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### Foreword

### Zambia:Foreword

This analytical profile provides a health situation analysis of the Zambia and, coupled with the **Factsheet**<sup>[1]</sup>, it is the most significant output of the African Health Observatory. The profile is structured in such a way to be as comprehensive as possible. It is systematically arranged under eight major headings:

- 1. Introduction to country context
- 2. Health status and trends
- 3. The health system
- 4. Specific programmes and services
- 5. Key determinants
- 6. Progress on the health-related Millennium Development Goals
- 7. Progress on the Ouagadougou and Algiers Declarations
- 8. Progress on the Libreville Declarations

This analytical profile does not merely recount tales of misery - it also shows significant advances that have been made in the last decade. The profile shows clearly that health systems are the key to providing a range of essential health care. African governments and their partners need to invest more funds to strengthen their health systems.

Please note that this is a work in progress and some sections are in the process of being completed. It will also be continually updated and enriched to bring you the best available evidence on the health situation in Zambia. We hope it will be useful to you, to countries and partners in their efforts to improve health and health equity in the Region.

The profiles that are shown on these pages are detailed and analytical and consist of a combination of text, graphs, maps and illustrations. If you are interested in getting statistical profiles only, these are available on the *Factsheet* <sup>[1]</sup>.

We gratefully acknowledge the inputs of country and subregional focal points on health information, data and statistics. Without their contribution these profiles would not have been possible. We also thank the African Health Observatory focal points at WHO Country Offices for coordinating the production of the profiles and those who reviewed and gave their input to earlier drafts of the profiles.

#### References

[1] http://www.aho.afro.who.int/profiles\_information/images/7/70/Zambia-Statistical\_Factsheet.pdf

## Introduction to Country Context

### Health Status and Trends

### **Zambia:Health Status and Trends**

This section of the analytical profile is structured as follows:

- 2.1 Analytical summary
- 2.2 Life expectancy
- 2.3 Mortality
- 2.4 Burden of disease

### The Health System

### Zambia: The Health System

Health systems are defined as comprising all the organizations, institutions and resources that are devoted to producing health actions. A health action is defined as any effort, whether in personal health care, public health services or through intersectoral initiatives, whose primary purpose is to improve health. But while improving health is clearly the main objective of a health system, it is not the only one. The objective of good health itself is really twofold: the best attainable average level – goodness – and the smallest feasible differences among individuals and groups – fairness. Goodness means a health system responding well to what people expect of it; fairness means it responds equally well to everyone, without discrimination

National health systems have three overall goals:

- 1. good health,
- 2. responsiveness to the expectations of the population, and
- **3.** fairness of financial contribution.

WHO describes health systems as having six building blocks: service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance (stewardship). The 2008 Ouagadougou Declaration on Primary Health Care and Health Systems in Africa focuses on nine major priority areas, namely Leadership and Governance for Health; Health Services Delivery; Human Resources for Health; Health Financing; Health Information Systems; Health Technologies; Community Ownership and Participation; Partnerships for Health Development; and Research for Health.

This section of the analytical profile is structured along the lines of the WHO Framework and the priorities described by the 2008 Ouagadougou Declaration.

3	The Health System
3.1	Health system outcomes
3.2	Leadership and governance
3.3	Community ownership and participation
3.4	Partnerships for health development
3.5	Health information, evidence and knowledge
3.6	Health financing system
3.7	Service delivery
3.8	Health workforce
3.9	Medical products, vaccines, infrastructures and equipment
3.10	General country health policies
3.11	Universal coverage

As most of SSA countries after their health system's reform, Zambia based its health system on decentralization. This decentralization led to three levels of public health facilities that are hospitals, health centers, and health posts; moreover, the hospitals are divided into primary (district), secondary (provincial), and tertiary (central) facilities. Incidentally, boards are in place at different level to oversee health activities of their respective levels; this situation relieved the MoH of health service delivery coordination/supervision and focused their role on policymaking and

regulation of the health sector<sup>[1]</sup>

#### References

 Bossert, T. et al., "Decentralization of the Health System in Zambia,"Partnerships for Health Reform, Abt Associates Inc.: Bethesda, MD, 2000.

### Zambia:Health system outcomes

Health systems have multiple goals.<sup>[1]</sup> *The world health report 2000*<sup>[2]</sup>defined overall health system outcomes or goals as improving health and health equity in ways that are:

- responsive
- financially fair
- make the best, or most efficient, use of available resources.

There are also important intermediate goals: the route from inputs to health outcomes is through achieving greater access to, and coverage for, effective health interventions without compromising efforts to ensure provider quality and safety.

Countries try to protect the health of their citizens. They may be more or less successful, and more or less committed, but the tendency is one of trying to make progress, in three dimensions:

- First, countries try to broaden the range of benefits (programmes, interventions, goods, services) to which their citizens are entitled.
- Second, they extend access to these health goods and services to wider population groups and ultimately to all citizens: the notion of universal access to these benefits.



• Finally, they try to provide citizens with social protection against untoward financial and social consequences of taking up health care. Of particular interest is protection against catastrophic expenditure and poverty.

In health policy and public health literature, the shorthand for these entitlements of universal access to a specified package of health benefits and social protection is universal coverage.

This section of the health systems profile is structured as follows:

3.1.2 General overview and systemic outcomes

3.1.2.1 Overall health system status

- 3.1.2.2 Achievement of the stated objectives of the health system
- 3.1.2.3 The distribution of health system's costs and benefits across the population

3.1.2.4 Efficiency of resource allocation in health care

3.1.2.5 Technical efficiency in the production of health care

- 3.1.2.6 Quality of care
- 3.1.2.7 Contribution of the health system to health improvement
- 3.1.3 Priorities and ways forward

- Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action (pdf 843.33kb). Geneva, World Health Organization, 2007 (http://www.who.int/healthsystems/strategy/everybodys\_business.pdf)
- The world health report 2000. Health systems: improving performance (pdf 1.65Mb). Geneva, World Health Organization, 2000 (http://www.who.int/whr/2000/en/whr00\_en.pdf)
- [3] The world medicines situation (pdf 1.03Mb). Geneva, World Health Organization, 2004 (http://apps.who.int/medicinedocs/pdf/s6160e/ s6160e.pdf)

## Zambia:Analytical summary - Health system outcomes

The health status of the Zambian people has been improving over the past 18 years.

Since the commencement of major health sector reforms in 1991, Zambia's efforts have been directed towards improving the standards of living, particularly health, of the population throughout the country. This is being done through a combination of strategies and approaches, which include health specific strategies and those intended to influence the performance of other determinants of health, including education, poverty reduction, and access to good sanitation and safe water.

These efforts have manifested through the implementation of the Millennium Development Goals <sup>[1]</sup> and the development and implementation of the vision 2030, the national development plan <sup>[2]</sup>, national health strategic plans (see the latest National Health Strategic Plan 2006-2010 <sup>[3]</sup>) and other relevant sector strategies.

