2, a significant portion of THE, 30 percent, is allocated to “other” disease conditions. This “other” category represents spending that is related to one or more diseases; due to lack of detailed and non-disaggregated information, the Health Accounts Team was unable to allocate this to specific disease categories.

Twelve percent of THE was spent on reproductive health, with 9 percent of THE allocated to maternal conditions, 1 percent each to perinatal conditions and contraceptive management (family planning), and less than 1 percent to unspecified reproductive health conditions.

Six percent of THE is spent on injuries and less than 1 percent on nutritional deficiencies. The non-disease-specific category represents 5 percent of THE, and includes spending on administrative support and other spending categories where specific disease allocation was difficult.

Integrated Health Service Plan: A strategy for changing the health sector for a healthy Botswana 2010-2020 (MoHW 2010) specifically describes the goal of service delivery as the attainment of universal coverage of a high-quality essential health services package through: (a) scaling up utilization of a well-defined and comprehensive essential health service package; (b) redefining existing service delivery levels and delineating types of health services for each level of the health care to ensure continuity and harmonized referral and supervisory functions; (c) increasing and strengthening partnerships with the private sector and NGOs; (d) community involvement to ensure effective demand for health services; and (e) promoting community participation in the planning and delivery of health services.

Prior to April 2010, the Ministry of Local Government was mandated to provide PHC through its network of clinics, health posts, and (outreach) mobile stops, as well as community-based preventive and promotional services. A Cabinet decision relocated PHC services to the MoHW, in an effort to increase efficiency and ensure a continuum of care from preventive to curative to rehabilitative services (through more effective referral mechanisms). This relocation made the MoHW the country’s main public sector PHC provider, with 83 percent of people receiving care from public facilities and programs.

The MoHW is a purchaser and provider of health services, and it has ultimate responsibility for the management of the health system. The MoHW is also responsible for ensuring transparency and accountability in the health system in order to achieve measurable results controlling the execution of the budget of the MoHW as well as the budgets of its subordinated institutions.

Health care services are decentralized to the district level and delivered through a hierarchical network of health facilities, ranging from referral hospitals (0.5%) to district (2%) and primary hospitals (3%), and finally to clinics (43%) and health posts (52%) operated by the GoB through the MoHW, faith-based organizations, and mining companies (see Table 1). In addition to the network of health facilities, there are over 800 mobile services for populations in remote areas or those outside the 8 km radius of a health facility.

**Table 1. List of Health Facilities in Botswana**

Type of Facility/Level	MoHW
National referral hospitals	3
District/General hospitals	7
Primary hospitals	17
Clinics with beds	105
Number of beds (all facilities)	5,557
Clinics without beds	206
Health posts	351
Mobile stops	931

Source: Statistics Botswana (2016)

With the exception of the three national referral hospitals, the MoHW delivery network is organized into 27 health districts. As part of the national effort to decentralize and expedite health service delivery, the MoHW has focused on devolving the Ministry's authority to Referral Hospital Boards and District Health Management Teams (DHMTs). The decentralized hospital boards oversee the provision of health care services and the management of referral hospitals and monitoring and evaluating the performance of the assigned referral hospital(s). The hospitals provide tertiary care, which includes specialty medical care, including psychiatric care, rehabilitation services, oncology and cancer services, audiology services, and obstetrics and gynecology. They also provide specialist support to district/primary hospitals, other hospitals and clinics in the regions, and communities.

The DHMTs manage health providers in their respective health districts. They are responsible for the planning, implementation, management, and provision of PHC services, in addition to the monitoring and evaluation of all services from the primary level to district hospitals. A DHMT's network of health facilities includes district and primary hospitals, PHC centers/clinics, health posts, and mobile stops, as well as community-based health prevention and health promotion services. District hospitals are the major health facilities in a district; they have a larger number of beds and capacity to address intensive and long-term care. Their services include outpatient and pediatric care, emergency and urgent care, surgery and intensive care, pharmacy and laboratory services, x-ray and diagnosis, dental care, eye care, and orthopedic services. In contrast, primary hospitals are general hospitals that are equipped to manage most diseases, injuries, and immediate threats to health.

Botswana's PHC network is structured as follows: clinics with maternity wards (staffed as clinics, including midwives and catchment area doctors); clinics (staffed by doctor, nurse, midwife, pharmacy, laboratory and radiology technicians), which put PHC and outpatient services within the reach of communities as they provide general consultations and treatment of injuries and minor illnesses (serious cases are referred to hospitals); health posts (staffed by a nurse with visits by midwife, mental health nurse, eye nurse and doctor), which offer limited services; and mobile stops (visited by nurses, health education assistants, and lay counselors). Larger clinics and clinics with maternity wards offer most outpatient and delivery services; selected clinics have access to diagnostic services and operate mobile stop services within their catchment areas.

According to the Health Statistics Stats Brief 2007-2015 (Statistics Botswana 2017), the PHC network covers 84 percent of the population living within 5 kilometers of the nearest health facility and an additional 11 percent living in a 5 km to 8 km radius; this means that 95 percent of the population lives within 8 kilometers of a facility. A significant 96 percent of urban residents live within 5 kilometers of a health facility; only 4 percent live as far as 5 to 8 kilometers, all in the Palapye and Jwaneng areas. By contrast, 72 percent of rural residents live within 5 kilometers of a health facility, and 17 percent live 5

to 8 kilometers away. Most of the remaining 11 percent of rural residents live from 8 to 15 kilometers of a facility. A look at proximity to health facilities by district shows that in North East, Southern, and Kgalagadi South districts, all (100 percent) residents live within 5 kilometers of a health facility; in Maun, Serowe (excl. Palapye), Mahalapye, Kgatleng, Tutume, and Gumare districts, 80-99 percent of inhabitants live within 5 kilometers; and in Bobirwa, Ghanzi, Chobe, and Kgalagadi North, 60-79 percent of inhabitants live within 5 kilometers. In contrast, Kweneng West district has the lowest proportion (5 percent) of the population living within 5 kilometers; most of its inhabitants (55.0%) live between 8 and 15 kilometers of a facility. Other districts with significant populations with lower proportions living within 5 kilometers were South East at 14 percent and Boteti at 22 percent.

There are limited public sector health care services (including clinics and health posts) for specific sub-populations, such as the Botswana Defense Force (BDF), Police, and Prisons services. Additionally, in the formal private sector, there are a number of private practitioners and NGOs, three private hospitals, three mine company hospitals, and two faith-based mission hospitals, as well as other private health clinics and 106 stand-alone pharmacies. The MoHW licenses all private practices and enforces clinical standards for all private facilities. The private sector is otherwise completely independent, and private service provision is a growing feature of the system.

All health workers in the country (public and private) are registered by the Botswana Health Professions Council (BHPC). Health workers are required to work in the public sector for three years prior to employment in the private sector. Also, public health workers are not allowed to provide private services while they are public employees. The 2013/2014 NHA results revealed that the majority of health funds in Botswana, 43 percent of THE, was spent on salaries.

All health workers in the public sector are salaried public sector employees employed by the MoHW. Salaries are regulated by the GoB in accordance with the Public Service Act. Their performance is regularly monitored based on the Performance Based Reward System (PBRs) but, according to public financial management rules, the PBRs results cannot be used for the payment of bonuses.

Table 2 shows the distribution of MoHW human resources (as of July 2015). About 81 percent of health staff posts are under the responsibility of hospitals, DHMTs, and clinics, including the clinics and health posts allocated under city, town, and district councils and other district authorities. Selected headquarters programs included in the remaining 19 percent also provide district and clinical care services (e.g., Oral Health Program, Prevention of Mother-to-Child Transmission/antiretroviral drugs (ARVs)) and the academic programs under the University of Botswana and the Institutes of Health Sciences (which have training centers across the country). Referral, district, and mission hospitals now account for 29 percent of staff posts, compared to 40 percent in 2009. Primary hospitals also showed a reduction in health personnel, from 14.3 percent in 2009 to 11.7 percent. In contrast, the DHMT, clinics, and health posts personnel increased from 35.5 percent in 2009 to 40.3 percent in 2015.

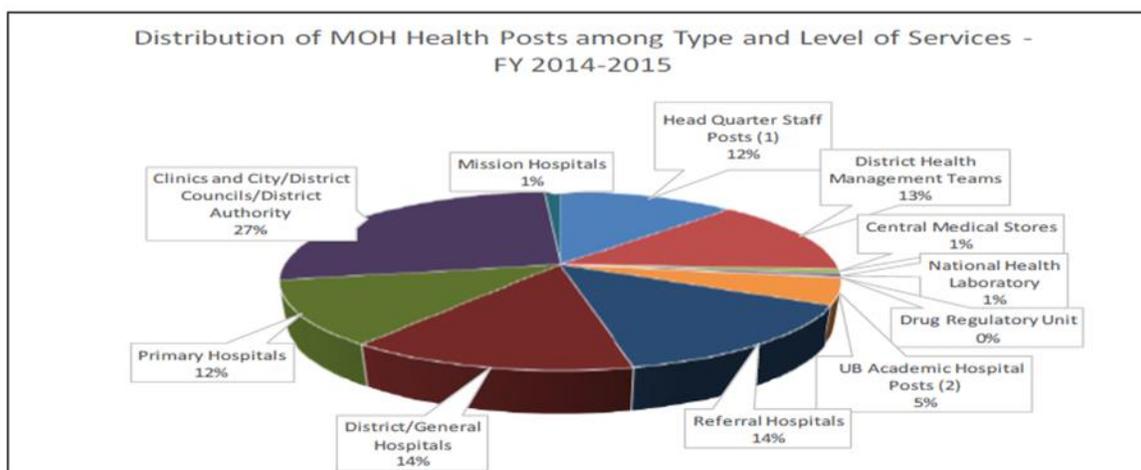
**Table 2. Health Personnel Post Distribution by Type and Level of Service, July 2015**

MOH Total Number of Staff Posts by Level - July 2015				
Type and Level of HR/Posts	Headquarters and Special Programs	Referral & District Hospitals	Primary Health Services	Percentage (%)
Head Quarter Staff Posts (1)	2588			12.2%
District Health Management Teams			2895	13.6%
Central Medical Stores	178			0.8%
National Health Laboratory	135			0.6%
Drug Regulatory Unit	36			0.2%
UB Academic Hospital Posts (2)	1009			4.8%
Referral Hospitals		3037		14.3%
District/General Hospitals		2963		14.0%
Primary Hospitals			2484	11.7%
Clinics and City/District Councils/District Authority			5676	26.7%
Mission Hospitals		235		1.1%
<b>Total Number of Staff Posts by Level - July 2015</b>	<b>3946</b>	<b>6235</b>	<b>11055</b>	<b>21236</b>
<b>Percentages (%)</b>	<b>19%</b>	<b>29%</b>	<b>52%</b>	<b>100%</b>

Source: MoHW Establishment Register (July 2015)

The 2015 distribution of staff posts by type and level of service (Figure 4) notes an estimated 52 percent of the health sector workforce allocated to PHC services (assuming that health service staff under the DHMTs, clinics, and most primary hospital services including clinics with maternity wards focus on PHC service delivery). District general hospital and mission hospital staff account for 15 percent of the workforce, and national referral hospitals account for 14 percent.

**Figure 4. Health Posts Distribution, July 2015**



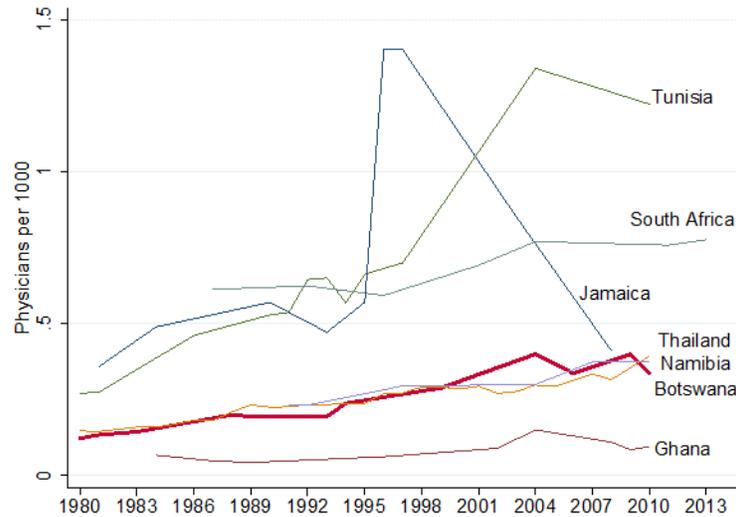
Source: MoHW Establishment Register July 2015

The Princess Marina Hospital in Gaborone, with 1,431 staff posts per bed, has the largest hospital workforce, followed by the Nyangabgwe Reference Hospital in Francistown with 1,133. The other national referral hospital, the S'brana Mental Hospital, with 433 hospital posts, has fewer staff than two of the major district hospitals (Sekgoma Memorial Hospital, with 593 health posts, and Scottish Livingstone Hospital with 574). According to the 2013 bed census, district and mission hospitals have 1.5

posts per bed compared to 2.1 for the referral hospitals. Primary hospitals with an average of 155 staff show a ratio of 3.1 posts per bed.

The number of physicians per capita has increased from 0.12 in 1980 to 0.34 physicians per 1000 population in 2010 (Figure 5). There are 819 medical doctors and 5,816 nursing staff (Statistics Botswana 2016). Information on physicians and nurses distribution within PHC was not available.

**Figure 5. Physicians per 1000 Population: Botswana and Comparators, 1980-2013**



Source: World Bank (2015) and WHO (2015)

At a national level, clinics are the most frequently used health facility for outpatient care. Data from the 2010 Botswana Health Statistics indicate that 66 percent of all outpatient attendances (visits) were at clinics, followed by health posts (21 percent), referral and district/general hospitals (7 percent), and primary hospitals (6 percent). This pattern, which is consistent with government health policies, reflects the fact that clinics and health posts are the most numerous of all types of health facilities, most geographically dispersed, and therefore the most accessible. Table 3 gives other health statistics.

**Table 3. Health Statistics by Patient Care Services**

Patient Care Services	Number
Total admissions	163,124
Total discharges	158,482
Patient days	1,097,304
Bed occupancy rate (%)	70
Average length of stay (days)	7
Total outpatient attendance	4,459,000

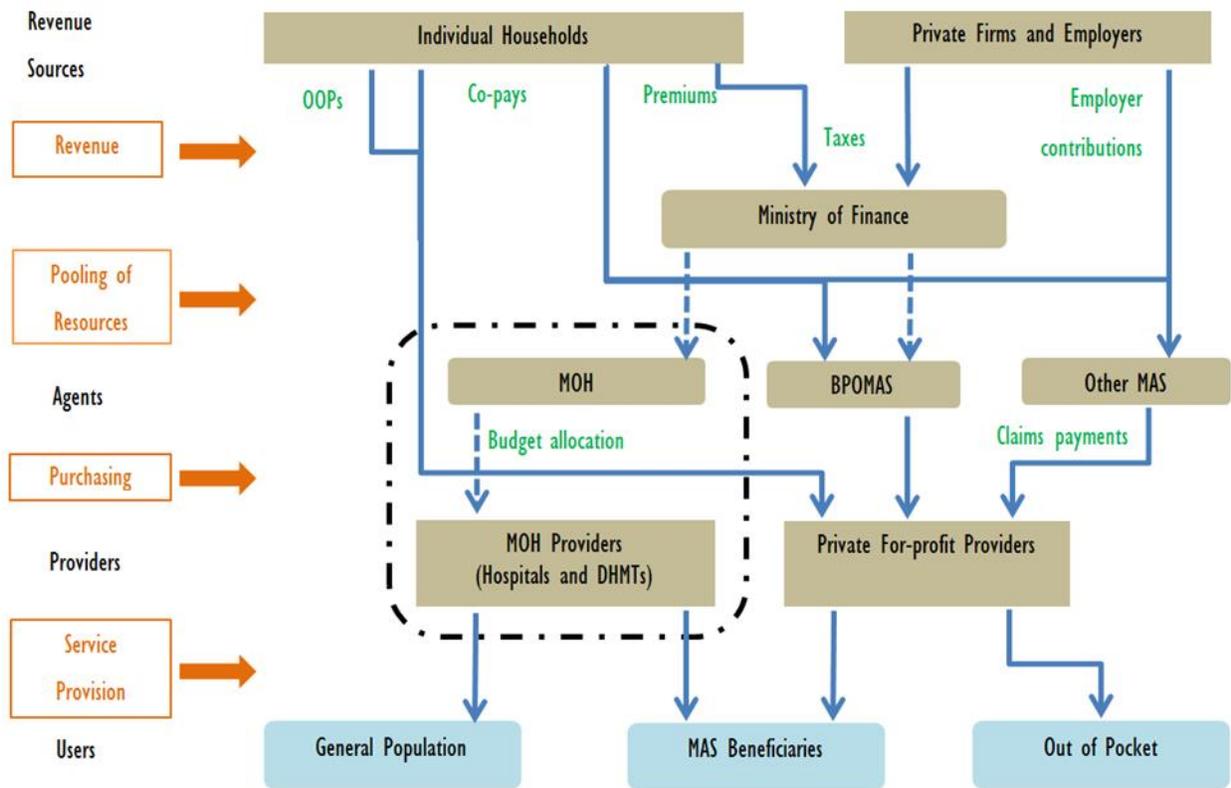
Source: Statistics Botswana (2016)

More detailed information on PHC performance (e.g., number of visits per post/doctor/nurse, morbidity statistics in PHC) is not available. Besides that, a significant portion of health expenditure data cannot be allocated to any provider, function, or disease category, primarily due to lack of disaggregated information.

## 2.2 Financing Flows

The public health system is predominantly financed by government revenue collected from households and firms, while Medical Aid Schemes (MAS) are funded by contributions from firms and individual premiums (Figure 6). The MoHW and MAS represent risk pools for their respective beneficiaries. The MoHW allocates funds directly to hospitals and DHMTs, which provide services to the population. Meanwhile, MAS purchase services from private sector providers on behalf of members, who also may also pay co-payments. The funding flows under Botswana’s current health financing arrangements produce risk pools that are fragmented among different segments of the population and operate counter the principles of universality and equity. Furthermore, dangerous segmentation could lead to financial unsustainability of individual risk pools.

**Figure 6. Current Health Financing Arrangements and Flows**



Source: Gutierrez et al. (2017)

The Government Accounting and Budgeting System (GABS) is used to collect and report public sector financial data.

## 2.3 Budgeting

As mentioned above, in Botswana, there is no purchaser-provider split or contractual arrangements between MoHW and public facilities. Officially, a budgeting process starts with the definition of the budget ceilings by the Ministry of Finance. MoHW budget ceilings for 2017-2021 are presented in Table 4.

**Table 4. Budget Ceilings for the Period 2017-2021 for the Ministry of Health and Welfare**

MoHW	Recurrent Budget (BWP)	Development Budget (BWP)
2017/18	6 586 975 640	639 030 800
2018/19	6 982 588 120	836 043 776
2019/20	7 165 232 730	982 385 573
2020/21	7 358 879 100	603 363 573

Source: Authors own compilation based on the data acquired by the MoHW

Next, providers are invited to develop budget proposals (Figure 7) and to submit the proposals to the MoHW. Any expenditure greater than the expenditure for the previous financial year must be fully justified and in line with GoB and Ministry priorities due to the very limited financial resources.



**Figure 7. Template of the Budget Call (“Savingram”)**

**SAVINGRAM**

**FROM:** Ag. Permanent Secretary  
Clinical Services .....  
O.L. Seleke/DPS

**TEL:** 390 5404/363 2343

**FAX:** 393 2706

**To:** Hospital Superintendent 1/Head DHMT: Nyangabwe Referral Hospital  
Princess Marina, Sbrana  
Senior Consultant: National Health Laboratory  
Chief operating officer: Central Medical Stores  
Hospital Superintendent 11/Head DHMT: District Hospitals  
Chief/Senior Medical Officers/Head DHMT: Primary Hospitals  
Divisional Heads and Sectional Heads: Headquarters

**REFERENCE:** DCS 2/9/1 11 (2) 10<sup>th</sup> June 2016

**PREPARATION OF RECURRENT EXPENDITURE ESTIMATES FOR THE YEAR 2017/2018**

The 2017/2018 budget cycle has commenced and you are reminded to start preparing your recurrent expenditure and revenue estimates for the same.

As we prepare the budget let us take note of the following:

- Your budget ceiling shall be the 2016/17 sub warranted provision i.e. budget allocation. Anything above that will have to be fully justified and be in line with government and Ministry priorities.
- Let us remember that financial resources are very limited and therefore try to prioritise our activities and spending pressures.
- Travel votes continue to be frozen in order to maintain financial discipline and therefore cannot be requested for above the ceiling.
- Non recurring expenditure like office furniture & equipment and replacement of computers should be well articulated as otherwise they are netted from the ceiling.
- Each vote must be fully justified and itemized in quantities and in unit price.
- Budget justifications are to be provided in Microsoft word in both soft & hard copies.
- Expenditure summary should be submitted in an Excel spreadsheet and complete the attached table of expenditure summary which shows the actual expenditure 2015/16, approved budget 2016/17 and the proposed budget for 2017/2018 and all figures to be rounded to the nearest P10.00

Please submit your budgets to Assistant Director (Finance and Development) – Clinical Services on or before the 30<sup>th</sup> of June 2016 and email soft copies to [oseleke@gov.bw](mailto:oseleke@gov.bw) and [gkefhakae@gov.bw](mailto:gkefhakae@gov.bw)

Thank you.



*Vision: A Model of Excellence in Quality Health Services.*  
*Values: Botho, Equity, Timeliness, Customer Focus, Teamwork.*



Following a preliminary examination of proposals, the MoHW assigns budgets to facilities primarily based on historical data, again taking into account the MoHW overall budget from the Ministry of Finance. There is no formula for allocating the budgets to facilities. The MoHW then sends the

Departmental warrant to the providers, informing them about their budget for the financial year. The annex to the Departmental warrant shows providers their itemized budget (Figure 8). It is possible to make small reallocations between the budget lines, but they must be approved by the MoHW. As can be seen, no line items reflect and promote the quality of care and performance indicators.

**Figure 8. Illustrative DHMT Departmental Warrant and Itemized Budget**

REPUBLIC OF BOTSWANA DEPARTMENTAL WARRANT (To be prepared in quadruplicate)							Form No. T.32 Revised August 2004
To: Head of DHMT THAMAGA DHMT		No 09748		of		2018	
1. You are hereby authorized to expend during the year ending 31st March, 2018 the amounts specified below as they become due in accordance with standing financial and accounting regulations. 2. A return of expenditure incurred under this Authority (with copies of relevant payment vouchers) should be forwarded to me at the end of each month and you will be careful to see that the expenditure incurred does not exceed the amounts authorized. 3. The number of this Departmental Warrant must be quoted as the authority on all payment vouchers stores issue notes, rail warrants, etc.							
Signed.....							
Date: 1 <sup>st</sup> April 2017							
5. Katjinojwa Designation: Chief Finance Officer For / Permanent Secretary							
Organization	Account	Cost Centre	Project No.	Source of Funds	Amount P.	Remarks	
1108				5	7,778,250.00	Funds released for the Financial Year 2017/2018 as per attached. Over expenditure will be liable to surcharge.	
NOTE: Original to be sent to officer incurring expenditure. Duplicate to be sent to Sub-Accountant through whom expenditure will be incurred. Triplicate to be sent to Accountant-General. Quadruplicate to be sent to Auditor-General.							

ACCOUNT	ACC DESCRIPTION	APPROVED Budget 2017/2018
108.00114.09748	Casual Labour	150 000.00
108.00115.09748	Temporary Assistance	105 500.00
108.00124.09748	Leave Travel Concession	175 000.00
108.00201.09748	Transportation Costs (Internal)	79 790.00
108.00202.09748	Subsistence Costs (Internal)	443 610.00
108.00204.09748	Petrol, Oil and Lubricants	200 000.00
108.00205.09748	Mercy Flights & Trp of Patients	10 000.00
108.00409.09748	Incidental Expenses	25 000.00
108.00414.09748	Office Supplies	200 000.00
108.00417.09748	Postal Charges	4 000.00
108.00422.09748	Service Charges	3 195 900.00
108.00707.09748	Fire Fighting	85 000.00
108.00814.09748	Minor Works	250 000.00
108.00903.09748	Domestic Supplies	800 000.00
108.00904.09748	Drugs, Dressings and Vaccine	1 000 000.00
108.00907.09748	Food	260 000.00
108.00911.09748	Maintenance Of Office Furniture & Equip.	50 000.00
108.00912.09748	Maintenance of Grounds.	20 000.00
108.00924.09748	Uniform & Protective Clothing	214 450.00
108.01347.09748	Hospital Advisory Committee	35 000.00
108.01422.09748	Seminars & Workshops Committee Conferences	200 000.00
108.04303.09748	Air Conditioners	225 000.00
108.04314.09748	Furniture And Equipment	50 000.00
	<b>TOTAL</b>	<b>7 778 250.00</b>

As also seen in the itemized budget above, health facilities, which are basically units of the MoHW, are only informed about a portion of their budget; the budget for the salaries and allowances of their staff (Basic Salaries and Allowances) is part of the MoHW headquarters budget, the budget for laboratory services is under the National Health Lab, and the budget for their drugs, dressings, vaccines, and ARVs is under the Central Medical Stores (CMS) budget. (The line item for drugs, dressings, and vaccines in the DHMT budget can be used only for emergency procurements if the items are not available at the CMS.) This fragmentation of financing does not create any space for increased efficiency on the part of providers or facilities; on the contrary, providers are not aware of their total budget as they do not have to take care of it.

The total budget for the clinical services in FY2018 is 5 307 262 680 BWP. Out of that, 3 385 935 020 BWP is the headquarters budget. As described above, this includes the budget for the salaries and allowances for all employees in the health sector. Only 1 921 327 660 BWP (27.5% of the MoHW's recurrent budget) remains for the provision of drugs and medical supplies, and for all other costs. Most of that budget is under the CMS (1 489 782 090 BWP).

According to the 2006 World Health Report (WHO 2006) "A typical country devotes just over 42% of total general government health expenditure to paying its health workforce. " It seems that Botswana is well above that average.

## 2.4 User Fees (Co-payments)

Like many other countries, Botswana charges user fees at the point of service provision. (The co-payment for a PHC visit is 5 BWP.) The reason for this usually is to generate additional revenue for the facility and/or to discourage excessive service use. In Botswana, user fee revenue goes to the treasury; health facilities are not allowed to retain any of it. Because of that, and because they sometimes lack staff to collect the fees, health facilities are not interested in collecting co-payments.

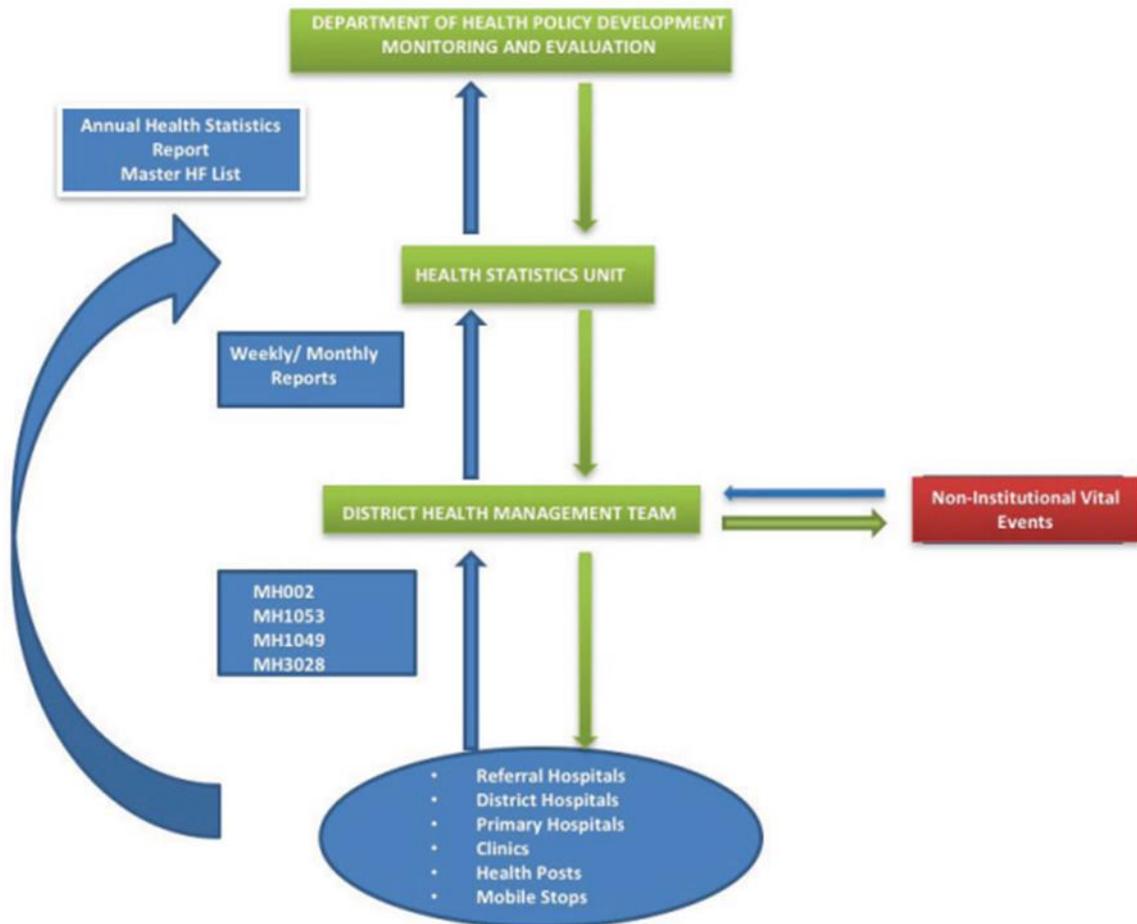
For example, the study team visited Greater Gaborone DHMT (Nkoyaphiri Clinic) and was informed by the DHMT coordinator that 1.7 million visits – worth 8.5 million BWP from user fees – to health facilities were made in that district in 2017. The actual amount collected was minor. The 8.5 million BWP would have been an important increment to the DHMT's FY2018 budget of 11 181 820 BWP had health facilities been incentivized to collect the fees.

## 2.5 Information Systems

Availability and quality of data are essential for the evaluation and planning of health programs (Figure 9). Botswana uses three types of electronic health information systems to collect health data: (i) the Integrated Patient Management System (IPMS), used in hospitals and some clinics to collect patient diagnostic information. The rollout of IPMS to clinics is ongoing; (ii) the Patient Information Management System (PIMS), developed primarily to collect data on antiretroviral therapy (ART); and (iii) the District Health Information System 2 (DHIS2), used to aggregate health data from all facilities in the country. All of these systems are used to collect health-related information – they do not collect any financial information on the patient level although IPMS has the functionality for collecting financial information at patient level (Billing and Accounts Receivable module).

IPMS is integrated with the National Health Lab and the results of lab tests are available online. A large number of facilities currently do not have internet connectivity and that is a key obstacle to further implementation of the health information systems.

Figure 9. Current Health Statistical Data Flow System



Source: Health Statistics Stats Brief 2007-2015

Despite MoHW efforts to improve the Information and Communication Technology (ICT) platform at public health facilities, the existing systems remain fragmented (at both the patient and district levels). The current Health Management Information System (HMIS) is not able to deliver the timely information that is required for decision making and supporting planning, resource allocation, performance management, accountability, oversight, and monitoring and evaluation of the health delivery networks. Moreover, MoHW management lacks access to online real-time key performance indicators on utilization of health services, financial management, human resources, supply management, quality of care, and other oversight tools and dashboards. The MoHW is making substantial efforts to address HMIS needs and to develop the MoHW ICT platform.