#### References

- [1] http://www.undp.org/mdg/basics.shtml
- [3] http://www.who.int/nha/country/zmb/Zambia\_NH\_Strategic\_plan,2006-2010%20.pdf

### Zambia:General overview and systemic outcomes

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### Zambia:Overall health system status

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Since the commencement of major health sector reforms in 1991, Zambia's efforts have been directed towards improving the standards of living, particularly health, of the population throughout the country. This is being done through a combination of strategies and approaches, which include health specific strategies and those intended to influence the performance of other determinants of health, including education, poverty reduction, and access to good sanitation and safe water. These efforts have manifested through the implementation of the Millennium Development Goals (MDGs) and the development and implementation of the vision 2030, the national development plan, national health strategic plans (see the latest National Health Strategic Plan 2006-2010<sup>[1]</sup>) and other relevant sector strategies.

Table 10.1 shows that the health status of the Zambian people has been improving over the past 18 years. This observation is supported by the performance trends of almost all the MDG health impact indicators and the conclusions of the Mid-Term Review 2008 <sup>[2]</sup>(see section 2.1). Improvements have also been reported in have been reported in the 2007 Zambia Demographic and Health Survey <sup>[3]</sup>, the HMIS report for 2008 (**insert doc**) and the malaria indicator survey of 2008 (**insert doc**). Though some of these indicators are still below the targeted levels, the general trends are improving.

Description/ Area of Focus	Selected Indicator		1990	2000	2005	2008
A) General	Total Population			S		3
	Life expectancy at birth (males/females)					
	Health life expectancy at birth (male/female)					
B) MDGs Target Areas						
1. Poverty and hunger	Incidence of extreme poverty (%)		58*		53*	51*
,	Prevalence of underweight children <5 years (%)		22		16	14.6
2. Universal primary	General literacy rate (%)		55.3			
education	Girls reaching grade 7 (%)	1	57		75	79
3. Gender equality	Gender parity index, Grade 10-12		0.92*	8	0.84	0.83
4. Child health	Infant mortality rate (Per 1,000 live births)		107			70
	Under 5 mortality rate (Per 1,000 live births)		191			119
	Under 1s immunised against measles (%)		77			84.9
<ol> <li>Maternal, sexual and reproductive health</li> </ol>	Maternal mortality rate (Per 1,000 live births)					449
	First antenatal care coverage (%)		70	1	93	94
	Pregnant women sleeping under an Insecticide Treated Net (ITN) (%)					32.7
	Births attended by skilled personnel (%)					47.0
6. Disease control	HIV prevalence rate in adults between 15-49 years (%)		20.0		16.1*	14.3
	Malaria incidence rate (Per 1,000 population)					252
	TB case detection rate	1 2		( ) ( )		50
	Children <5 with severe anaemia (%)					5.0
	Children <5 sleeping under ITN (%)	1		3 5		28.6
7. Environmental	Access to safe water (national) (%)	-			43.1	40.0*
sustainability	Access to good sanitation (%)		26.0	1	29.9	36.1*
8. Partnerships	Drug kits opened (Per 1,000 population)				1.08	0.75*

Table 10.1: Zambia: Trends in Selected Health Related Indicators

Source: Zambia Health Sector Mid-Term Review, 2008

\*- For previous year

Still, Zambia remains a high disease burdened country. The disease burden has continued to be high, causing significant pressure on the national health system. The situation is further compounded by the high levels of unemployment and poverty, the devastating impact of malaria, HIV&AID and other epidemics, and critical shortages and uneven distribution of health workers, which have continued to significantly impact on the standards of health of the population. In 2008, the top 10 main causes of morbidity and mortality in Zambia were malaria, HIV/AIDS, respiratory infections (non-pneumonia), diarrhoea (non-blood), trauma (accidents, injuries, wounds and burns), eye infections, skin infections, respiratory infections (pneumonia), ear, nose and throat infections, intestinal worms and anaemia. Table 10.2 presents the top 10 major causes of morbidity and mortality for all ages for the period from 2006 to 2008, whilst Table 10.3 presents data on the major causes of morbidity and morality in children under the age of 5 years.

	2006 (All ages)		2007 (All ages)		2008 (All ages)		
Ranking	Disease Name	Incidence per 1,000 pop. <sup>1</sup>	Disease Name	Incidence per 1,000 pop. <sup>2</sup>	Disease Name	Incidence per 1,000 pop <sup>1</sup>	
1	Malaria	412	Malaria	359	Malaria	251.7	
2	Respiratory infection: non-pneumonia	192	Respiratory infection: non-pneumonia	219	Respiratory infection: non-pneumonia	197.6	
3	Diarrhoea: non- bloody	81	Diarrhoea: non- bloody	76	Diarrhoea: non- bloody	69.3	
4	Trauma <sup>3</sup>	48	Trauma <sup>2</sup>	50	Trauma <sup>2</sup>	46.6	
5	Eye infection	41	Skin infections	38	Skin infections	38	
6	Skin infections	41	Respiratory infections: pneumonia	37	Muscular skeletal &connective tissue	32.3	
7	Respiratory Infections: pneumonia	39	Eye infection	35	Eye infection	31.3	
8	Ear/Nose/throat infections	26	Muscular skeletal &connective tissue	30	Respiratory infections: pneumonia	30.8	
9	Intestinal worms	16	Digestive system not infectious	27	Skin infections	30.5	
10	Sexually transmitted infections	14	Ear/Nose/throat infections	26	Ear/Nose/throat infections	26.9	

Table 10.2: 10 Major Causes of Visitation to Health Facilities (for all ages combined), Zambia, 2006-2008

Source: Zambia: Ministry of Health 2008 Statistical Bulletin

	2006 (Under 5)		2007 (Under 5)		2008 (Under 5)		
Rank	Disease Name	Incidence per 1,000 pop. (under 5)	Disease Name	Incidence per 1,000 pop. (under 5)	Disease Name	Incidence per 1,000 pop. (under 5)	
1	Malaria	1,106	Malaria	940	Malaria	641	
2	Respiratory infection: non- pneumonia	494	Respiratory infection: non- pneumonia	539	Respiratory infection: non- pneumonia	467	
3	Diarrhoea: non-bloody	270	Diarrhoea: non-bloody	248	Diarrhoea: non-bloody	225	
4	Eye infection	137	Respiratory infection: pneumonia	111	Eye Infections	93	
5	Respiratory Infections: pneumonia	115	Eye infection	109	Respiratory infection: pneumonia	85	
6	Skin infections	104	Skin Infections	89	Skin infections	72	
7	Ear/Nose/th roat infections	57	Trauma	56	Trauma: accidents, injuries, wounds, burns	53	
8	Trauma	56	Ear/Nose/Th roat Infections	54	Ear / Nose / Throat infections	53	
9	Intestinal Worms	43	Intestinal worms	34	Skin Diseases (not infectious)	33	
10	Anaemia	37	Anaemia	29	Intestinal Worms	28	

Table 10.3: 10 Major Causes of Visitation to Health Facilities (for children under 5), Zambia, 2006-2008

Source: Zambia: Ministry of Health 2008 Statistical Bulletin

Malaria is the leading cause of morbidity and mortality in the country. An effective national malaria control programme has been set up in recent years, which is making considerable progress in the implementation of major malaria prevention and treatment strategies throughout the country. As a result of the consented efforts that are being made, recent trends in key malaria indicators are showing significant progress in the fight against malaria. Over the past 3 years, malaria incidence per 1,000 population is reported to have reduced from 412 cases in 2006 to 358 cases in 2007 and 252 cases in 2008 (MOH, HMIS 2008).

Currently, HIV&AIDS is the biggest epidemic in Zambia, with significant impact on morbidity and mortality levels throughout the country, cutting across all ages, gender and social status. HIV&AIDS has placed a major social and economic burden on the country and has continued to significantly undermine the country's capacities and efforts towards socio-economic development. It is currently estimated that approximately **xxxx** adults and **xxx** children (**provide figures or preferably percentage on the total population**) are living with HIV. However, significant efforts are being made, through a multi-sectoral response to control HIV/AIDS and mitigate its impact. As a result of these efforts, major achievements have been made at all the levels of interventions, including prevention, treatment and care for HIV infected persons. The Zambia Demographic and Health Survey 2007 <sup>[3]</sup> has also revealed that over the past 5 years, HIV prevalence in the adult population aged between 15 and 49 years has reduced from 16.1% in 2002 to 14.3% in 2007 (ZDHS 2007).

Tuberculosis (TB) is one of the main non-pneumonia respiratory infections and among the major causes of morbidity and mortality in Zambia. The situation is further complicated by the emergence of drug resistant TB and also the TB/HIV core infections. It is estimated that approximately 70% of confirmed TB patients are also HIV positive. In this respect, current efforts are aimed at ensuring collaborative efforts in the diagnosis and treatment of TB/HIV. Even though significant progress has been made in the fight against TB, more still needs to be done in order to achieve the national and MDGs targets on TB. More discussion of malaria, HIV&AIDS, TB and other major health problems is provided in the section below on communicable diseases. Back to Country Profile Index

#### References

- [1] https://extranet.who.int/mediawiki/images/8/84/Zambia\_-\_National\_Health\_Strategic\_Plan\_-\_2006-2010.pdf
- [2] https://extranet.who.int/mediawiki/images/5/5e/Zambia\_Mid\_Term\_Review\_NHSP\_2006-2010.pdf
- $[3] https://extranet.who.int/mediawiki/images/a/a0/Zambia_-_Demographic_\%26\_Health_Survey_-_2007.pdf$

## Zambia:Achievement of the stated objectives of the health system

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The objectives of the health system are articulated in the National Health Strategic Plan 2006-2010<sup>[1]</sup> as follows:

- Vision: To ensure equity of access to assured quality, cost-effective and affordable health services as close to the family as possible.
- Mission Statement: To provide cost effective quality health services as close to the family as possible in order to ensure equity of access in health service delivery and contribute to the human and socio-economic development of the nation.
- Overall Goal: To further improve health service delivery in order to significantly contribute to the attainment of the health Millennium Development Goals and national health priorities.
- The following principles guide the implementation of this Strategic Plan: (1) equity of access; (2) affordability; (3) cost-effectiveness; (4) partnerships; (5) accountability; (6) decentralisation; and (7) leadership.

Achievement of the stated objectives of the Zambian health system is assessed by reviewing the sector's performance in respect of the 7 stated key principles that underpin the National Health Strategic Plan 2006-2010 <sup>[1]</sup>. This assessment significantly draws from the previous recent assessments, including the Mid-Term Review 2008 <sup>[2]</sup>, the Demographic and Health Survey2007 <sup>[3]</sup> and the Joint Annual Reviews (see for example the Joint Annual Review 2008 <sup>[1]</sup>).

#### (1) Equity of access

At the time of preparing the National Health Strategic Plan 2006-2010<sup>[1]</sup>, in 2005, the major issues affecting equity of access to health care included: inadequate and irrational distribution of health facilities; critical shortages and inequitable distribution of health workers, particularly for rural areas; poor transport and communication; payment of user fees to access the services; shortages and erratic supply of essential medicines and other medical supplies; and the deteriorating standards of quality of care.

The National Health Strategic Plan 2006-2010<sup>[1]</sup> proposed a number of strategies targeted at ensuring "*equity of access*" as close to the family as possible". Over the past three years, MOH has implemented a number of these strategies which have contributed to the improvement of "equity of access". Major decisions implemented include:

• The policy on the removal of user fees in 54 rural districts in 2006 (see the sections on Health financing for the most vulnerable and on Health financing strategy towards universal coverage) is believed to have significantly increased service utilisation in the affected districts. Yet, a recent study<sup>[2]</sup> also showed that "the abolition of user fees had a very different impact in each of the health centers and hospitals visited (...). In some places the policy change was said to have greatly benefited the poorest, without negatively affecting the quality of services provided. In others, no impact on utilization could be detected but loss of income has seriously challenged service provision, or drug availability was compromised". Also, user fees still present a financial barrier for urban districts, where it still applies;

- Scaling up of infrastructure development, including construction of new facilities, renovation of old infrastructure and expansion of existing facilities across the country (see the section on Infrastructure and equipment). A comprehensive infrastructure development plan is in place and being implemented. Procurement of medical equipment has also been scaled up, with support from partners such as the ORET project (**what does this acronym mean?**), the Global Fund to Fight AIDS, TB and Malaria (GFATA), the USG PEPFAR program and the World Bank funded ZANARA (**idem**) project;
- Efforts aimed at improving the availability and rational distribution of health workers, which include the development and on-going implementation of a comprehensive National Human Resources for Health Strategic Plan 2006-2010<sup>[3]</sup>, restructuring of the health sector, the introduction and expansion of the health workers' staff retention scheme, task shifting strategies and strengthening of community health partnerships (see the chapter on Health workforce<sup>[4]</sup>);
- Improvements in the procurement, supply and distribution of essential drugs and medical supplies, through the introduction of the drug supply budget line system and improved funding from the treasury and the cooperating partners, particularly the GFATM and USG PEPFAR (see the section on Medical products); and
- The resource allocation criteria used for distribution of financial resources to the districts is based on the material-depreviation index and is aimed at ensuring equitable distribution of resources (see the section on Health expenditures patterns, trends and funding flows).

As a result of these measures, significant improvements in equity of access have been observed, a fact that is also acknowledged in Section 5.1 of the Mid-Term Review 2008 <sup>[2]</sup>. In this respect, per capita annual utilisation of primary health care facilities has gradually increased, from 1.2 in 2006 to 1.3 in 2007 and 1.6 in 2008.

However, it should be noted that, even though these achievements are acknowledged, the scale of implementation of the above interventions point to the fact that there are still significant challenges/barriers, which need to be addressed in order to achieve the desired vision of "equity of access". Universal free services would improve access for the urban poor, who make up about 50% of the Zambian population.

See also the chapter on Universal coverage <sup>[5]</sup> for further details.