While the integration of these key HMIS tools using a common ICT platform takes place, current public health facility reporting feeds mainly from the MoHW data warehouse through an elaborate, semi-automated process. The potential for strengthened and integrated HMIS to improve health outcomes is particularly acute. For example, although the Botswana National Tuberculosis Program (BNTP) routinely reports some minimal HIV data, the data collection systems within the Department of HIV/AIDS Prevention and Care (DHAPC) remain unable to provide accurate clinical information about tuberculosis.

Health facilities also report on a monthly basis (via Excel file) on ARV roll-out, number of mobile stops, BOTSOGO PITSO (Performance Improvement Committees where communities evaluate health staff performance) report on Issues Raised by the Community, number of doctors and frequency of visits, number of nurses in health posts, collection of clinical waste, clinical audits, DHMT supervisory visits, and number of home visits.

ART reporting is similar. Facilities report on a monthly basis (via Excel file) on the number of patients on ART (total and gender-disaggregated), number of children  $\leq 12$  years on ART, cumulative deaths while on ART, initiated on ART (total and disaggregated for hospitals and clinics), number of tests performed, number of medical male circumcisions (MMCs) performed, etc. In December 2017, 317 945 patients were on ART (297 765 in the public sector and 20 180 in the private sector).

It is obvious that there is a need to strengthen HMIS data, to ensure availability of recent estimates of disease unit cost and address data gaps in the use of health services. This will help the GoB to get a more detailed picture of health utilization in Botswana.

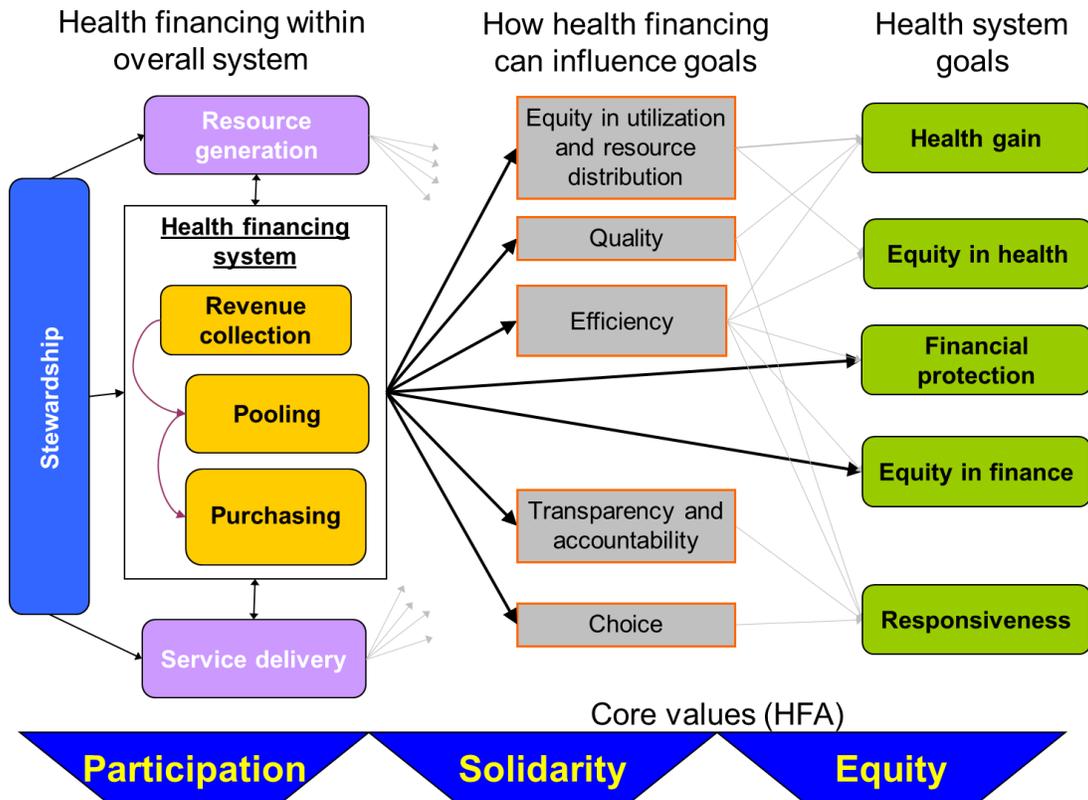
### 3. PURCHASING OF HEALTH SERVICES

Health financing systems play a critical role in achieving the goals and objectives pursued by modern health systems. The World Health Report 2000 (WHO 2000) identified health financing as one of the four functions of the health system together with stewardship, resource generation (investment in human and physical capital and inputs), and service delivery (personal health care and population-based health services). The health financing system consists of specific sub-functions and policies: revenue collection, pooling of funds, purchasing of services, and policies to define and ration benefit entitlements.

Health financing must be based on financial fairness to the service provider, while the criteria for allocating resources should be the needs of the population and the quality of health care. The ideal financing system maximizes the cost effectiveness of implementing health services as well as the cost efficiency of improving the health of the entire population, but it does not have a direct effect on the number of services provided. A fair method of resource allocation creates incentives to change provider behavior, and has an impact on the efficiency, equality, and quality of the health care reform results.

The connection between health financing, other system functions, health financing policy objectives, and overall health system goals is summarized in Figure 10.

**Figure 10. Links Between Health Financing System and Policy Objectives, Other System Functions, and Overall System Goals**



Source: Kutzin et al. (2010)

This chapter will mainly consider the purchasing sub-function but its relationship with other components of the health care system has led to the need for analysis and evaluation of a number of other parameters of the financing system.

**Purchasing** is a contractual relationship between the purchaser and the provider that specifies the price, quantity, and quality of a defined package of services to be delivered within a defined period. The World Health Report 2000 (WHO 2000) distinguished between passive and strategic purchasing:

- **Passive purchasing** means following a predetermined budget or simply paying bills when presented. It offers little incentive for providers to enhance quality and efficiency when they deliver care.
- **Strategic purchasing**, also called active purchasing, involves a continuous search for the best ways to maximize health system performance by deciding which interventions should be purchased, for whom, how, and from whom. It involves a proactive and explicit decision-making process, with predefined outputs and outcomes based on population needs, including the burden of diseases. It links funding with the delivery of predefined products or services. In doing so, strategic purchasing improves allocation of resources and enhances service delivery to maximize population health and enhance financial protection. Unlike passive purchasing, strategic purchasing recognizes the scarcity of health care funding and thus focuses on existent and emerging priorities.

Strategic purchasing should be linked with strategic goals to ensure a continuous process of rationalization and reorganization of the health care system. The main goal is setting up a flexible and responsive health care system that will effectively satisfy needs of the population with quality and safe health care services. Assessment of real needs of the population based on objective criteria of population morbidity, demographic trends, economic development, and health technologies is the rationale behind defining the basic benefit package.

Over the past decade, many countries have paid attention to the need to move from **passive purchasing** to **strategic purchasing**, which at a minimum requires linking at least some of the provider allocation to information regarding their performance and the health needs of the population. In addition, moving from **passive purchasing** to **strategic purchasing** is a very important process for achieving universal health coverage, a main priority for many countries.

Being selective may not always be feasible, particularly where there is only one health care provider in a geographic area. But wherever possible, purchasers should make explicit decisions on which providers to contract considering issues such as providers' location relative to the population, their ability to provide an appropriate range of services, and quality of care. Where selection is not possible, clear systems for performance and quality improvement are needed.

The strategic purchaser of personal health services contracts directly with public and private facilities at the relevant level of care through strategic purchasing arrangements. The contracting should be based on pre-determined criteria to realize value for money, accountability, equity, and other goals. A summary of key elements that need to be in place to ensure strategic purchasing are shown in Table 5.

**Table 5. Key Elements of Strategic Purchasing**

**Key strategic purchasing actions in relation to providers:**

- Select providers – range and quality of services, location;
- Establish service agreements/contracts;
- Develop formulary (of generic drugs, surgical supplies, prostheses, etc.);
- Design, implement, and modify provider payment methods to encourage efficiency and service quality;
- Establish provider payment rates;
- Secure information on services provided;
- Monitor provider performance and act on poor performance
- Audit provider claims;
- Protect against fraud and corruption;
- Pay providers regularly and on time;
- Allocate resources equitably across areas;
- Implement other strategies to promote equitable access to services;
- Establish and monitor user payment policies;
- Develop, manage and use information systems.

**Key strategic purchasing actions in relation to citizens / population served:**

- Assess the service needs, preferences, and values of the population and use to specify service entitlements/benefits;
- Inform the population of their entitlements and obligations;
- Ensure population can access their entitlements;
- Establish effective mechanisms for complaints and other feedback from the population and respond;
- Publicly report on use of resources and other measures of performance.

**Key actions by government to promote strategic purchasing:**

- Establish clear frameworks for purchaser and providers;
- Fill service delivery infrastructure gaps;
- Ensure adequate resources mobilized to meet service entitlements;
- Ensure accountability of purchaser.

It is obvious that strategic purchasing should include proactive decisions about which services should be purchased, how, and from whom. The next sections will briefly describe each of these functions.

### 3.1 Which Services to Purchase

Development of the UHSP is a key element in establishing the publicly funded health care system. A UHSP depends on many factors, such as a country's health infrastructure, human resources, technology, and budget, and constraints related to geography, culture, and other issues. In low- and middle-income countries, limited resources put stronger pressure on priority setting than in higher-income countries, where the UHSP can evolve together with increasing health funding.

As a health policy tool, the UHSP should change over time, adapting to health system organization and financing, and reflecting public expectations. A UHSP can be “positive,” meaning it lists covered health conditions or services, or “negative,” meaning it lists services which are not covered or paid for.

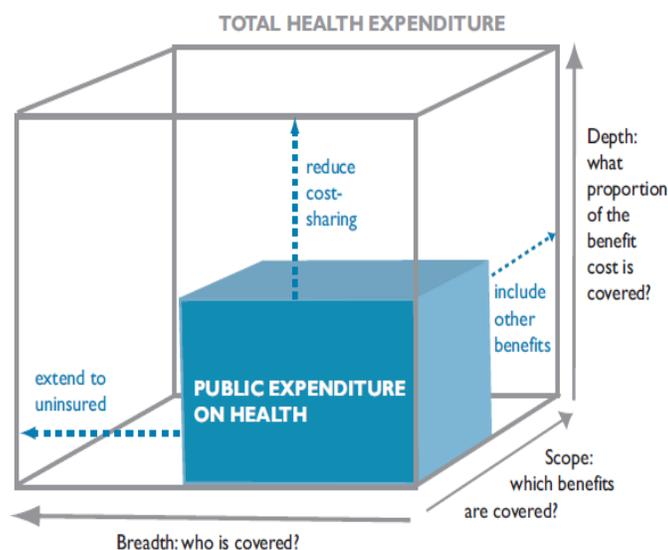
Assessment of health care needs should be aimed at prioritization of strategic purchasing needs in the country's interest and maximization of the effectiveness of budget expenditures in the public interest. The process to determine the needs of the population can be implemented in three main areas:

- Comparison of disease rates and core strategic statistics (e.g., causes of death) in Botswana with other countries in the region;
- Analysis of the consumption of health care by different gender and age groups, including the registration and monitoring of patients with chronic diseases; and
- Population-based surveys and other sources of information to assess access to and quality of care, and people's expectations of the health care system.

Based on the health needs assessment, a country can move toward an explicit benefit package. The UHSP is usually considered in three dimensions, listed below and depicted in Figure 11:

- **WHO** (which part of the population) is covered?
- **WHAT** (which services) is covered?
- **HOW MUCH** of the cost is covered?

Figure 11. The Three Dimensions of a UHSP



Source: WHO (2010)

- **Breadth of the cube** - This refers to population coverage under universal coverage, where the whole cube is covered.
- **Scope of the cube** - This refers to services covered. A comprehensive health care package includes: prevention of disease, promotion of health, treatment of disease where prevention has failed, and rehabilitation.
- **Depth of the cube** - This refers to the extent to which individual households are protected from exposure to financial risks associated with health. Households exposed to financial risks due to illnesses are sometimes driven into poverty.

Most countries are trying to achieve better health outcomes with an equal or lesser amount of financial resources. Population aging and enhanced medical technologies will only increase the need for health care resources. This in turn increases the need for health services to be procured through strategic purchasing rather than "mechanical" budget allocation. The strategic purchaser must use a set of economic, organizational, and administrative incentives aimed at improving the efficiency of the administration of public resources. This includes optimizing and modifying service delivery patterns at primary, secondary, and tertiary levels.

In Botswana, PHC is still not a formal gatekeeper to specialized care – as this report notes repeatedly, many people bypass PHC to seek care at higher-level facilities, contributing to overuse of emergency departments and hospitals. Our discussions with providers and administrators at facilities showed that trust in PHC is still rather low. To increase both trust and use of PHC, this level of care should offer patients clear advantages: easy and timely access, efficient and high-quality management of main health problems, and so forth. Increased use of PHC will also benefit providers: the number of PHC physicians tends to rise when the health care system uses gatekeeping, because patients must rely on general practitioners (GPs) for first contact, and for referral only if more expensive specialist care is necessary.

Currently, there are several vertical health programs in the country, paid for by donors or other public or private funding sources. Eventually this funding will end and the programs will be given over to state responsibility. Development of the UHSP should take into account the services these programs provide as they present considerable costs that will have an impact on overall financial sustainability, if not covered from other public sources.

For a purchaser to be strategic in the services it buys, it needs information on how cost effective the available interventions for services included in the UHSP are. This calls for the development and utilization of a health technology assessment (HTA). An HTA evaluates the cost effectiveness of health services, drugs, and devices based on international benchmarks and consideration of local conditions. Not all services in the UHSP must immediately pass the HTA, but the capacity to utilize HTAs in decision-making should be developed starting with those services or medical technologies that are new in Botswana but for which there is evidence from other health systems, e.g., screening programs, prevention programs, and diabetic medical devices.

## 3.2 From Whom to Purchase the Service

An essential principle in most modern health systems is that public health facilities should have independence in strategic and operational decisions and resource management. However, in countries like Botswana, public facility managers can only supervise public resources utilization. They cannot make real allocative decisions about financial and human resources and infrastructure: they have almost no authority over spending, staff levels, staff selection, and capital. They lack autonomy to perform the usual range of management functions such as planning, organizing, leading, and controlling resource utilization. Therefore, they are not able to optimize the use of the resources the government allocates to the

facility, say through strategic staffing or pharmaceutical management, and they cannot prioritize areas that best respond to patient needs.

Nor is there a reward system for managers, other than the negative possibility of reassignment. Physicians and health workers are civil servants with job guarantees, and staff are promoted based on civil service rules, independent of patient satisfaction or efficient use of resources. This lack of management responsibility and accountability affects the delivery of health care. For example, there are geographic barriers to health care access, with regions differing considerably in availability of primary and specialist services. Work in small villages should be made more attractive for health providers, such as by offering bonus payments to incentivize them to work in such areas.

Selective contracting is an important tool to improve the performance efficiency of health providers. In Botswana, the current health financing system works to support the existing infrastructure and the historical level of financing of health facilities rather than encourage improvements of quality and efficiency. Nevertheless, it is possible to carry out a targeted contracting of certain types of care based on objective clinical and economic criteria, within the current system.

### 3.3 For Whom to Purchase the Service

Universal health coverage and equitable access to quality health services and financial protection for all are ultimate goals of all publicly financed health systems. A connection between comprehensiveness of medical coverage and health outcomes is obvious from many examples in the world.

In Botswana, patients may freely choose their provider without any restrictions. Patients do not register with a PHC provider, and they can seek services at secondary and tertiary levels without a referral from the PHC level. That said, other factors limit access to needed and good-quality health services; as noted in the preceding section, geography constrains access in rural areas.

After having assessed the access deficit, a comprehensive 'national coverage plan' could be developed that would include the improvement of health financing mechanisms and building of rational links between different levels of care.

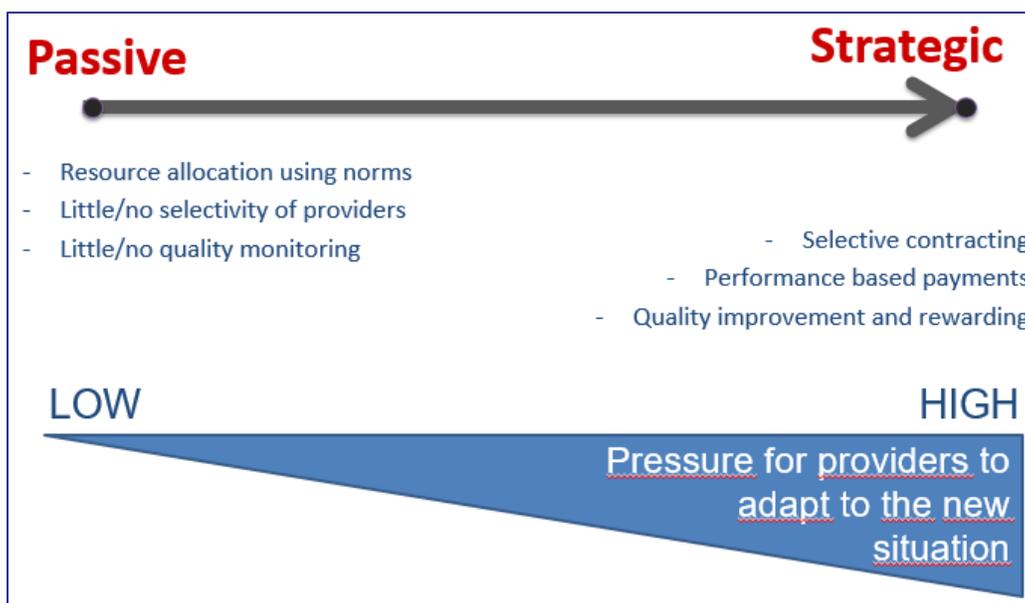
Another problem is that the population is not informed of the performance and quality of different providers because there are no widely published reports on key performance and quality indicators.

### 3.4 How to Buy the Health Care Services

As already described, purchasing goes well beyond the mere contracting of providers. It includes the central role played by citizens and their governments as well as by providers' organizational forms. Purchasing entities are allocating money to health care providers, on behalf of patients, in exchange for health services. This includes a set of relationships (e.g., purchaser-provider; government-purchaser; purchaser-patient) and a set of mechanisms (or "tools") to achieve certain objectives in the purchasing process (e.g., contracting, health needs assessments).

Strategic purchasing should lead to a maximization of overall health gain from available resources (i.e., increased allocative efficiency) as it is shown in Figure 12.

Figure 12. Moving from Passive to Strategic Purchasing



Source: Health financing for UHC, WHO

Payment methods are difficult to design and need to be continually reviewed and refined through collaborative work. The challenges are best met if large numbers of health professionals are informed of ideas being considered and have the opportunity to contribute their own ideas as well as to comment on the ideas of others. This might require a variety of profiles from physicians, nurses, and hospital managers to economists, lawyers, and IT specialists.

In Botswana, existing consultative bodies can be strengthened and their ways of working need to be reviewed. In addition, the MoHW can communicate more widely with health professionals and ensure that comments and criticism will be welcome at all times from all health professionals. For example, several countries have what is termed a Clinical Classification Committee that is responsible for generating ideas about classifications used for payment purposes. Botswana could consider establishing such a committee or making use of established bodies to deal with these kinds of issues.

In addition to extensive collaboration, the process of designing payment reforms requires a focus on external and internal experiences where there has been a satisfactory degree of objective evaluation. However, new information is continually emerging, and the sharing of experiences with other health systems will be an ongoing task, as will be learning from own experiences. A process of monitoring and evaluation therefore has to be established to ensure this happens.

As Botswana reforms its health system, it should also avoid mindlessly following approaches used elsewhere, even if they have been largely evidence-based. Successful health care financing reforms are necessarily path dependent and should be based on a country's historical and cultural development, current socioeconomic and political realities, and the interests of all stakeholders.

### 3.4.1 Classification of patients' diagnoses and service procedures

Basic ideas of disease classification emerged from medical professionals in the eighteenth century. A classification of causes of death was adopted by the International Statistical Congress in 1855 and revised several times. From 1900, classifications of diseases for morbidity reporting purposes were integrated into the causes of death classification. This classification was modified six times before being

adopted internationally in 1948 by the First World Health Assembly. Since then, it has been updated several times. The current version is ICD-10, the International Statistical Classification of Diseases and Related Health Problems, formally adopted by WHO Member States in 1993. Botswana adopted ICD-10 for diagnoses but it still not widely used. Only around 100 health professionals have been trained in ICD-10 coding and the last training was provided in 2014.

WHO Member States adopted a classification of procedures, the International Classification of Health Interventions, but it is not widely used. Instead, the most widely used procedure classifications are the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Australian Classification of Procedures (ACHI). Procedure classification is not used in Botswana. Table 6 lists diagnosis and procedure classifications used in selected countries.

**Table 6. Diagnosis and Procedure Classifications in Selected Countries**

Country	Diagnosis Coding	Procedure Coding
Australia	ICD-10-AM	ACHI
Austria	ICD-10	ACP
Belgium	ICD-9-CM	ICD-9-CM
Canada	ICD-10-CA	CCI
Croatia	ICD-10-AM	ACHI
Czech Republic	ICD-10	ICPM
Estonia	ICD-10	NCSP
France	ICD-10	CDAM
Germany	ICD-10 SGBV	OPS
Great Britain	ICD-10	OPCS
Netherlands	ICD-9-CM	CVV
New Zealand	ICD-10-AM	ACHI
Norway	ICD-10	NCSP
Portugal	ICD-9-CM	ICD-9-CM
Singapore	ICD-10-AM	ACHI
Spain	ICD-9-CM	ICD-9-CM
Sweden	ICD-10	NCSP
Switzerland	ICD-10	ICD-9-CM
United States	ICD-9-CM	ICD-9-CM

### 3.4.2 Provider payment methods

A main objective of health provider payment methods is to influence the behavior of health providers and by so doing, ensure implementation of health policy goals. Payment methodologies and policies are a critical determinant of the success of any health care system, and they can be evaluated from different perspectives: relative financial risk to physicians and other providers, potential for overtreatment or undertreatment of patients, and so forth.

Worldwide, health systems use a variety of provider payment methods. Basic methods are salary, per capita payment (capitation), fee for service, per diem, line-item budget, global budget, case-based (diagnosis-related groups, DRG), and pay for performance (P4P), also called performance-based payment and value-based purchasing. Each method creates powerful incentives affecting provider behavior and

the efficiency, equity, and quality outcomes of health finance reforms. Definitions, advantages, and disadvantages of different payment methods are summarized in Table 7.

**Table 7. Definitions, Advantages, and Disadvantages of Different Payment Methods**

<b>Payment Method</b>	<b>Definition</b>	<b>Main Advantages</b>	<b>Main Disadvantages</b>
<b>Salary</b>	- Health care providers are employed on salaries for the government	- No incentive to provide excessive treatment and deny access of patient	- Can lead to under-provision of services, excessive referrals, lack of attention to patient preferences  - Less incentive to pay attention to quality of care
<b>Capitation</b>	- Providers are paid for each patient on their "list," usually with adjustments for factors such as age and gender  - Unit of output is the coverage of all predefined services for an individual for a fixed period, usually one month or one year	- Predictable expenses for the fund holder  - Provider has incentive to operate efficiently  - Eliminates supplier-induced demand	- High registration but under-served patients  - Financial risk may bankrupt provider  - Provider may seek to minimize risk by "cream skimming" (enrolling low-risk patients)
<b>Fee for Service (no fee schedule)</b>	- Reimbursement for specific, individual services provided to a patient	- Incentives to provide services	- Unpredictable expenses for fund holder  - Cost escalating: strong incentives for supplier-induced demand
<b>Fee for Service (with fixed fee schedules)</b>	- Reimbursement for specific, individual services provided to a patient	- Incentives to operate efficiently  - Efficiency is greatly enhanced when combined with a global budget cap	- Unpredictable expenses for fund holder  - Cost escalation: incentives for supplier-induced demand  - Higher administrative costs (price controls must be established, revised periodically and enforced)

<b>Payment Method</b>	<b>Definition</b>	<b>Main Advantages</b>	<b>Main Disadvantages</b>
<b>Line Item Budget</b>	- Allocation of a fixed amount of funds to a health care provider to cover specific line items (or input costs), such as personnel, utilities, medicines, and supplies, for a certain period	- Allows strong central control, desirable where local management is very weak - Predictable expenses for fund holder (unless supplemental budgets provided)	- No direct incentives for efficiency - Provider may underprovide services - Imposes fixed resource use, directly impeding efficiency - Unnecessary spending at end of year, “use it or lose it” attitude
<b>Global Budget</b>	- Allocation of a fixed (global) amount of funding is distributed to each hospital, to pay for all hospital-based services for a fixed period of time (commonly one year).	- Predictable expenses for fund holder, low administrative costs - Unified budget permits resources to be used efficiently	- No direct incentives for efficiency - Provider may underprovide services - Difficult to reallocate resources across hospitals or departments
<b>Per Diem</b>	- Payer reimburses the provider a fixed rate for each day a patient is hospitalized	- Incentives to reduce services per day	- Incentives to increase length of stay and increase admission rate

Payment Method	Definition	Main Advantages	Main Disadvantages
<b>Case-based</b>	<ul style="list-style-type: none"> <li>- Providers receive a fixed, preestablished payment for each case. Cases are patients who receive health services for a condition or disease</li> <li>- Patients classified to the same group have similar diagnoses and treatments, consumption of resources, and lengths of stay</li> </ul>	<ul style="list-style-type: none"> <li>- Strong incentives to operate efficiently</li> <li>- It is associated with a reduction in the average length of hospital stay</li> </ul>	<ul style="list-style-type: none"> <li>- Unpredictable expenses for fund holder, high administrative costs (but less than fee for service)</li> <li>- Provider has incentives to select low-risks within case categories (“cream skimming”)</li> <li>- Intentional regrouping of patients to more resource intensive DRG classifications in order to increase hospital income (“DRG creep”)</li> <li>- Less suitable for outpatient care (difficult to define case)</li> <li>- Cost shifting to non-DRG patients</li> </ul>

Payment Method	Definition	Main Advantages	Main Disadvantages
<b>Pay for Performance (also known as "P4P" or "value-based purchasing")</b>	- Payment or financial incentive (e.g., a bonus) associated with achieving defined and measurable goals related to care processes and outcomes, patient experience, resource use, and other factors	<ul style="list-style-type: none"> <li>- Increase motivation for specific objectives</li> <li>- Can take account of quality, quantity, and outcome</li> <li>- Penalizes caregivers for poor outcomes, medical errors, or increased costs</li> <li>- Potential to encourage collaboration and promote accountability among providers, and encourage improvement by emphasizing outcomes of care</li> </ul>	<ul style="list-style-type: none"> <li>- Can mislead if only used to measure quality and not quantity</li> <li>- More factors motivate performance</li> <li>- Provider has incentives to select low-risks within case categories ("cream skimming")</li> <li>- Programs with rigid measures and standards could create incentives for physicians to avoid high-risk patients and fire noncompliant ones</li> <li>- The administrative work associated with data collection and reporting may take time that otherwise could be devoted to direct patient care</li> </ul>

Adapted from: Barnum et al. (1995)

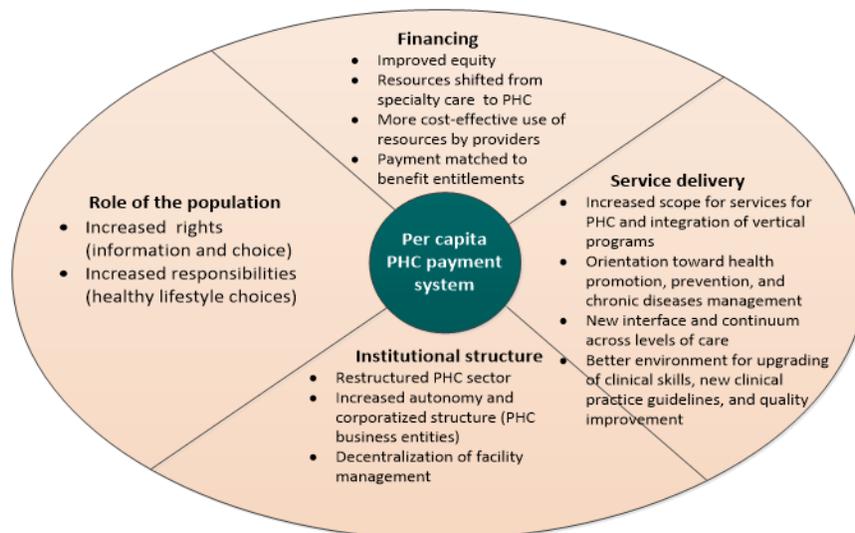
## 4. PER CAPITA PAYMENT WITH PERFORMANCE INCENTIVES

Given Botswana's experience and technical capabilities, this report suggests adopting the capitation payment method as a first reform aimed at strategic health purchasing.

### 4.1 Per Capita PHC Payment Systems

A per capita PHC payment system can serve as a transition and trigger for more comprehensive reform, by facilitating major change along the four axes of the health care system: financing, service delivery, institutional structure, and the role of the population (Figure 13).

Figure 13. Axes of Per Capita PHC Payment System Impact



Source: Langenbrunner et al. (2009)

**Financing.** A per capita PHC payment system is a mechanism for quickly increasing equity in the allocation of resources for basic health care services, for increasing transparency in resource allocation, and for shifting resources to PHC from the outpatient specialty and hospital sectors. Firstly, in setting the capitated rate, it allows the health purchaser to administratively equalize (and possibly risk adjust) the amount of resources allocated per person, and to shift resources to primary care.

Eventually, the use of capitation should be linked to individual-level enrollment of the population with facilities, or even with particular providers. This is an incentive for providers and individual physicians to actively engage people to sign up, in a population-based health approach.

Secondly, when implemented together with increased management autonomy and population choice, a per capita PHC payment system creates financial incentives for providers both to make more cost-effective internal resource allocation decisions to attract more patients, and to keep costs low and generate a surplus.

Lastly, a per capita PHC payment system allows the health purchaser to directly match payment to health services entitled to and received by the population under a government-approved benefit package.

**Service delivery.** Per capita PHC payment systems can drive significant changes in which services or interventions are provided and how they are delivered. Such systems link directly to the package of services that providers must offer to their enrolled populations. Therefore, the payment system is a mechanism for defining and gradually increasing the scope of services provided at the PHC level while at the same time focusing on those interventions that are most cost effective. For example, if we reward PHC with a bonus of 1 pula for each HIV/AIDS patient retained in care after one year, the clinical team will work hard to retain patients.

Over time as the financial incentives of the per capita payment system become significant for providers, they will respond with changes in their input use and output mix in order to lower their costs and generate a surplus. These changes in their service mix are likely to favor lower-cost health promotion, disease prevention, and chronic disease management services rather than more expensive curative care. Providers should be paid for keeping people well, not just for treating sick patients. If PHC providers keep their populations healthy, they may generate savings, which can be used, for example, to buy more drugs or equipment or to add other services for their populations.

A per capita payment system may also influence how services are delivered. In some cases, provider payment systems provide financial incentives for introducing, for example, new clinical practice guidelines or quality improvement techniques, or even for using new knowledge and skills obtained by health practitioners. Per capita payment systems can help ensure that financial incentives encourage appropriate use of health services and that more efficient or higher-quality clinical practices are rewarded.