#### (2) Affordability

#### still to be completed

(3) Cost-effectiveness

#### still to be completed

#### (4) Partnerships

Partnership is one of the key principles that guide the implementation of the National Health Strategic Plan 2006-2010<sup>[1]</sup>. The underlying assumption is that MOH will establish efficient and effective partnerships with all the stakeholders of the health sector in Zambia and that these partnerships will benefit from the synergies provided by each stakeholder group. In this respect, over the past years, Zambia has been significantly successful in establishing strong partnerships with the communities through enhanced decentralisation and increased participation of communities in the management of health services, other line ministries implementing various health-related programmes, the faith-based health sector under Churches Health Association of Zambia<sup>[6]</sup>, international cooperating partners, civil society and the private sector. These partnerships have led to significant technical and financial support to the health sector, coming in form of direct sector support through the sector basket under the SWAPs, direct budget support, through the central treasury, earmarked funding for specific activities and project support. Partnerships with the other line ministries, CHAZ group, private sector and civil society have been mainly through their direct participation in the delivery of health care services.

Whilst it is acknowledged that the partnerships have led to significant increases in technical and financial support from the cooperating partners and that the health sector SWAp is significantly developed, there is still the problem of coordination and harmonisation of the efforts and resources. This leads to significant amounts of support being provided outside the SWAps, without proper coordination and prioritisation. Zambia is a signatory to the IHP+ Global Compact and efforts have commenced towards alignment of partnerships to the IHP+, so as to provide for enhanced prioritisation, coordination, harmonisation and scaling up of resources towards achievement of the MDGs. Already, the introduction of Joint Annual Reviews (JARs) in 2006 (**insert doc**) has gone a long way towards this aim.

Further, partnerships with the private sector need further strengthening. To this effect, efforts are currently undertaken towards developing appropriate policy and institutional frameworks for strengthening health services contracting and also towards expanding the coverage of the monitoring and evaluation systems to cover the private sector and civil society programmes and activities, which currently is a major weakness.

See also the section on Partnership for health and coordination mechanisms for further details.

#### (5) Accountability

The principle of accountability aims at ensuring that all the resources are utilized for the intended purposes in a professional and transparent manner. It also aims at ensuring that the ministry is accountable for the actions taken. To achieve this aim, appropriate fiduciary management systems have been developed to guide and control the: planning, procurement and financial management for the health sector. These systems are grounded into the national fiduciary management policies and systems, and include:

- Policy and regulatory frameworks;
- · Institutional/implementation framework; and
- Monitoring and evaluation framework.

Generally, it can be observed that the Ministry of Health (MOH) has made significant achievements in establishing a strong system for ensuring both financial and operational accountability. In July 2008 an assessment of Public Expenditure and Financial Accountability (PEFA) for the Government (**insert doc**) was undertaken to update the previous assessment carried out in 2005. The conclusion was that overall the system was operating at an average level and in some areas above average. There had been some clear improvements since the 2005 assessment.

In order to further strengthen accountability within the public sector, the Government has embarked on the implementation of the PEMFA programme (**what does this acronym means?**). This programme includes an improved and consistent legal framework for public expenditure management; introduction of an Integrated Financial Management Information System (IFMIS); strengthening of internal and external audit; and improvements in public procurement, debt management and external financing arrangements.

Though these accountability systems exist, they are also undermined by limitations in system and institutional capacities, particularly the continued shortages of financial management professionals. The situation calls for further capacity building.

Further, the accountability systems were put to test in the course of 2009 by the government's revelation of possible fraudulent dealings and misappropriation of funds by some public health workers. This in a way could be considered to be an indication that the system is working. It also sets the basis for the need for continuous reviews and strengthening of the systems.

#### (6) Decentralization

The Zambian health sector has since 1995 embraced decentralization as an important tool for organizing the sector in a manner that allows for broader participation in health service delivery. The organizational model implemented between 1995 and 2005, aimed at greater decentralization of the functions of planning, management of service delivery and prioritization of resources from the centre to the districts, with stronger participation of the community (see the section on Decentralization of the system). Initially, these reforms were guided by the National Health Policies and strategies of 1991 (**insert doc if available**) and the National health Services Act of 1995 (**insert doc if available**), as there was no national policy on decentralization. However, since 2002, the Government has put in place the National Decentralization Policy, which is currently under implementation. The National Decentralization

Policy (2002) (**insert doc**) was intended to follow that policy 'towards empowering the people'. A comprehensive Decentralization Implementation Plan (DIP) followed (**insert doc**), that produced a roadmap 2006-2010 to guide the implementation of the policy by the various stakeholders.

The health sector has made significant achievements towards decentralization and is far ahead of the other sectors. However, decentralization of the sector is currently challenged by the need to appropriately align the health sector decentralization to the national decentralization policy, and ensure that this process does not reverse the achievements and lessons learnt. Further, it remains to be assessed, to what extent the recent restructuring of the sector, which resulted into the abolition of the semi-autonomous Central Board of Health and the district and hospital management boards, has impacted on the level of decentralization and community participation. The successful implementation of the National Decentralization Policy (**attach doc**) will to a large extent depend on the capacities of the local authorities to establish appropriate governance and institutional capacities to efficiently and effectively carry out this mandate. Currently, these capacities appear to be inadequate.

#### (7) Leadership

The principle of leadership recognizes MOH as the institution responsible for providing focus and coordination of all the programs and actors in the health sector. In this respect, the National Health Strategic Plan 2006-2010<sup>[1]</sup> identified leadership as one of the key principles to guide its successful implementation. This is also emphasized in the Memorandum of Understanding (MOU) between MOH and the Cooperating Partners (**attach doc**), which states that "the MOH will be fully accountable and responsible for the implementation of the NHSP and that it will provide overall leadership in planning and budgeting, implementation, monitoring and evaluation of the NHSP and the health component of the Fifth national development Plan (FNDP)"(**attach doc**).

It can be concluded that MOH has to a large extent been successful in providing overall leadership to the health sector, in all the key areas. Since 1992, Zambia has been implementing comprehensive reforms aimed at transforming the health sector into a responsive, efficient and effective sector. MOH has provided the necessary leadership to this process by developing and implementing the National Health Policies and Strategies of 1992 and the National Health Services Act of 1995 (NHSA 1995) (**attach doc**), which facilitated major policy, legal and organizational reforms within the sector. It has also continued to provide leadership, through the development and implementation of various sector policies, legislation and strategies, including the recent major restructuring of the health sector.

However, the ministry has also faced significant constraints and challenges in the process of exercising its leadership role. Major factors include:

- The failure by MOH and the Zambian Government to successfully influence the global community into supporting efforts aimed at broader harmonization of the various forms of support to the sector, in line with international initiatives, such as the Paris Declarations and the IHP+;
- Lost opportunity to control the prioritization of all the financial resources available to the sector, due to the proliferation of various forms of parallel and earmarked funding mechanisms, particularly the Global Fund and other Global Health Initiatives;
- · Inadequate technical capacity, attributed to shortages of planning and finance staff; and
- Limited capacity by civil society organizations to make meaningful contributions to the planning process, and advocacy.