**Institutional structure.** An issue with which many countries worldwide continue to struggle is determining the optimal roles of PHC practitioners and specialists and their interrelationship. An element of broader health system reforms may be to enhance the role of PHC practitioners and to focus specialists on interventions requiring their expertise. This process may involve changing the basic structure of the health delivery system to enable further development of cost-effective PHC. Financial incentives contained in per capita PHC payment systems can contribute to, or even drive, this restructuring process. In many low- and middle-income countries, publicly funded PHC providers are also publicly owned and managed. The bureaucratic rigidities and centralized decision making that often accompany such a structure can lead to grossly inefficient resource allocation and unmotivated PHC providers.

A per capita payment system should be created in such a way that it is accompanied by greater management autonomy and, possibly, by a more corporatized structure to create an interest among providers in using resources more effectively. The key issue here is allowing the providers to keep the resources generated by the P4P scheme and to manage those funds within a reasonable range of options that can be defined in accordance with the relevant legislation in force.

**Role of the population.** A per capita PHC payment system creates the mechanism for increasing the voice and role of the population in the health system and shifting the balance of power from providers to their patients. In particular, if there is free choice in the system, PHC providers that attract more patients will be rewarded with more financing, and providers will have an incentive to better understand (and to meet) the needs and demands of the population. The population also has more responsibility for its own health, as the PHC system shifts its focus to health promotion and disease prevention, which relies on individuals taking greater responsibility for their own health.

Introducing capitation-based payments has a number of advantages, but also disadvantages associated with the per person-based flow of funds. It is important to consider these in the design phase of the payment system, to make sure that the incentives and controls respond to the nature of the payment mechanism. Table 7 in the preceding chapter alluded to capitation's advantages and disadvantages; the following Tables 8 and 9 discuss those and additional ones.

**Table 8. Advantages of capitation payment**

<b>Core Characteristics</b>	<b>Implications</b>
<b>Equity</b>	Needs-based capitation can provide a far more equitable basis for resource distribution than historic methods (itemized budget)
<b>Predictability</b>	As a defined part of the payment is paid up front, capitated payment makes an element of providers' income predictable and stable, making it more feasible for them to plan and implement service changes
<b>Provider Accountability</b>	Capitated payment makes the provider or groups of providers responsible for covering the majority (or all) of the care provided for a target population, creating a greater requirement for co-ordinated and integrated care
<b>Financial Risk Transfer</b>	As providers take on greater financial risk, they are incentivized to invest in preventive care and treat in the lowest-cost setting (while maintaining quality of care)
<b>Transparency</b>	An allocation formula must be readily understandable and discussion with stakeholders of the variables to include in a formula prior to implementation is necessary
<b>Cost-containment</b>	Allocating resources between regions and priorities limits spending by deconcentrated agencies
<b>Efficiency</b>	Capitated payment can avoid the perverse incentives in many other payment methods (i.e., reimbursement based on levels of capacity such as number of staff has a built-in incentive to maintain or expand the size of facilities)
<b>Impact on quality of care</b>	Evidence from several countries demonstrates the considerable impact that capitation payment is having upon the quality of care. These are reflected in improvements in organizational and clinical quality indicators

**Table 9. Disadvantages of capitation payment**

<b>Core Characteristics</b>	<b>Implications</b>
<b>Provider Accountability</b>	May incentivize over-referral of patients by PHC providers or underprovision of services to high-cost groups
<b>Financial Risk Transfer</b>	Adverse selection, whereby providers have an incentive to avoid high risk patients for their roster, or panel, such as elderly, children, or those with serious illnesses in need of regular PHC because they have higher costs. This can be countered with performance incentives
<b>Impact on quality of care</b>	May limit incentives to improve the quality of services since payments are effectively guaranteed in advance irrespective of quality. With a performance-based reimbursement component, however, this can be easily overcome

## 4.2 Performance-based Component of the Capitation Payment System

P4P is becoming a common strategy for purchasers around the world to link the financing of health services with quality and outcomes. In the context of a per capita payment system, P4P makes a portion of the total payment to the provider (or other, non-financial incentive) dependent on the attainment of some absolute or relative level of performance as measured by specific indicators and metrics in the monitoring system. Institutions assume financial risk for improving performance; hence, they feel strong incentives to attain the established targets.

Beyond its direct alignment of financial incentives with quality, efficiency, and other health system performance objectives, P4P has had positive impacts in instilling a culture of performance measurement and monitoring among health professionals, in strengthening a public health approach that enhances population-based outcomes, and in introducing strategic purchasing and enriching the dialogue between purchasers and providers of health care.

**Table 10. Non-financial and Financial Incentives of the Pay for Performance**

Non-financial Incentives	Financial Incentives
<ul style="list-style-type: none"> <li>• Performance profiling;</li> <li>• Public recognition;</li> <li>• Technical assistance subsidized by the state;</li> <li>• Reduced administrative tasks.</li> </ul>	<ul style="list-style-type: none"> <li>• Pay for process (i.e., calls, postal cards for prevention);</li> <li>• Pay for quality (i.e., patient registry systems);</li> <li>• Bonus on achievement of predefined threshold;</li> <li>• Bonus for demonstration of improved outcomes.</li> </ul>

Any P4P program typically includes:

- Statement of the quality objectives it seeks to promote;
- Definition of quality metrics that will influence payment;
- Formulation of the associated rules for payment that make some element conditional on measured levels of attainment;
- Rules for providers regarding provision of information and other standards;
- Governance arrangements to ensure the system is working as intended.

P4P is an innovative approach that explicitly links financial health investments to health results as one of the options for getting the most out of limited funds. Through P4P introduction, many health systems issues, such as poor information reporting systems and low productivity, can start to be addressed.

A major objective of P4P programs in PHC is to reach performance targets such as preventive care, efficiency of care, patient satisfaction and management of chronic diseases, uptake of IT services, etc.

P4P programs have been found to be most effective and successful when they are aligned with and reinforce overarching strategies, objectives and clinical guidelines that are accepted by stakeholders and incentives are integrated into and complement the underlying payment system. The design of a P4P program is a complex undertaking that must balance the competing interests of different stakeholders, and it is important to view P4P within the context of the underlying payment methods and the broader

health system. As a result of the above factors, there are certain things which should be avoided including complex and non-transparent program structure and selective participation in program domains.

Potential unintended effects of P4P include:

- Tunnel vision: a focus on aspects of clinical performance that are measured and neglect of unmeasured areas;
- Adverse selection: the incentive to avoid the most severely ill patients;
- Erosion: the potential diminution of intrinsic professional motivation as a key attribute of high-quality health care;
- Inequity: creation of perverse incentives to exclude disadvantaged groups;
- Overcompensation: rewarding providers who already meet or exceed the target threshold;
- Misreporting, gaming, or fraud.

The effects of P4P (both good and bad) may depend on design choices. For example, schemes that focus on individuals may work differently from those aimed at practices or clinics.

### 4.3 Purchaser-Provider Split

Structural and functional reorganization of the overall health care system is a challenging and complex process, yet separating the purchaser-provider functions is an important feature of all modern health care systems. The purchaser becomes responsible for identifying population health needs and determining the most appropriate means to meet these needs. The provider is responsible for service provision and is contracted by the purchaser to deliver the health services the purchaser has determined are appropriate to meet the health needs of the population.

In Botswana's public health sector, there is no purchaser-provider split: the MoHW performs both functions. Based on the best international experience, we recommend that public health care providers gradually gain (partial) autonomy as a prerequisite to contracting with the purchaser. Any financial resources that can be kept at the provider level will serve as incentives to improve the provision of medical services in the defined benefit package. These incentives can take various forms, to be decided, including performance-based top-ups of salaries, refurbishment of infrastructure, and purchasing of small equipment. Particularly in rural areas, it seems necessary to attract medical professionals to meet both the patients' expectations and medical technical progress.

### 4.4 Costing

Costing is a very complex part of health services organization and delivery, as there are different levels and methodologies for calculating health service delivery costs. Internationally, there are several tools available for cost analysis and determination of costs from individual interventions to integrated care packages (e.g., HFG's Management Accounting Systems for Hospitals, WHO-CHOICE, CORE Plus, JLN Costing Collaborative).

Health services costing can contribute to the goals of health systems by creating or decreasing incentives to provide certain services. The health services price list, often called a "benefits package," is in reality a health financing tool, the power which of becomes visible through the purchaser-provider payment processes. Health services costs are also the basis for development of the more complex provider

payment mechanisms, like DRGs; therefore it is crucial to use the best possible cost data and to set prices according to the health system incentives.

Costing of health services is not about implementing right and/or real costs of health services, but it is rather about defining the mix of unit costs that are covered by the payer and setting the price of services, with the main objective to keep total payments within the available resources (e.g., MoHW budget for health services), while also paying providers enough to keep them satisfied (e.g., agreements on health workers minimum salaries included in-service prices) and creating incentives for providers to improve quality and efficiency of services and responsiveness to patients (e.g., increasing input costs for PHC shifts providers to increase the volume of PHC services). Therefore, the costing and pricing of health services are policy tools of the MoHW to manage the expectations but also the behavior of health service providers.

As mentioned above, there are different costing methodologies, but all start with defining the cost units that will be measured by health service providers or, where actual costs are not available, by proxies or international benchmarks. There is no need to start with very complex cost models or overly detailed activity-based costing models as these approaches require implementation of processes and IT tools that need to be developed first.

For example, in PHC settings it is possible to measure or estimate the average time of defined processes (e.g., an outpatient visit consists of registration, waiting time, doctor/nurse direct consultation time, procedure(s) time, and documentation time), which provides insights into resource allocation decisions at the health facility. These measurements could be done by expert health professionals, who should also be able to provide their opinions in later stages of health services pricing. As the accuracy and availability of reliable data improves, the costing model can become more robust.

In Botswana, no costing studies have been conducted with a focus on PHC services. Therefore a costing model should be developed in order to:

- Calculate the actual cost for activities undertaken at the PHC level;
- Estimate the normative cost of the same service package provided at the PHC level;
- Calculate the total cost, the cost per head count, and cost per capita for the actual and normative costs;
- Forecast the required budget for the facilities.

## 4.5 Monitoring and Audits

We believe that a well-developed monitoring and audit system is important to provide accurate and relevant information to decision makers on a continuous basis. Today's culture of measuring, benchmarking, and showing evidence also applies when it comes to developing a new mode of health care payment. This is a powerful approach to steer activities and gain political support, but also to terminate activities detrimental to the intended goals. A mix of qualitative and quantitative approaches should be found which capture the most important aspects when implementing any fundamental change in financing health care.

All parties (regulatory agencies, care purchasers, and care providers) need to play a part in ensuring that the citizens' money is effectively spent and their health is protected. This includes undertaking control measures, which can be prospective (before mistakes are made) or retrospective actions (after mistakes are made). The control measures can be external (meaning that actions are taken by the central agencies) or internal (meaning that the care providers take steps to control their own work). The various approaches are mutually dependent, and a mix is needed.

Current monitoring and audit capacities in Botswana`s public health sector do not appear sufficient for the full implementation of strategic purchasing. Capacity building in that field should also be one of the activities related to the implementation of strategic purchasing.

Some potential domains for introducing control measures are appropriateness of hospital admissions, referral patterns, and diagnostic procedures such as pathology tests and imaging.



## 5. LESSONS FROM INTERNATIONAL EXPERIENCE

This section describes the current mechanisms used to pay for the provision of PHC in a set of countries which may be of interest to Botswana, either because of direct comparability or because the country is currently implementing what could be considered best practices (for example, Germany).

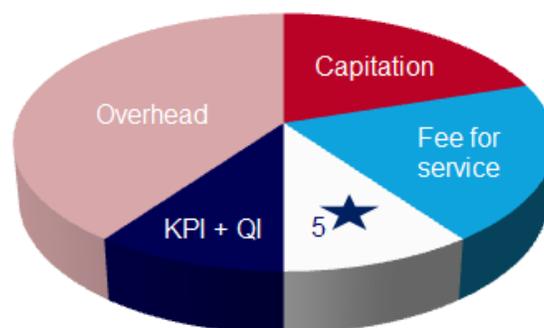
### 5.1 Canada

During the past decade, PHC reform initiatives have included a shift from unitary physician payment methods (mainly fee for service but also capitation, payments per session, or salary) to payment arrangements that blend methods, and targeted payments designed to encourage or reward the provision of priority services. The shift has been most far-reaching in Alberta, Quebec, and Ontario in association with the development of Primary Care Networks, Family Medicine Groups, and patient enrollment models, respectively, and in British Columbia through a program of targeted incentive payments known as the Full Service Family Practice Incentive Program.

Most payment models include fees for preventive care outreach, P4P payments for preventive screening and immunizations, and bonus payments for the provision of certain services (obstetrical deliveries, hospital services, palliative care, prenatal care, and care of patients with serious mental illness) above threshold levels. The payment models and incentives introduced in Ontario are improving preventive care delivery, chronic disease management, physician productivity, and access to care (Hutchison et al. 2008).

### 5.2 Croatia

Croatia uses a hybrid payment model for PHC services, depicted below.



Capitation is age-adjusted with additional adjustment for the number of chronic patients with diabetes, hypertension, and chronic obstructive pulmonary disease in a practice (see formula below).

Age group	Amount (HRK)
0-7	107,51
7-18	40,83
18-45	53,17
45-65	71,89
>65	91,15

$$INDEX = \frac{P_{NOVA}}{P_{UGOVORENA}}$$

$$P_{NOVA} = (P_{STARA} - RS) + F_{DIABETES} + F_{HIPERTENZIJA} + F_{ROPB}$$

$$F_{DIABETES} = \frac{1}{2} P_{D(STARA)} \left[ \frac{1 - (N_{D(ORD)} * NP_{D(HZ/Z)})}{N_D} \right]$$

$$F_{HIPERTENZIJA} = \frac{1}{2} P_{H(STARA)} \left[ \frac{1 - (N_{P(ORD)} * NP_{H(HZ/Z)})}{N_H} \right]$$

$$F_{ROPB} = \frac{1}{2} P_{R(STARA)} \left[ \frac{1 - (N_{P(ORD)} * NP_{R(HZ/Z)})}{N_R} \right]$$

The share of activity-based payments is 30 percent and performance is monitored and evaluated by the use of key performance and quality indicators:

- Key performance indicators: Drug prescribing; blood sampling; sick leave rate; number of referrals
- Quality indicators: Cardiovascular diseases; obesity; diabetes; COPD; antibiotics consumption

The goals were to incentivize health care providers to increase the provision of certain types of care (e.g., preventive care) and to increase quality of care and patient satisfaction. GPs may also receive bonus payments (the so-called “five star” model) of up to an additional 30 percent as part of the variable portion of remuneration, depending on their key performance and quality indicators.

The fee-for-service component is meant to incentivize PHC physicians to provide additional services, such as spirometry, ultrasound, and the provision of phone consultations, e-prescriptions, and other e-health services.

### 5.3 Democratic Republic of Congo

In 2002 NGOs concluded performance-based contracts with individual Health Zone administrations and facilities including a set of performance indicators, such as immunization coverage or outpatient consultation targets (Table 11).

**Table 11. Selected Performance Indicators, Example of the Democratic Republic of Congo**

Targets	Goal
Increase total outpatient visits (OPD)	10%
Increase treatment of malaria among children	10%
Increase number of children immunized	10%
Increase number of antenatal visits	10%
Increase number of attended births	5%
Increase uptake of modern family planning methods	5%

Source: Global Partnership on Output-Based Aid (GPOBA), 2004

Health worker incentives are tied to performance on a list of indicators, often summarized by a single score. Reports on achievement of indicators are verified by the health administration and NGOs. About 15 percent of the NGOs' budget is allocated to incentive payments for health workers.