- [1] https://extranet.who.int/mediawiki/images/6/6e/Zambia\_MOH-JAR\_2008\_Final\_Report\_Submitted\_Full\_Report\_.pdf
- [2] The study was conducted with the support of the London School of Hygiene and Tropical Medicine. A first draft has been delivered in mid-2009 but is not yet ready for dissemination.
- [3] https://extranet.who.int/mediawiki/images/9/99/Zambia\_-\_HR\_for\_Health\_Strategic\_2006-2010.pdf
- [4] https://extranet.who.int/mediawiki/index.php/Index\_for\_Zambia\_-\_Health\_Workforce
- $\cite{tabular} [5] https://extranet.who.int/mediawiki/index.php/Index_for_Zambia_-_Universal_Coverage$

[6] http://www.chaz.org.zm

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## Zambia: The distribution of health system's costs and benefits across the population

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Currently, the health system in Zambia combines public, faith-based, private and civil society owned health services. Except for the private for-profit facilities, the other facilities are inclined towards provision of free and subsidised health services aimed at increasing access to these services. Within the public and faith-based health sectors, three main systems apply, namely: the free health care services, particularly for the rural areas and selected categories of the population, such as children, the aged and the defence and security personnel; flat user fee paying system, which are significantly subsidised; and full cost recovery basis, charged to patients asking for specialised services that are outside the prescribed basic packages of health care for the respective levels, and to patients opting for high cost services within the public and faith-based health facilities.

Whilst the general inclination of the public and faith-based health facilities and civil society services is towards expansion of free and highly subsidised health services, such services can not entirely be claimed as being an equitable health financing system, largely due to additional unmet costs which are more difficult to support for the poorest than for the rich (see the recent London School evaluation<sup>[1]</sup>). According to NHA data, approximately 30% of Zambia's total health expenditures are incurred through inefficient out-of-pocket purchases of drugs and health services.

Such a system, inclined towards free health services, has a potential to contribute to reduce "catastrophic health care expenditures" (health expenditures that drive one into poverty, very often due to the sale of essential asset, such as productive land, cattle and other means of survival). Yet it also has several weaknesses, including the following:

- It is not progressive (vertical equity). The poor is given the same advantage as the rich, and the rich does not contribute more than the poor to funding the health system;
- There is no redistribution of resources, i.e. there is no transfer of resources from the rich to the poor, and from richer provinces to poorer provinces; and
- Its sustainability can be questioned, due to financial and capacity limitations. Currently, the Government provides approximately 64% of the health sector budget, while the balance of 36% comes from cooperating partners. With the global economic crisis and shifts in global policies, sustained global financial support may not be guaranteed. Further, due to economic constraints and competing priorities, the government may not have the necessary financial muscle to sustain such a system and at the same time improve the standards of health services.

The system is also challenged by a number of factors, including:

• Personnel and facilities: The current distribution of facilities and health workers is not equitable and largely favours urban areas. Rural areas are usually disadvantaged as health workers find it difficult to cope with the underdevelopment and lack of basic facilities; and

• Other barriers on access to health care services exist, as discussed in the section on Barriers on access to health services.

Future prospects might change the picture. Currently the government is working on the development and implementation of a health insurance mechanism, which is envisioned as a possible option for extension of the population coverage under the forthcoming health insurance policy. This could, in theory, meet principles of progressivity, redistribution and protection against catastrophic health care expenditures. The Mid-Term Review 2008<sup>[2]</sup> recommended the following 3 approaches as worth pursuing:

- Social health insurance (SHI) scheme for formal sector employees should be implemented as soon as feasible. The actuarial analysis for the SHI is completed. Key decisions should be made on the results of the analysis in terms of the affordable benefit package and the government's contribution, as employer of civil servants, to the proposed scheme. The SHI provides a risk-pooling platform for the current substantial expenditures of households that are often made out-of-pocket and (inefficiently) at the point of need;
- Private investments in the country's health sector should be encouraged through PPP arrangements. The design-finance-build-operate-transfer scheme for the replacement of Lesotho's Queen Elizabeth II Hospital provides a practical example of how a fixed amount of government budget could leverage private resources to provide wider coverage and better quality health services; and
- Work-based health and HIV/AIDS prevention and treatment programs should be encouraged among employers. Studies show that if employers could be assisted by government to negotiate better ARV prices, they would be willing to shoulder all or part of the ARV costs themselves. The Debswana scheme in Botswana and Anglo American scheme in Namibia are a good example for the mining sector.
- [1] The study was conducted with the support of the London School of Hygiene and Tropical Medicine. A first draft has been delivered in mid-2009 but is not yet ready for dissemination.

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# Zambia:Efficiency of resource allocation in health care

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The National Health Policies and Strategies of 1992 (**attach doc**) and the policy, legislative and institutional reforms that followed aimed at achieving equity of access to quality health care. To achieve this aim, a number of important policy, strategies and systems have been implemented that aim at ensuring efficiency in the allocation and utilisation of resources available to the health sector. The major ones include:

- The decentralisation of planning and service delivery functions to the districts, including enhanced participation of the communities and other stakeholders;
- Development and implementation of the Basic Health Care Package (BHCP), which defines the packages of health care services to be provided at the different levels of health service delivery;
- Development of a resource allocation formula that aims at promoting equitable distribution of resources to all the levels of health care across the country. Since 2004, MOH has adopted a resource allocation criteria for district level services, which is based on Material Deprivation Index (MDI). This formula allocated resources to districts on the basis of the population, giving more weighting for resource allocation to the most deprived districts;
- Establishment of appropriate institutional frameworks for efficient and effective management of the sector, including a strong SWAp governance system, allowing active participation of all the key health partners, in the management of the health sector, and the continuous review and realignment of the health system structures;
- Development of fiduciary systems for ensuring transparency and accountability in the allocation and utilisation of the resources available to the sector. The sector system falls within and is aligned with the national level fiduciary policies, legislation and systems; and
- Monitoring and evaluation frameworks that are broad based, involving active participation of all the key health sector partners, including the cooperating partners and civil society, through the established SWAp coordination and governance structures.

The intention of this approach is clear, "to ensure effective allocation and utilisation of the available resources within the health sector". However, there are a number of constraints and challenges that are adversely affecting these efforts. The major ones, as observed in the Mid-Term Review 2008 <sup>[2]</sup> include:

- Inadequate coordination and harmonisation of financing to the sector from the government and its partners, particularly the global health initiative and some cooperating partners. The increasingly fragmented financing is leading to large inefficiencies as reflected in the increasing proportion of total health expenditures going to administration and consequently, reduced finances available to service delivery). The Zambia National Health Accounts exercises (attach the most recent NHA) show clearly that when off-budget expenditures of CPs increased, total health expenditures going to administration more than doubled from 14.8 percent in 2001 to as high as 30.8 percent in 2004, and this trend seems to have persisted. Aside from the actual cost of administration, the cost of coordinating these off-budget activities also involves hidden costs of managerial and staff time of both government and donor partners.
- Systemic inefficiencies persist, with incalculable costs to the health system. The current system of facility construction and renovation involving the Ministry of Works and Supply (MOWS) provides many bureaucratic obstacles that preclude timely, efficient, and "within-budget" completion of infrastructure projects. Alternative arrangements including PPP should be explored to circumvent these difficulties. Further, it is not always that construction of facilities is matched with the availability of the critical inputs, such as human resources. Though disbursement of grants to the districts has significantly improved over the past 2 years, it still remains a major challenge to sustain. Drug procurement and distribution, though much improved, still experiences many

inefficiencies. The availability, distribution and management of human resources for health still experiences significant challenges and leaves significant room for improvement (See Public Expenditure Tracking Survey report (**attach doc**)). Staff available is currently at approximately 52% of the needs and distribution is not equitable. Poor staff morale also significantly reduces staff productivity, with as much as 44 percent dissatisfaction rate among staff;

- · Current clinical practices sometimes produce inefficiencies that are often undetected; and
- Weaknesses in the existing financial management systems, which at times leads to leakages, misappropriations and inefficient allocation and utilisation of resources, as highlighted in the Auditor General's reports.