## 5.4 England

Prior to the major reorganization of England's National Health Service (NHS) following the Health and Social Care Act of 2012, there were four possible contract types for GP services in England, all through primary care trusts (PCTs) or administrative bodies responsible for spending 80 percent of England's NHS's total budget, mainly through commissioning primary, community, and secondary health services from providers and sometimes offering community health services directly:

- *General medical services*, where practices contracted with their PCTs on a nationally negotiated basis (covered about 50% of GPs);
- *Personal medical services*, where practices contracted with their PCTs on a locally negotiated basis, so that service requirements and quality indicators were agreed between practice and PCT (covered about 45% of GPs);
- *Alternative provider medical services*, where PCTs contracted with providers other than GP practices for the provision of GP services (for example, private health care companies); and
- *PCT medical services*, where GP practices were run directly by the PCT.

The key features of the contracts were payments for essential services (global sum), enhanced services, out-of-hours care, and the Quality and Outcomes Framework (QOF).

### 5.4.1 Global sum

Payment for a core set of essential services was allocated to practices through a formula that aimed to link practice funding to patient needs based on a statistical model taking account of sex and age distribution of patient population, additional needs relating to morbidity and mortality of the population, the number of newly registered patients to reflect increased usage in their first year, numbers of patients in nursing or residential homes to reflect extra costs, extra costs associated with London, and the unavoidable costs of delivering services in rural areas and in areas of higher living costs. The core set of essential services was not stated specifically, but GPs were expected to cover the management of patients who were ill or believed themselves to be ill, including management of chronic disease and terminally ill cases. Practices were also given a Minimum Practice Income Guarantee to ensure there was no loss of income in the first few years of the contract, with an intention that it would gradually be phased out.

### 5.4.2 Enhanced services

These services were intended to go beyond the essential features of general practice, such as services requiring specialist skills. The PCT was given a "spending floor" for the commissioning of these services, which could be exceeded. Three types of services had been defined:

- *Directed services* that all PCTs had to commission to cover their population (although individual practices were not obliged to offer them) including, for example, services such as child immunization as well as the development of better patient access;
- *National services* that PCTs could choose to commission - for example, minor injury treatment - but that individual practices were not obliged to offer;

- *Local services* that PCTs could choose to design and commission, with room for local negotiation of standards and prices – for example, services for people with learning difficulties – and that individual practices were not obliged to offer.

### 5.4.3 Out-of-hours care

GPs were not responsible for out-of-hours care (that is, providing care outside of core hours, defined as 8 am to 6:30 pm). Practices could choose to provide out-of-hours care under a separate contract.

### 5.4.4 Quality and Outcomes Framework

The QOF was implemented in 2004 and introduced a voluntary payment program that linked up to 25 percent of GP practice income to performance (Doran and Roland 2010). The contract was an agreement with the general practice rather than the individual physician, awarding “achievement points” for practices demonstrating that they have met several stages in the management of a given, usually chronic, condition, for a proportion of the relevant population, typically between 40 and 90 percent (National Audit Office 2008). Although this was primarily a financing scheme linking payments to performance, it featured a set of strategies that also targeted delivery system design, decision support, and clinical information systems. While assessments of QOF success are mixed, substantial improvements have been noted, particularly in the maintenance of disease registries and screening of risk factors for older patients with cardiovascular disease in the community. Annex I provides more details on QOF indicators.

### 5.4.5 Other funding for GP practices

Additional funding was made available to GP practices for increased expenditure on premises, information technology, pensions, payments to recognize seniority, and assistance with recruitment and retention.

### 5.4.6 GPs in rural and deprived areas

As mentioned above, the formula allocating funds to practices included a specific adjustment for rural practices. The contract also recognized the additional workload involved in providing care in deprived inner city areas through a morbidity factor in the formula. Areas with fewer doctors also gained from the allocation of money on the basis of patient need rather than the number of doctors.

### 5.4.7 Nurse-led case management (“community matron”)

In the early 1990s, under the General Medical Services contract, GPs were beginning to be reimbursed for providing chronic disease clinics and other services such as immunizations, triggering a rapid expansion in the number of practice nurses involved in some form of chronic disease management (Sibbald 2008). The 2004 NHS Improvement Plan sought to strengthen the role of nurses in the management of patients with complex needs by introducing the role of the “community matron,” conceived as a specialized, senior nursing role undertaking intensive, home-based case management for older people at risk of hospitalization and other high-intensity service users, and which was expected to lead to fewer (emergency) admissions and, ultimately, reduced health care costs.

## 5.4.8 Case management in primary care

To reduce unnecessary emergency admissions to secondary care, the 2014/15 GP contract introduced a new “unplanned admissions enhanced service,” to promote proactive case management of at-risk patients, which is funded through reallocation of points within the QOF. The service requires that at least 2% of the patient population of a GP practice aged 18 years and older be covered by this scheme and stipulates that practices must also provide:

- Same-day telephone consultations or with follow-up arrangements for identified vulnerable patients who have urgent queries;
- Timely access to accident and emergency (A&E) clinicians, ambulance staff and care, and nursing homes to support decisions relating to hospital admissions and transfer to hospital;
- Personalized care plans (with a named accountable GP and care coordinator) for patients on the case management register that are reviewed regularly as clinically necessary, based on a national template. The care plan should also identify a care coordinator (if different to the named accountable GP) who will be responsible for ensuring that the agreed care plan is being delivered, and to inform the patient or their carer of any changes;
- Contact by an appropriate person following discharge from hospital for patients identified as vulnerable.
- Review of emergency admissions and accidents, and emergency attendance of their patients from care and nursing homes; and regular reviews of all unplanned admissions and readmissions for vulnerable patients to identify factors that could have avoided the admission.

## 5.5 Estonia

The payment system for family doctors has been designed to provide GPs with incentives to take more responsibility for diagnostic services and treatment, to provide continuity of care, and to compensate them for the financial risks of caring for older people and working in more remote areas. Family doctors and nurses contracted by the Estonian Health Insurance Fund (EHIF) are paid through a combination of a basic allowance to cover costs of premises and transport for doctors or nurses (11%), capitation payments (67%), fee for service (20%), a quality bonus scheme (1%), and other remuneration types (<1%) that together make up the budget for each practice. As in Latvia, the capitation fee is age-adjusted, forming five capitation payment groups: patients aged up to 3 years, 3–7 years, 7–50 years, 50–70 years, and over 70 years. Practices receive monthly pre-payments, which are recalculated twice a year to reflect changes in the patient list (as patients can change family physicians).

The Quality Bonus Scheme (QBS) was introduced in 2006. It focuses on three domains of care: (i) disease prevention, (ii) chronic disease management, and (iii) other services, which together generate a total of 45 indicators. Family physicians earn points for reaching performance targets for each indicator. The points are awarded on an “all or nothing” basis. If the physician reaches the target, she or he is awarded all of the points. If the physician fails to reach the target, no points are awarded. Family physicians are eligible for bonus payments if they achieve at least 80 percent of all possible points.

## 5.6 Finland

The Finnish system can be described as one of the most decentralized in the world. Even the smallest of the 342 municipalities are responsible for arranging and taking financial responsibility for a whole range of “municipal health services.” Another unique characteristic of the system is the existence of a

secondary public finance scheme (National Health Insurance), which partly reimburses the same services as the tax-based system, in addition to services provided by the private sector. National Health Insurance also partly reimburses the use of private hospital care.

Municipal health centers provide primary curative, preventive, and public health services. They offer a wide variety of services: outpatient medical care, inpatient care in inpatient wards (in larger cities these can be classified more as GP-run hospitals), preventive services, dental care, maternity care, child health care, school health care, care for older people, family planning, physiotherapy, and occupational health care.

In PHC, municipalities prospectively fund the budget of the health centers they maintain on their own. Usually budgets are set based on previous budgets. The traditional payment method, which currently applies to about 45-50 percent of health center physicians, is through a monthly salary with some extra fee-for-service payments for selected time-consuming service items or minor procedures. In those health centers where something called the personal doctor system has been introduced, doctors are paid a combination of a basic salary, capitation payment, and fee-for-service payment for visits.

Outsourcing of the physician workforce began in the late 1990s (Vuorenkoski and Mikkola 2007), and since then new firms have emerged that lease physicians to public sector PHC centers. These firms are mainly owned by the physicians themselves. In these firms, physicians are employed by the company and their salary is negotiated within the company. Municipalities use these services mainly when they have difficulties in recruiting physicians, especially for out-of-hour duties, although recently physicians have been leased by long-term contract for office-hour duties as well. These firms can offer better salaries and more flexible working conditions than municipalities and are therefore an attractive alternative for physicians.

## 5.7 Former Soviet Union countries

The combination of historical neglect of the PHC sector, overspecialized and fragmented care, unsustainable hospital infrastructure, and limited improvement of the population in its own health and health care brought about unprecedented declines in health status throughout the region early in the post-Soviet transition period. Infectious diseases, such as tuberculosis and vaccine-preventable diseases, increased rapidly while chronic conditions, such as cardiovascular diseases, went untreated or were poorly managed.

Many post-Soviet countries embarked on comprehensive health financing and service delivery reforms with restructuring and strengthening of PHC, supported by new per capita payment systems, at the center of health reform strategies. Efforts in Kazakhstan and Kyrgyzstan, for example, focused on redesigning the flows of funds to PHC providers with capitation and incentive payments.

## 5.8 Germany

In Germany, through social health insurance (SHI), providers receive payments from sickness funds. The sickness funds make total payments to the regional associations of SHI physicians for the remuneration of all SHI-affiliated doctors, instead of paying the doctors directly. (The only exception to this are selective contracts to promote integration of care.) The regional associations distribute these total payments among SHI-accredited physicians according to something called the Uniform Value Scale.

### 5.8.1 Overall remuneration

Since January 2009, overall remuneration has had three components:

- morbidity-based overall remuneration, which is based on the treatment requirements of patients, a regional guideline value, and the number of insured people per sickness fund;
- the ability to increase payments by the sickness funds to overall remuneration if an unforeseeable need for provision of treatment arises (e.g., an epidemic);
- remuneration of individual services that the sickness funds are required to pay at fixed prices over and above the morbidity-based overall remuneration, where particularly eligible services, such as immunizations, screening tests, or ambulatory surgery, are not subject to volume ceilings.

In contrast to a fixed per capita system, one guided by morbidity-based overall remuneration should transfer morbidity risks from the SHI-affiliated physicians to the sickness funds. However, SHI physicians' remuneration remains subject to a ceiling, although allocation to the individual funds is on the basis of the treatment needs of their members in comparison with the amount in the preceding period.

## 5.8.2 Payment of fees

The regional associations of SHI physicians share overall remuneration among their members in accordance with the national Uniform Value Scale and the “fee allocation scales” agreed at the regional level with the sickness funds in the individual “fee allocation contracts.” A maximum of points was established, which differed by disease groupings, and thus different specialized fields had different numbers of total points. If services above these ceilings were offered, the excess was remunerated at a lower point value. The more services offered, the lower the point value and, therefore, the payment. The aim was, on the one hand, to offer the physicians a stable price for a specified quantity of services and, on the other hand, to effectively reduce the incentive to increase volumes. At the same time, services outside the budget ceiling, such as immunizations or care of terminally ill patients, were agreed and financed.

Since January 2009, a practice-based volume of standard services has been calculated for each SHI physician and quarter. The volumes of standard services set the volume of services that a physician can bill in a defined period and that are payable under the Euro Fee Code (87 SGB V). The physician is notified of the prospective volume of standard services at the beginning of each quarter. The volumes of standard services differ from the expenditure ceilings that previously applied in that the care requirements of the insured are taken into consideration not only with regard to the specific group of physicians but also to the individual practice. A volume of standard services is calculated by multiplying the case rate specific to the physicians group by the number of cases of the physician and the morbidity-based weighting factor. The number of cases that a physician can cover is subject to a quantity limit in advance. Cases that are above 50 percent of the specialist group average are only included in the calculation of the volume of standard services in a graduated form. If a physician exceeds the volume of standard services, this has a regressive effect on the amount that he or she receives for the service in question.

Prior to 2010, discretionary services were paid for out of morbidity-based overall remuneration, but without a volume limit, at fixed prices. As a result, the number of discretionary services, such as acupuncture and urgent house calls, steadily rose, leaving less money available for standard services. So that the extension of specialist physician services does not come at the expense of family physicians and vice versa, nearly all services paid for out of limited morbidity-based overall remuneration have since then been subject to a volume ceiling using qualification-based additional volumes (QZV).

The regional associations of SHI physicians can also create qualification-based additional volumes for services that were previously contained in the volume of regular services but only billed by some of the physicians in the group of physicians in question (for example, bronchoscopy or allergology). Fees for

such services are specifically directed towards those physicians who provide such services. The case value surcharges (for example, for ultrasound and psychosomatics at GPs, radiology offered by specialists in other fields) have also been replaced by qualification-based additional volumes. Distribution volumes specific to groups of physicians were formed for volumes of standard services and qualification-based additional volumes to allocate fees as equitably as possible.

The regional association of SHI physicians and sickness funds have leeway at the regional level to decide the services for which they will form qualification-based additional volumes and how they calculate payment of these services. Each SHI physician is allotted a volume per quarter that consists of the volume of standard services allocated to the medical practice and any qualification-based additional volume allocated. It is based on the volume of services of the practice in the same quarter of the preceding year. The volume is a quantity limit up to which a practice receives payment for its services at the prices of the Uniform Value Scale. Volumes of standard services or qualification-based additional volume services are remunerated at a graduated price, which depends on how many standard services and qualification-based additional volume services all specialist physicians and family physicians have billed beyond these limits: 2 percent of the volume allocable to specialists and family physicians are set aside for payment of these services.

There are flexible offsetting possibilities between the volume of standard services and the qualification-based additional volume. If a practice does not exhaust its volume of standard services, correspondingly more qualification-based additional volume services can be billed at the prices set out in the Euro Fee Code, and vice versa. Services such as routine check-ups and ambulatory surgery that the sickness funds pay outside the morbidity-based overall remuneration are still paid for at the prices of the Euro Uniform Value Scale without limitation.

### 5.8.3 Integrated care

German hospitals have traditionally concentrated on inpatient care, with strict separation from ambulatory care, although things have become more flexible in recent years now that hospitals are authorized to provide outpatient services and to participate in integrated care models and disease management programs (DMPs). New provisions for so-called integrated care were introduced as part of the SHI Reform Act of 2000. The aim of these provisions was to improve cooperation between ambulatory physicians and hospitals on the basis of contracts between sickness funds and individual providers or groups of providers belonging to different sectors. Because of legal and financial barriers, only a few initiatives were established on the basis of these legal provisions. With the SHI Modernization Act, in force since 2004, integrated care has been further strengthened and the rules of accountability have been clarified. Integrated care contracts do not need to extend across sectors now but have to involve at least different categories of providers within a sector, for example, family physicians and long-term care providers. Integrated care contracts do not require the approval of the regional associations of SHI physicians.

In order to finance integrated care, sickness funds had a clear right (between 2004 and 2008) to deduct 1 percent of the resources for ambulatory physicians and hospital care once integrated care contracts had been concluded. These resources were only to be used for integrated care purposes in the respective region of the physicians' association and had to be paid back if not fully used. In addition, prescription volumes for pharmaceuticals and medical aids had to be adapted, taking the morbidity of the insured population in the integrated care contracts into account.

Integrated care contracts, therefore, constitute a new sector with new regulations and financial resources. In order for integrated care contracts to be initiated, sickness funds are required to negotiate selective contracts with single providers or a network of providers, for example physicians, hospitals,

rehabilitative institutions, or other health care professionals. While all of them need to be accredited within their sector, they may provide services across sectors within the scope of the integrated care contract (for example, a hospital may provide outpatient services if it has a joint contract with an ambulatory physician). In addition, the contracting parties of an integrated care contract may decide to take over the guarantee of service provision for the insured population from the regional associations of SHI physicians. The guarantee of service provision may be shifted to the participating sickness funds and/or to the contracted network of preferred providers.

## 5.9 Haiti

To improve the performance of NGOs delivering PHC in Haiti, USAID through Management Sciences for Health (MSH) began paying them a bonus based on their performance on key indicators, such as immunization coverage, skilled birth attendance, and prenatal care. These indicators were measured using the HMIS but were independently verified through a data audit. As the percentage of NGOs being paid on a performance basis (that is, offered performance bonuses if they achieved specified results) increased, the coverage of these services also increased (Table 12).