A number of measures are underway, aimed at addressing the identified weaknesses. These include: full implementation of the restructuring recommendations, so as to strengthen institutional capacities; increased harmonisation and coordination of financial resources available to the sector, through implementation of the Paris Declarations on aid effectiveness and the IHP+; implementation of the National Human Resources for Health Strategic Plan (**attach doc**) and the expanded health workers retention scheme (**attach doc**); further strengthening of the procurement and distribution system for drugs and medical supplies, through the Drug Supply Budgetline (DSBL); and continuous review and strengthening of the fiduciary management systems.

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# Zambia:Technical efficiency in the production of health care

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In the Zambian health system, the efficacy of most health products is already determined. The strategies to improve the effectiveness of services are largely a function of the means of delivery used. At the adoption stage, the selection of the most effective approach to delivery services has largely been guided by availability of resources (human, financial, infrastructure), plus the political and economic environment. These variables have informed the approaches used to deliver most of the new interventions introduced so far in the National Health Strategic Plan 2006-2010<sup>[1]</sup>, such as the use of Artemesin-based Combination Therapies (ACTs) and Insecticide Treated Nets (ITNs) for malaria prevention and control, Bilharzia prevention amongst others. Three key ingredients however have not been extensively utilized, namely:

- The systematic use of evidence to guide choice on effective interventions. Not all the health programmes have developed evidence bases to inform policy and decisions;
- The involvement of health service delivery managers in the design of the mode of delivery of services, despite the very participative policy development process in place in Zambia thanks to the long-lasting partners' coordination set up. Involvement of the service delivery managers is essential and could ensure that greater integration and benefits are derived from the limited resources that are available to delivery of all services; and
- The involvement of users. Appropriate involvement of users enables delivery to be better tuned to their needs and expectations, and in this way increasing likelihood of use and satisfaction.

It is acknowledged that the Zambian health sector has developed appropriate packages of basic health care services to be provided at different levels. These packages are clearly defined and disseminated to all the levels of health care. In this respect, the levels of compliance with these packages could indicate the efficiency of the service delivery. Whilst the facilities, by-and-large have continued to observe and try to consistently apply these packages, there are significant challenges, which mainly relate to the availability and conditions of infrastructures and equipments, availability of critical inputs such as human resources, essential drugs and medical supplies, and financial resources.

These factors act as hindrances to effective delivery of the recommended packages of health care.

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### Zambia:Quality of care

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The standards of quality of care largely depend on the availability and consistent compliance to appropriate policy, legal and regulatory frameworks, systems and procedures, established to set and regulate the standards of performance of the various aspects of care. In the Zambian situation, the Government has established the necessary building blocks for ensuring quality of health care, including :

- A system of appropriate health policies and legislation for guiding and regulating health service delivery. The government has also established appropriate institutional framework for effective enforcement of these policies and legislation, which includes the various health statutory boards responsible for specific pieces of policies and legislation. These are discused in the section of the Specific regulatory framework of Service delivery.
- Service delivery systems and procedures, which include: health facilities; defined packages of basic health care; standard guidelines and operating protocols for various aspects of service delivery, including the lists of essential and tracer drugs, guidelines on appropriate drug use, treatment and laboratory guidelines. In addition, quality assurance systems and procedures are in place.
- Monitoring and evaluation frameworks have been established for purposes of obtaining feedback on the implementation and compliance to the set standard procedures. The institutional framework for such a system includes the directorate of technical support services at the central level, provincial health offices and district health services, which are responsible for reviewing technical performance and provision of appropriate technical support. The tools used for monitoring quality/compliance include, routine data management and reporting systems, including HMIS, provincial performance assessments, and special surveys and reviews, such as the Demographic and Health Surveys (see for example the 2007 Demographic and Health Surveys<sup>[3]</sup>), joint annual reviews (see the Joint Annual Review 2008<sup>[1]</sup>), mid-term reviews and malaria indicator surveys.

The quality of healthcare in Zambia is partly compromised by the shortages of appropriate facilities, shortages and inequitable distribution of health workers, difficulties in ensuring steady adequate supplies of drugs and medical supplies. It is also affected by the observed weaknesses in the existing policy and regulatory frameworks, standard operating procedures and the need for further institutional strengthening within the technical support services, provincial and district offices. More about the quality of heath care is discussed in the section on Quality of health services.

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## Zambia:Contribution of the health system to health improvement

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Health is the outcome of various social determinants (the so-called Social Determinants for Health (SDH)) rather than of the efforts of the health system alone (see the specific section on Social Determinants for Health). However, the health sector has the overall responsibility to identify potential areas for influencing SDHs to improve health, both within the health sector and in other sectors, and suggesting appropriate policy recommendations and strategies in various sectors aimed at exploring such potential to achieve good health for the population. The contribution of the health system to health improvement in Zambia could be viewed as a function of two variables, namely the direct contributions to health service delivery and the aspect of influencing and supporting the implementation of various policy interventions in other sectors, which influence the performance of the SDHs.

In this respect, the health system in Zambia significantly contributes to health improvements. Some of the major areas of contribution in this regard, include:

- Direct participation in health service delivery. The MOH is the leading provider of public health services, controlling over **xxx**% (**complement**) of the total number of primary level facilities and **xx**% (**complement**) of the secondary and tertiary level facilities throughout the country. It also controls 11 specific disease based programmes, which focus on coordinating appropriate responses for the particular disease. MOH is also responsible for coordinating the contribution of the whole health system, including the faith-based, private sector and health sector civil society organisations.
- Influencing and supporting implementation of health related programmes and SDHs in the other sectors. The ministry is overall responsible for identifying and recommending and/or influencing policies that are relevant to health across the sectors. In this respect it is also responsible for coordinating the national health agenda, including provision of technical backup to all the sectors implementing health related programmes. The other sectors also have an important role to play in influencing the performance of the specific SDH. Major contributions are in form of:
  - Poverty reduction, through employment creation, nutrition and economic empowerment;
  - Environmental issues, including ensuring safe and healthy environments, and environmental protection;
  - · Access to safe and clean water and sanitation; and
  - · Prevention and mitigation of disasters, as well as prevention of accidents, which could lead to ill health.

Even though it is clear that the health system is the main contributor to health improvements, in the absence of empirical evidence, it is difficult to suggest the percentage of such contribution.