**Table 12. Performance Indicators, Haiti, 2006**

Indicator	2000	2002	2003	2004	2005
Children fully vaccinated	34	65	91	92	100
Women received at least three prenatal visits	29	50	41	48	60
Deliveries assisted by skilled attendant	58	64	57	63	77
NGOs paid on performance basis	0	35	37	44	93

Source: Based on Eichler et al. (2006)

## 5.10 Hungary

Family doctors are financed with mixed payment methods that include prospective and retrospective elements. Practice income is made up mainly of capitation payments with an additional fixed amount depending on the size and location of the practice as well as case payments for non-registered patients.

Capitation payments are adjusted to the age composition of the patient pool and the qualification and work experience of the physician. The population is divided into five groups: for a person up to 4 years of age, family doctors receive 4.5 points; between 5 and 14 years 2.5 points; between 15 and 34 years 1.0 point; between 35 and 60 years 1.5 points; and over 60 years 2.5 points. Above a certain number of points (2400 for adult or child practice, and 2600 for mixed practice), the family doctor does not receive the full capitation payment, to prevent the negative impact of an unmanageable practice size on quality of care. Different limits apply for group practices. The total number of points is multiplied by 1.2 if the family doctor has a relevant qualification (specialization in family medicine or internal medicine for adult practices or pediatrics for child practices). The factor is 1.1 if the family doctor has no relevant qualification, but has at least 25 years of work experience in primary care.

In 2009, the government introduced a performance bonus payment system for family doctors, based on quality indicators. Family doctor services have to reach a certain minimum score measured by the National Health Insurance Fund Association (NHIFA) by means of selected quality indicators in order to get rewarded.

## 5.11 New Zealand

In 2002, New Zealand introduced PHC reform, which included the formation of non-profit PHC entities funded through a per capita payment system in order to address marked health and health care disparities across socioeconomic and ethnic groups that arose from fee-for-services payment system. At the same time the PHC reforms were undertaken, the avoidable mortality rate of the indigenous Maori population was 2.3 times that of other New Zealanders, and avoidable hospitalization rates were from 60 to 70 percent higher. Adjustments were made for risks among populations, e.g., paying two times more per capita for an old person than a young person.

Primary health organizations are also eligible to receive supplemental payments if they improve their performance on indicators relative to specified targets. Payments for most of the indicators are made on the basis of percentage attainment of the target.

## 6. PRIMARY HEALTH CARE FINANCING REFORM IN BOTSWANA

This set of proposed reforms is unique because it does not follow the classical “single payer” model seen elsewhere but seeks to achieve many of the same objectives. Its uniqueness is related to Botswana’s legal framework, which does not allow for full implementation of strategic purchasing. The proposed performance-based contracting model is in line with the public finance management reform because it aims at strengthening financial management systems in health care and making strategic allocation of resources for health more transparent, more effective, and efficient.

The MoHW (or any other institution) is not yet intended to be a single payer, nor a conventional SHI fund. It will not yet purchase routine services using conventional provider payment methods. It is initially intended to be an instrument for incremental financing of services and access improvements. The future direction of the financial reforms is likely to move in the direction of creating a more traditional purchasing function (recommendations for the full implementation of strategic purchasing are described in Annex A).

The PHC services will continue to be managed and financed through the central government (MoHW). To support strengthening of PHC, the MoHW will finance PHC based on capitation in addition to specific grants linked to performance aiming to improve access to and quality of priority services at the PHC level. Ushering in these changes will require significant support in planning, establishment, implementation, coordination, and monitoring and evaluation capacities within the MoHW and DHMTs.

Proposed reform will have eight elements namely:

1. Establishment of the cost centers on the DHMT level;
2. Development of per capita PHC budget allocation system;
3. Development of P4P component;
4. Establishment of the contractual relationship between the MoHW and DHMTs;
5. Increased autonomy of service providers;
6. Improvement of the information systems;
7. Monitoring and evaluation;
8. Change management.

### 6.1 Establishment of the Cost Centers on the DHMT Level

It is important to consider the entire picture when designing the payment model. Having multiple payment sources might create conflicting incentives for care providers. In the future, the aim will be to set the total financing pool for each DHMT in order to have a better understanding of all sources of revenue and all types of expenditure of DHMTs.

As stated, the present fragmented system of financing DHMTs needs to be modified. We propose the establishment of cost centers for each DHMT. This should be the responsibility of the MoHW and

DHMT coordinators. Such a process could empower coordinators to participate in bottom-up budgeting so that meaningful resource allocations could be made, efficiencies attained, and wanton wastage eliminated. The MoHW should implement cost centers to bring all DHMT revenues/expenditures “on one budget.” Table 13 shows an example of the future Thamaga DHMT Departmental warrant.

**Table 13. Example of the DHMT Budget Allocation Table**

No	Code	Name	Hospital care	Primary health care
1	1108.00111.09725	Basic Salary		
2	1108.00112.09725	Allowances (Salaries & Wages)		
3	1108.00114.09748	Casual Labour		
4	1108.00115.09748	Temporary Assistance		
5	1108.00124.09748	Leave Travel Concession		
6	1108.00201.09748	Transportation Costs (Internal)		
7	1108.00202.09748	Subsistence Costs (Internal)		
8	1108.00204.09748	Petrol, Oil and Lubricants		
9	1108.00205.09748	Mercy Flights & Trp of Patients		
10	1108.00409.09748	Incidental Expenses		
11	1108.00414.09748	Office Supplies		
12	1108.00417.09748	Postal Charges		
13	1108.00422.09748	Service Charges		
14	1108.00707.09748	Fire Fighting		
15	1108.00814.09748	Minor Works		
16	1108.00903.09748	Domestic Supplies		
17	1108.00904.09748	Drugs		
18	1108.____.09748	Dressings		
19	1108.____.09748	Vaccine		
20	1108.02103.09748	Anti Retroviral Therapy Programme		
21	1108.00522.09748	Laboratory Supplies (Reagents)		
22	1108.____.09748	Blood Transfusion Services		
23	1108.00907.09748	Food		
24	1108.00911.09748	Maintenance Of Office Furniture & Equip.		
25	1108.00912.09748	Maintenance of Grounds		
26	1108.00924.09748	Uniform & Protective Clothing		
27	1108.01347.09748	Hospital Advisory Committee		
28	1108.01422.09748	Seminars & Workshops Committee Conferences		
29	1108.04303.09748	Air Conditioners		
30	1108.04314.09748	Furniture And Equipment		
31	1108.____.09748	Performance bonus*		
		<b>TOTAL</b>		

Note: Line items that are not included in the current Departmental warrant are highlighted in yellow.

\*Performance bonus line will be explained in the next section

As can be seen, allocations will be divided between hospitals and PHC. This is not intended to undermine the integrated health care model but to prioritize PHC services in financial considerations and planning. In the current system, PHC is tightly connected to hospitals and dominated by them, as patients often bypass health posts and clinics in favor of hospital-based care. In some cases, hospital superintendents also are DHMT coordinators. Because of this, incentives to develop service delivery models that provide available and accessible PHC services to patients are limited. With the proposed model, PHC services planning and delivery will become more transparent and incentivized to improve performance.

The new model will also inform DHMTs on expenditure on Basic Salaries and Allowances (Salaries & Wages). That does not mean that DHMTs will manage the workforce (hire and fire) at this stage. The intention in the early stages of reform is to bring all DHMT expenditures “on one budget” as mentioned above. The same is true for ART Programming, Laboratory Supplies (Reagents), and Blood Transfusion Services budgets.

CMS expenditure on the ART Programme must be disaggregated to the facility level. As with the Basic Salaries and Allowances (Salaries & Wages), this will be a virtual allocation; CMS will still procure and distribute ARVs but will make facilities aware of the cost of those drugs. The same applies to Laboratory Supplies (Reagents) and Blood Transfusion Services.

We also propose to separate expenditures on Drugs, Dressings, and Vaccines and to disaggregate CMS spending to the facility level, same as with the ART program.

## 6.2 Development of Per Capita PHC Budget Allocation System

To make budget allocations for the PHC more transparent, fair, and equitable, we propose the following steps for developing a per capita PHC budget allocation system for Botswana:

- Calculating the base per capita rate;
- Calculating the risk-adjustment coefficient;
- Determining each DHMT’s per capita allocation.

Proposed PHC financing reform uses existing systems to the extent possible to minimize the administrative burden. The ministries of Health and of Finance should enter into a Memorandum of Understanding outlining the responsibilities of each with reference to a per capita PHC budget allocation and performance payments.

The provision of PHC in Botswana will be financed by an earmarked PHC grant that will be calculated annually based on a capitation formula, taking into account the total population covered by the DHMT:

$$\text{Allocation} = \text{PerCap} \times \text{POP} \times \text{K}$$

where PerCap is the total PHC grant divided by the total population, POP is the population size of each DHMT catchment area, and K is the risk-adjustor (coefficient) to capitation.

To ensure that the per capita PHC budget allocation promotes the appropriate incentives and compensates providers for serving populations with different health care needs, a method of risk adjustment will be applied to the base per capita rate. Risk adjustment is a correction tool that uses a measure of risk variation (expected cost) to compensate health providers appropriately for the expected costs of providing necessary services for their enrolled populations. Risk-adjustment coefficients are applied to the base per capita rate to scale up or scale down the payment for an

individual on the basis of the relative expected costs of the particular risk group to which that person belongs. For example, if one district has 30 percent more HIV/AIDS patients than another, and the cost of treatment is higher, then it would not be equitable to assign the same per capita allocation to both districts. Ideally, in this scenario, a risk adjuster would be included to provide more resources to offset the increase in risk from the higher HIV/AIDS prevalence.

Factors included in risk-adjustment formulas in different countries are:

- Demography, such as age and sex groups;
- Employment/disability status, such as social security categories, as the basis for a risk adjuster. For example, the Dutch scheme uses five categories: employed, permanently sick, temporarily unable to work, unemployed, pensioner;
- Geographical location, such as categories of 'urbanization,' supplement for remote communities, variations in provider costs, population density;
- Morbidity and mortality, such as mortality rates, low birth weight in infants, previous diagnosis as a needs adjuster;
- Social factors, such as homelessness, educational attainment, unemployment, welfare status, marital status, family structure, housing quality, housing tenure, capitation and Risk Adjustment in Health Care Social class, cohabitation, income.

We propose using age groups, population density (as a supplement for work in remote communities), and number of HIV/AIDS patients as the risk adjusters to be included in the capitation formula in the first phase.

However, risks-adjusted per capita PHC budget allocation does not guarantee attainment of desirable outcomes for all inhabitants living within the served area. The combination of a risk-adjusted capitation with a component related to a P4P, "carrot and stick" approach will provide additional incentives to all PHC providers based on progress achieved toward better outcomes for patients in targeted groups.

### 6.3 Development of Pay-for-Performance Component

Performance-based contracting gives service providers the freedom to make decentralized decisions on how to provide services. It also provides an incentive to use resources in an efficient way, as it shifts performance risks to service providers by, for example, reimbursing them for interventions performed or making part of their earnings contingent on meeting pre-agreed targets.

For example, the inclusion of the registration of chronic patients and maintenance of electronic registers as indicators in the P4P incentive payments gives rapid results in expanding the coverage /diagnosing of patients and creates a strong incentive for the development of information systems at the PHC facility level. This requires the creation and implementation of standardized national registers, the creation of links between PHC and hospital data, and so forth. This approach has not been implemented in Botswana because electronic records and chronic patient registers have not yet been implemented at the PHC provider level.

The general mechanism that we envisage will be linked to the allocation of available resources for the DHMTs based on risk-adjusted capitation. Following this initial allocation, the proposed distribution of P4P will be allocated to the DHMTs with flexibility in the use of funds.

Based on the key interventions outlined for the PHC and the burden of disease in Botswana, it is possible to provide a tentative list of clinical-level improvements, or indicators that would be desirable. Table 14 shows the potential mechanism by which P4P could link capitated financing with performance

indicators. The table shows the PHC area of intervention, the specific services, the indicator, a baseline and target for each indicator, and the achievement for the period. The percentage improvement relative to the target is then shown; it would be used to determine the bonus achieved.

**Table 14. Illustrative Example of Performance-based Award Estimates**

Type of PHC Services	Indicator	Baseline	Target	Achieved	% Improvement
<b>Health promotion and health education</b>					
Basic hygiene	Hand-washing programs in at least 75% of schools				
Immunization	Vaccine coverage > 95%				
Health promotion	Targeted programs deployed for HIV/AIDS, alcohol, and tobacco				
Prevention of NCDs	Targets on BMI, HBA1c, and others				
Surveillance	Timely and precise reporting on mandatory diseases				
<b>Prevention</b>					
Prenatal and postnatal care	% of women with first antenatal visit in 1 <sup>st</sup> trimester				
Care of newborn	% of babies born under the supervision of a skilled health professional				
Nutrition services	Z scores for stunting				
Early detection of cervical and breast cancer	% of women with mammogram and Pap smear in appropriate age groups				
Early detection of prostate and colorectal cancer	% of men with PSA and occult blood test in appropriate age groups				
Family planning	% of adolescent pregnancies				
Oral health	% children under 15 with more than 2 cavities				
<b>Outpatient care</b>					
Treatment of morbidity all ages	% of population with visit in last year				
Management of disability-related illnesses	% of disabled population with visit in last year				
Medical emergencies	Average response time for ambulance				
Chronic disease management	% diabetics and hypertensives registered				
Neonatal conditions	Neonatal mortality rate				
Maternal conditions	Maternal mortality rate				
<b>HIV/AIDS</b>					
Condoms available for distribution	Total number of condoms available for distribution nationwide during the preceding 12 months				
Mother-to-child transmission of HIV	% of children infected with HIV among children born in the previous 12 months to women living with HIV				

Type of PHC Services	Indicator	Baseline	Target	Achieved	% Improvement
Population receiving HIV test and test results in last 12 months	Number of clients aged 15–49 who received an HIV test and the test results in the last 12 months				
Pregnant women tested for HIV during antenatal care visit	Number of pregnant women who accepted an offer of testing and received their test results				
ART	% of HIV patients receiving ART				
<b>Average achievement</b>					
<b>Performance pool</b>					
<b>Awarded performance bonus</b>					

The flow of transactions and control mechanisms under the new PHC P4P scheme will be as follows:

- PHC facilities will maintain records on results indicators and service delivery as required under the agreed performance agreements;
- PHC facilities will prepare quarterly performance reports and will submit these reports to the DHMT management;
- DHMT management will check the individual reports received and then prepare an aggregate report on the performance of all PHC facilities and submit this aggregate performance report to MoHW;
- The MoHW will verify the data provided by each DHMT in the reports. The MoHW will then calculate the performance bonus due to each DHMT based on a performance scoring formula. The MoHW will then prepare a performance and allocation report for each DHMT;
- Upon clearance, the MoHW will officially ask the Ministry of Finance to allocate the requested funds;
- The MoHW will notify each DHMT on the funds allocated. The funds will be assigned as a line item entitled ‘performance bonus’;
- Each DHMT will then be able to commit and spend the funds on the eligible expenditure categories;
- A list of eligible expenditure categories will be developed (should include bonuses for the health workers if possible);
- Four budget allocations will occur during the year. The funds allocated will have to be spent within the fiscal year;
- Monitoring and validation activities (inspections and audits) to promote truthful and accurate submissions will be performed periodically based on the perceived risk;
- If inaccuracies are identified through the monitoring process, the performance funds allocated will be adjusted accordingly (either in that performance period, or in the next period).

The introduction of performance-based contracting will imply a major change in the role of all stakeholders, especially the MoHW and the DHMTs. Because of that, managerial capacity is a critical component for the success of the reform. Activities to build the knowledge base of key high- and mid-level staff in the MoHW, DHMTs, and even among physicians and other PHC providers should give the trainees a clear understanding of conceptual and practical issues related to the new health financing policy.

Building capacity will constitute a significant challenge to ensure the sustainability and success during implementation. It will need to focus on creating the necessary knowledge, skills, and abilities to perform the needed job duties called out in the new financing model. The capacity building will also need to help develop institutional cultures that are oriented around identifying and owning problems, making decisions about how to make it better and then getting it done, making sure all stakeholders are doing what they need to do, and then verifying that the problem was fixed.

## 6.4 Establishment of the Contractual Relationship between the MoHW and DHMTs

The MoHW will enter into annually renewable agreements with DHMTs. In these agreements, the concept of performance will refer to health improvement, achievements in quality and cost control, access to care, and other similar objectives. Performance agreements will also allow the MoHW to build institutional capacity in commissioning and contract performance management.

To ensure better efficiency of the health system, it is advisable to develop a contract that will define the obligations of providers. That will allow the MoHW to use a contract as the tool for effective management. The contract should include specific indicators of economic and organizational efficiency, quality indicators, and targets in dynamics.

It is advisable to increase the involvement of facility managers in the preparation and negotiation of contracts. At the same time, it is necessary to train them on the basics of management, control, and analysis of health information.

Contracts between the MoHW and DHMTs will be executed/ renewed on an annual basis in accordance with annual performance goals and targets for each performance indicator. Contracts will include:

- i. Budget allocation table as presented in the section 6.1;
- ii. Obligations of the DHMTs to:
  - collect performance data from PHC facilities, prepare an aggregate report on the performance of all the PHC facilities, and report findings to agreed monitoring bodies;
  - maintain adequate records to reflect in accordance with sound accounting practices, resources, operations, and expenditures;
  - enable the MoHW to inspect its facilities, operations, and any records and documents relevant to the PHC facilities, and prepare and furnish to the MoHW all such information as reasonably requested relating to the contract; and
- iii. Obligations of MoHW to:
  - assess DHMT's achievement of the agreed performance targets as a prerequisite for triggering payments in accordance with the agreed performance scoring formula;
  - carry out its activities under the contract with due diligence and efficiency and in accordance with public health, environmental, and social and administrative standards and practices.

The contracts will include performance indicators, together with their targets, which will serve to evaluate the performance of each DHMT. The indicators will be selected in negotiation between the MoHW and the DHMTs.

The final step of the contracting process should encourage PHC provider competition. If well planned and managed, competition among them can be a vital tool to improve efficiency and quality in health

care services. Competition can be encouraged by strengthening management capacity, estimating costs, setting fees, developing performance indicators linked to interventions that have been shown to improve health, and bolstering systems for information and financial management. P4P can increase use and quality of health care services, stabilize or decrease costs of these services, help use limited resources effectively, and improve staff motivation and morale (a proven incentive for staff retention).

## 6.5 Increased Autonomy of Service Providers

One of the conditions for success of a performance-based financing program is that health facilities are given flexibility and freedom to manage resources in a way that increases the quantity and quality of the health services they provide. Facilities should have autonomy to manage human resources, procure supplies, and manage fixed and liquid assets.

Many low- or middle income countries with MoHW hospital and PHC networks have experienced calls, often by doctors, for public provider autonomy. Some autonomy is necessary and important in any health system because the complexity of what providers manage is high and most information is at the doctor-patient level. In health systems with insurance or purchasing institutions, some provider autonomy is necessary to make the “provider payment lever” effective.

Another important part of the future provider autonomy is the ability to retain revenues. Currently, the revenues of health institutions are not held by the health sector; they go to the state treasury and providers have no incentive to collect revenue (e.g., co-payments at the PHC level; co-payments for patients who self-refer to hospitals or specialists, bypassing primary care).

The most important resource in the health and broader social sector is personnel. The number and quality of different specialists determines service delivery capacity, as the use of facilities and the array of medical devices depends on the availability and skills of staff. In Botswana, the main challenge is scarcity of health personnel (doctors and nurses) and the motivation to serve the patients. The staff number and composition is not optimal for the current service provision needs, and it is even more unbalanced in the regard to the future service mix. Therefore, we propose that DHMTs should be allowed to contract private health professionals where necessary (and possible).

## 6.6 Improvement of the Information Systems

Information systems are not integrated and effectively used for management decisions, and identification of population needs in health services. All basic information on PHC is collected at the facility level “by hand” and aggregated on a monthly basis; aggregated data are entered in the DHIS. Such a process is open to duplication of information and additional administrative costs are incurred to obtain and verify the data at the PHC level and then at the MoHW.

The development and adoption of a strategy for the health information system should be a major component in the broader health system strategy. For the operation of the system as a whole as well as for the standardization of local information systems, a system of national directories (medical institutions, clinical departments, profiles, etc.) and classifiers for health facilities, procedures and rules for their change and revision, and rules of data exchange need to be developed and adopted.

The PHC needs its own IT system to support the main tasks. More prevention-oriented functions and applications will be needed, which help to give a comprehensive overview of patient health status. This is especially important in caring for multimorbidity patients. Also, as the whole IT system should be built according to the principle of patient-centered care, the PHC systems should be prioritized and all other systems should support PHC activities, for example, exchange of diagnostic data and decisions and treatment plans of specialists. In fact, there are so many aspects to be taken into account during the

planning of electronic medical records and IT systems development that this report cannot describe in detail all relevant issues.

Since the implementation of electronic medical records in PHC is a long-term process, it makes sense to start with the development of electronic registers of patients with HIV/AIDS, cancer, diabetes, and high blood pressure.

The registers must be connected to the population database, have the same format and a standard set of information – not only the administrative information of the patient, but also a consistent set of clinical information (e.g., prescriptions, follow-up test results), which will allow assessment of the adequacy of case management according to treatment guidelines (care pathways) and provide insight into the results of treatment. These registers will allow personalized monitoring of case management according to treatment guidelines, prescriptions, and drug scheduling, as well as to have a standard package of aggregated clinical information by health facility and across the system as a whole.

In addition to financial incentives, the creation of monitoring systems for PHC using the existing hospital information systems may be considered. The treated patient database can be an effective tool for monitoring and indirect evaluation of PHC performance, with follow-on management solutions to improve the efficiency of primary care.

## 6.7 Monitoring and Evaluation

An important shift in the way that the MoHW manages the delivery of health services is that, instead of micromanaging service provision, it will pay increasing attention to final health outcomes. This will be done through an effective monitoring and evaluation system and good contract management. Resource allocation will be based on completed outputs and outcomes and not on an historical basis.

The importance of a strong monitoring system is critical and developing capacity to monitor and evaluate the contracts will become increasingly necessary for the MoHW. Monitoring processes should include the development of tools for tracking providers' behavior, something that imposes the need of improved information systems and other methods of contract compliance.

Progress on results will be monitored through routine data, administrative (including financial management) records, and bespoke progress reports from relevant bodies. Primary responsibility for data collection will be held by the MoHW. The MoHW will also be responsible for bringing together the progress reports, and monitoring the key performance indicators and results. Performance indicators will be integrated into the regular monitoring functions of the MoHW. Continuous mentoring, support, monitoring and evaluation of facility managers, and feedback to line managers at the district level needs to be actively implemented to achieve efficiencies and greater value for money (cost effectiveness).

## 6.8 Change Management

Health care organizations are initiating change-related programs at an increasing rate, often juggling several major change initiatives at once. The ability to successfully implement each program, however, has not always kept pace, and the demand for a holistic approach to managing change has grown rapidly.

When change intensity and organizational complexity increase, the task of change management grows significantly, to the point where normal processes cannot handle it. Resistance is an important force that decision makers, health care administrators, and other participants in the reorganization process will face in all phases of the change cycle. The forces of change are almost always found in the external environment and can be largely unrecognized. The forces of resistance are largely internal.

Our visit to the MoHW and health facilities made the need for a change management strategy more clear; it will be necessary in order for the staff to handle, problem solve, and work through all changes that are being implemented. To really push change management, it is important to have clear communication strategies, both internal and external; the MoHW also needs to identify agents of change that will move PHC payment reform to the desired state, as well as make other people accept the change with positive attitudes. This will enable the MoHW to experience minimum disruption and see the reform succeed.

## 7. CONCLUSIONS

Botswana, like other countries, faces a range of challenging tasks. Creation of a competitive economy that ensures consistent economic growth requires a healthy workforce, and this largely depends on the health care system – coverage of the population with a state-guaranteed benefits system, and provision of financially and geographically accessible and high-quality health care become top priorities. Providing these strategic priorities, particularly in an environment of financial constraints, is impossible without increasing efficiency of the system and a functional strategic purchasing system.

There is no single approach to payment reform that will lead to optimal results in all countries, especially since countries do not necessarily aim for the same degree of equity, quality, and expenditure in their health systems. Instead, payment reforms will need to take into account ‘path dependency’ (i.e., historical and cultural developments), socioeconomic realities, and feasibility, reflected in the interests of all stakeholders, not least those of the providers of health care.

Each country deciding on the reform or development of its health financing system must evaluate strengths and weaknesses of the different options against their own priorities and needs, political and economic constraints, and administrative capabilities. Given the current historical experience and technical capabilities in Botswana, this report suggests a capitation model for PHC as the first reform.

PHC is the key to improving the health of all Botswana citizens. Strong PHC is at the core of health promotion and disease prevention, fast and effective management of most acute and chronic diseases, and treatment continuity for NCDs. In most health situations, it is the most easily accessible contact point and can therefore also act as a gatekeeper to ensure optimal use of specialized care services.

Under current circumstances, PHC is tightly connected to hospitals. There are no incentives to develop service delivery models that provide available and accessible PHC services to patients. PHC facilities are poorly equipped and people do not perceive PHC providers as competent. Therefore, they do not trust PHC and, without barriers to self-referral, they bypass PHC to seek specialized outpatient care at hospitals. This inefficient situation wastes valuable health resources.

To develop patient-centered care with all its benefits for patients' health status, the MoHW should develop a clear plan to establishing autonomous PHC centers that are well equipped and with trained and competent staff who can resolve most health problems. Champion doctors and nurses are needed, together with strong leaders who commit to strengthening PHC.

Of course, PHC services should also be prioritized from a health financing perspective, to ensure the provision of a proper mix and volume of services and a staff motivated to improve their skills in dealing with different age groups, diseases, and prevention activities.

The introduction of the proposed budget allocation model will be fairer – and will consequently increase the distinction between well-managed and poorly managed DHMTs. Overall, there will be a much-greater need for good management.

While there is much to be done, the new model should be viewed as an opportunity. This should be clear from the stated objectives of the changes: to treat DHMTs more fairly than in the past, and to increase the incentives and rewards for improvements in the cost-effectiveness of care provision. All health professionals should welcome changes that have these objectives, especially in view of the commitment of the GoB to strengthen public financial management.

In Annex A, we provide the activities to be carried out for the implementation of the proposed reform. It should be noted that activities are not chronological, as many activities necessarily take place simultaneously.

# ANNEX A: DETAILED WORK PLAN

## 1. Project Planning & Management

### Activities:

- Develop and finalize the workplan
- Determine and approve strategic approach
- Analysis of situation
- Develop project evaluation framework
- Define project management structure
- Develop inception report
- Develop quarterly reports

## 2. Development of Performance Based Capitation Payments

### Activities:

- Develop administrative by-laws and regulations
- Develop templates for performance agreements
- Develop performance indicators, criteria and scoring formula
- Setting a reporting measurement for achievements
- Design institutional arrangements and procedures
- Elaborate the role of key institutions
- Develop ToR of relevant stakeholders
- Develop implementation plan
- Integrate all key components into the Standard Operating Procedure Manual.

## 3. Capacity Building for Performance and mentoring on job contract implementation

### Activities:

- Training needs assessment
- Prepare training materials and training curricula
- Confirm training logistics/technology support
- Lead trainings for MoHW/DHMT staff
- Mentor practical implementation challenges, provide guidance



# ANNEX B: SUMMARY OF RECOMMENDATIONS FOR THE FULL IMPLEMENTATION OF STRATEGIC PURCHASING

Component of the Strategic Purchasing Framework	Short-term Actions (1-2 years)	Long-term Actions (2-5 years)
<b>1. Organizational structure and governance</b>		
1.1 Structural efficiency	<ul style="list-style-type: none"> <li>to conduct situation analysis and make recommendations for roles and responsibilities of all stakeholders involved in strategic purchasing (including possible establishment/ appointment of the single/ multiple purchasers)</li> <li>to conduct analysis of the legal framework and develop all necessary legal documents for the full implementation of the strategic purchasing</li> </ul>	<ul style="list-style-type: none"> <li>to adopt legal framework for full implementation of strategic purchasing (including possible establishment/ appointment of the single/ multiple purchasers)</li> </ul>
1.2 Health Information System	<ul style="list-style-type: none"> <li>to develop data sets for reporting based on the adopted patient, diagnosis, and procedure classifications</li> <li>to implement in all health facilities</li> <li>to automate data entry for P4P indicators</li> <li>to increase analytical capacity of MoHW</li> <li>to produce and publish quarterly analytical reports (providers assessment)</li> </ul>	<ul style="list-style-type: none"> <li>to develop and implement integrated health information system based on the best international practice</li> <li>to develop Business Intelligence (BI) system based on information from the integrated health information system</li> </ul>
<b>2. Which services to purchase</b>		
2.1 Universal Health Services Package (UHSP)	<ul style="list-style-type: none"> <li>to develop methodology of defining UHSP</li> <li>to develop and adopt UHSP</li> </ul>	<ul style="list-style-type: none"> <li>to develop and approve co-payment rules based on the means testing</li> </ul>
2.2 Health Technology Assessment (HTA)	<ul style="list-style-type: none"> <li>identify responsible structure and establish the HTA team</li> <li>to provide training in HTA</li> </ul>	<ul style="list-style-type: none"> <li>to use HTA to design/revise the UHSP</li> </ul>

Component of the Strategic Purchasing Framework	Short-term Actions (1-2 years)	Long-term Actions (2-5 years)
<b>3. From Whom to Purchase the Services</b>		
3.1. Accreditation and autonomy of the health facilities	<ul style="list-style-type: none"> <li>• to develop the accreditation standards based on international practice</li> <li>• to develop legal framework for the autonomy of the public health facilities</li> <li>• to built capacity in health facility management</li> </ul>	<ul style="list-style-type: none"> <li>• to adopt legal framework for the autonomy of the public health facilities</li> <li>• to establish public health facilities as semi-autonomous legal entities</li> </ul>
<b>4. For whom to Purchase the Services</b>		
4.1 Public health interventions	<ul style="list-style-type: none"> <li>• to promote PHC among the general population</li> <li>• to publish facility ratings in mass media</li> <li>• to increase promotion of healthy lifestyles</li> </ul>	<ul style="list-style-type: none"> <li>• to make PHC attractive for population</li> </ul>
<b>5. How to Purchase</b>		
5.1 Patient, disease, and procedure classifications	<ul style="list-style-type: none"> <li>• to provide training in ICD-10 coding</li> <li>• to decide on patient and procedure classification</li> <li>• to provide training in patient and procedure coding</li> <li>• to develop/review other classifications (Drugs, Lab, Medical Device)</li> </ul>	<ul style="list-style-type: none"> <li>• to implement patient, diagnosis, and procedure classifications</li> </ul>
5.2 Payment methods for the Primary Health Care	<ul style="list-style-type: none"> <li>• to develop and implement capitation-based performance contracts for PHC</li> </ul>	<ul style="list-style-type: none"> <li>• to implement selective contracting of the PHC services</li> </ul>
5.1 Payment methods for inpatient care	<ul style="list-style-type: none"> <li>• to develop/adopt case-based payment model for hospitals</li> <li>• to develop and implement performance and quality indicators for hospitals</li> <li>• to develop a methodology for the costing of hospital services</li> </ul>	<ul style="list-style-type: none"> <li>• to carry out a costing of hospital services</li> <li>• to implement case-based payment model for hospitals</li> </ul>

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