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# Zambia:Priorities and ways forward - Health system outcomes

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### Zambia:Others - Health system outcomes

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A key interest of links is that they can be included directly in the text as the following Zambia: Joint Annual Review Report 2008<sup>[1]</sup> which is a key policy document in Zambia

Zambia: National Health Strategic Plan 2006-10<sup>[1]</sup>

The issue of decentralisation of the health system is addressed in section 1.2.3 which is part of the leadership and governance chapter.

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### Zambia:Leadership and governance - The Health System

The leadership and governance of health systems, also called stewardship, is arguably the most complex but critical building block of any health system.<sup>[1]</sup> It is about the role of the government in health and its relation to other actors whose activities impact on health. This involves overseeing and guiding the whole health system, private as well as public, in order to protect the public interest.

It requires both political and technical action, because it involves reconciling competing demands for limited resources in changing circumstances, for example with rising expectations, more pluralistic societies, decentralization or a growing private sector. There is increased attention to corruption and calls for a more human rights based approach to health. There is no blueprint for effective health leadership and governance. While ultimately it is the responsibility of government, this does not mean all leadership and governance functions have to be carried out by central ministries of health.

Experience suggests that there are some key functions common to all health systems, irrespective of how these are organized:

- *Policy guidance*: formulating sector strategies and also specific technical policies; defining goals, directions and spending priorities across services; identifying the roles of public, private and voluntary actors and the role of civil society.
- *Intelligence and oversight*: ensuring generation, analysis and use of intelligence on trends and differentials in inputs, service access, coverage, safety; on responsiveness, financial protection and health outcomes, especially for vulnerable groups; on the effects of policies and reforms; on the political environment and opportunities for action; and on policy options.
- *Collaboration and coalition building*: across sectors in government and with actors outside government, including civil society, to influence action on key determinants of health and access to health services; to generate support

for public policies and to keep the different parts connected - so called "joined up government".

- Regulation: designing regulations and incentives and ensuring they are fairly enforced.
- System design: ensuring a fit between strategy and structure and reducing duplication and fragmentation.
- *Accountability*: ensuring all health system actors are held publicly accountable. Transparency is required to achieve real accountability.



An increasing range of instruments and institutions exists to carry out the functions required for effective leadership and governance. Instruments include:

- sector policies and medium-term expenditure frameworks
- standardized benefit packages
- resource allocation formulae
- performance-based contracts
- patients' charters
- · explicit government commitments to non-discrimination and public participation
- public fee schedules.

Institutions involved may include:

- other ministries, parliaments and their committees
- other levels of government
- · independent statutory bodies such as professional councils, inspectorates and audit commissions
- nongovernment organization "watch dogs" and a free media.

This section of the health system profile is structured as follows:

- 3.2.1 Analytical summary
- 3.2.2 Context and background of the health system
- 3.2.3 Ministry of health and other institutions involved in health and social services

3.2.3.1 Organizational chart of the ministry of health

- 3.2.3.2 Organization and functions of the ministry of health
- 3.2.3.3 Decentralization of the system
- 3.2.3.4 Influence of the ministry of health in the overall national policy framework
- 3.2.3.5 Other institutions involved in provision of health and social services

- 3.2.4 Policy-making and health planning
  - 3.2.4.1 Utilization of health information
  - 3.2.4.2 Health activity planning
  - 3.2.4.3 Policy dialogue and decision-making process
- 3.2.5 Regulation, monitoring and evaluation
  - 3.2.5.1 Regulation legislation
  - 3.2.5.2 International health regulation
  - 3.2.5.3 Monitoring and evaluation
- 3.2.6 Priorities and ways forward
- 3.2.7 Others

#### References

 Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action (pdf 843.33kb). Geneva, World Health Organization, 2007 (http://www.who.int/healthsystems/strategy/everybodys\_business.pdf)

## Zambia:Analytical summary - Leadership and governance

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#### **Descriptive summary**

Since the end of the socialist era in **1991**, the Government of Zambia has developed complex mechanisms of leadership and governance. The National Health Policies and Strategies published the same year set the starting point for the development of far reaching health reforms in the following years, including the decentralization policy, the introduction of the Basic Health Care Package (please check the NATIONAL HEALTH STRATEGIC PLAN 2006-2010<sup>[3]</sup> for more information), and the early steps of Sector Wide Approaches in coordination with Cooperating Partners.

#### Strengths

- There is strong political will and commitment
- There is clear and limited mandate of the MOH<sup>[1]</sup> (Ministry Of Health) to provide oversight
- Leadership structures are in place
- · Fiduciary responsibility over financial and other resources have been enhanced
- Partners goodwill
- Improved institutional capacity at all levels to provide oversight
- Existing of policy and strategic environment to support service delivery FNDP <sup>[2]</sup> (Fifth National Development Plan ), NHSP <sup>[3]</sup> (NATIONAL HEALTH STRATEGIC PLAN), MDG <sup>[2]</sup> (Millenium Development Goal), PRSP <sup>[3]</sup> (Poverty Reduction Strategy Paper), Vision 2030 <sup>[4]</sup>

#### Weaknesses

- · Policies are largely donor influenced
- · Lack of policy direction with the existing policy on secondary and tertiary services delivery management
- Weak documentation of the definition of the scope of the Health sector
- · Long term reliance on vertical programmes

- Donor government creating parallel departments in the name of NGO <sup>[5]</sup> (Non Government Organisation) creating unhealthy competitions
- Inadequate human resources to support leadership and oversight at all levels
- Inadequate oversight and quality assurance
- Limited implementation of health policy
- Inadequate capacity for leadership and management at various levels
- · Poor compliance with government guidelines and regulations

#### Recommendations

- · Revamp leadership management training MOH staff at appropriate level
- Induction of Health workers must be enhanced with regulations and guidelines
- Annual Performance Appraisal system should broaden to capture appropriate government regulations and guidelines
- MOH to provide leadership and ownership in policy formulation and implementation
- New engagement framework with cooperating partners and CSO <sup>[6]</sup> (Central Statistical Office) should be developed-paris declaration and the three ones principle strengthened
- MOH to put in place policies and strategies that can strengthen secondary and tertiary health service management
- Promote integration of programmes
- Revise National Policy

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- [1] http://www.moh.gov.zm/
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# Zambia:Context and background of the health system

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National Health Policies and Strategies<sup>[1]</sup>

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## Zambia:Ministry of health and other institutions involved in health and social services

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# Zambia:Organizational chart of the ministry of health

Figure 1.1: Organizational chart of the Ministry of Health at central level





Figure 1.2: Organizational chart of the public health system at the central, provincial and district level

## Zambia:Organization and functions of the ministry of health

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The Ministry of Health<sup>[1]</sup> holds the central responsibility for medical care and preventive care services through its wide network of public health institutions, countrywide. In this regard, the MoH undertakes a package of basic health care services (**attach BPHC**) through its 11 programme areas, namely Epidemic Preparedness, Provision of 1st level referral services, Roll Back Malaria, HIV/AIDS/STIs, Tuberculosis, Integrated Reproductive Health, Child Health, Environmental Health, Mental Health, Oral Health and Nutrition (see section 2.3).

Other ministries and external entities are involved in the health system. Main ones include:

- The Ministry of Local Government <sup>[2]</sup> and Housing works in close collaboration with the MOH regarding public health aspects in urban areas (cities and municipal councils), especially with respect to food hygiene, environmental health, and water and sanitation.
- The central Government cabinet office is held responsible of HIV/AIDS coordination, policy guidance and mobilization of resources, due to the cross-cutting nature of the epidemic. However, the Ministry of Health remains as the major implementer of HIV/AIDS programmes.
- The Churches Health Association of Zambia (CHAZ)<sup>[3]</sup> is a privileged partner and receives grants from the MOH for delivering health services through their network of health facilities (approx. 30% of nationwide public health facilities with up to 50% in rural areas) through a Memorandum of Understanding.

The Ministry of Health holds a number of specific functions concerning the public health provision in the country, in coordination with peripheral levels and partners. These include:

- Regulation The MOH holds the central responsibility regarding regulation, either be standard setting, policy making, definition of target, procedures, monitoring and evaluation, etc. Yet cooperation partners play a key role through the SWAp arrangements. Some functions are also delegated to provincial level with (complement... in case some regulation function are actually delegated!)
- Planning Planning takes a bottom-up approach, starting from health facility with gradual consolidation at district, provincial and ultimately central level. In turn, according to the indicative planning budget obtained from Ministry of Finance and National Planning <sup>[4]</sup> (MoFNP), the MOH and SWAp partners develop a planning and budgeting framework, which is divided for each province. The provinces themselves determine indicative planning figures to the district level; and districts to health facilities
- Service provision Delivering defined packages of health service. When approved, the budgets from the above planning exercises are released on a quarterly basis to MoH, who in turn send to the provincial health offices, who in turn send to the district health offices. The 72 district health offices then send the funds to health facilities for service delivery.
- Financing Mobilizing funds from Ministry of Finance and Donors. This is the role of MoH-HQ, with money coming largely from MoFNP and the international donor community.
- Administration Administering the resources in the health system
- Monitoring and Evaluation A Health Management Information System (HMIS), containing all prioritized indicators has been developed and the data captured at all public health facilities is sent to the national level for compilation into an HMIS on a quarterly basis. The HMIS data is compiled into an Annual Health Statistics Bulletin to inform all stakeholders of performance and progress on health indicators.

The HMIS captures data from health facilities to help with planning and implementation activities. Policy and implementation is guided by a balanced combination of top-down and bottom-up approaches, relying on the strategic principles of leadership, accountability and partnerships at all levels of the health system; with MoH serving a stewardship role in these processes.

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- [3] http://www.chaz.zm.org
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### Zambia:Decentralization of the system

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In the past two decades the structure of the Zambian health system has been subject to major changes with a first process of decentralization in the early 1990s, which was then revisited (with some form or recentralization) in 2006. Following the 1992 health reforms implementation (see section 1.3.1), the Ministry of Health <sup>[1]</sup> (MOH) started decentralizing key management responsibilities to the district level, taking the form of deconcentration (passing some level of administrative authority to decentralized bodies as implementing entities), and devolution (passing responsibility and a degree of independence to decentralized bodies) (**attach decentralization policy**). Conceptually speaking, it mainly initiated a split between the functions of

- (1) decision making with a strong participatory approach and
- (2) technical and management support to service delivery.

It gave birth to the creation of boards, committees and teams from the central up to the community level as depicted in the following table.

Level	Unit of the structure	Roles / Responsibilities		
Central level	Ministry of Health (HQ)	Policy and regulation		
	Central Board of Health	Implementation and purchaser of services (through contracting with DHMTs and Hospital Management Teams		
Provincial level	Provincial Health Office	Administrative decentralization link between the central & district level ??		
District level (hospital level)	District Health Management Team Hospital Management Teams	Technical support to the provision of services Support to hospital management		
	District Health Board Hospital Management Board	Strategic orientation, decision making		
Health centre level (community level)	Health Centre Committees	Community Participation to the management of health centres		
	Neighbourhood Health Committees (NHCs)	Community participation in Health		

Two of these bodies were granted a particularly prominent role:

 The Central Board of Health (CBoH), considered as a semi-autonomous entity with a mandate to implement government health policies, by purchasing health services from the District Health Management Teams (DHMTs), hospitals and other statutory bodies on behalf

of government.

• The District Health Management Teams (DHMTs) which became the focal point of the district regarding administrative and financial control of the health system. I was given flexibility in terms of decision-making, though with a narrow decision space (**Bossert, Chitah**).

However, in 2005, the Zambian government decided to undertake a new form of country-wide decentralization involving all ministries. In this form of decentralization, the civic authorities will become the units of decentralized structures and the health system a unit within this local decentralised structure. Notwithstanding some positive outputs, the years of purchaser/provider split were perceived as having resulted into some duplication of functions, with an administrative costs escalation which had become intolerable by the mid-2000s (see the 2006 MOH report on organization structure <sup>[1]</sup>). In 2006, the Government abolished the CBoH and related boards at different levels and started bringing back their functions, asset and staff under the MOH. However, the restructuring process is not yet finalized to date (late 2009), and the consequence on the health system are still unknown. According to the 2008 Mid-Term review on implementation of NHSP 2006-2010 <sup>[2]</sup>, "*The abolition of the Boards appears to have led not only to a re-centralisation of decision taking, but also has taken away the 'voice' of people to influence and - to a certain extent - 'own' their health services.* »

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[1] https://extranet.who.int/mediawiki/images/8/8c/Zambia\_-\_MOH\_Organisation\_restructuring\_report\_May\_2006.pdf

## Zambia:Influence of the ministry of health in the overall national policy framework

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Health is a key social sector in Zambia. It holds the third position in Government Unit of Expenditures 2009 (8.9%), ranked next to Constitutional & Statutory Expenditure and the Ministry of Education (with respectively 14.2% and 19.0%). The health sector is also considered as a main development vector in the Poverty Reduction Strategic Papers (see the 2002 Zambian PRSP<sup>[1]</sup>), and the Ministry of Health<sup>[1]</sup> (MoH) benefits from the largest share of the savings made from debt cancelation.

Policies and guidelines set by the Ministry of Health apply to all health institutions in the Ministry of Defence as well as in the Ministry of Local Government and Housing <sup>[2]</sup>, Ministry of Home Affairs and all the private sector institutions. There is also a close relationship between education and health. The University of Zambia School of Medicine <sup>[3]</sup> trains doctors for the Ministry of Health. In addition, the Ministry of Higher Education <sup>[4]</sup> trains paramedics for the MoH (Radiographers, Health Inspectors, Lab Technicians, etc). Beyond this, the ministry of Health and the ministry of Education interact in the school health and nutrition (SHN) programmes.

The MOH exerts a certain influence on the health agenda of other ministries by developing the policy framework, policies and guidelines governing the implementation of public health programmes and clinical care services. (see section 7.6)

Yet, the MOH's influence also faces serious limitations, mainly due to financial constraints relayed through the ministry of Finance and National Planning <sup>[5]</sup>. The IMF agreement (**attach doc**) included a number of ceilings on public expenditures as conditionality for enhanced support. It particularly affects human resources: as an example, in 2009, the Ministry of Health has been allocated less than 10% of funding earmarked for recruitment of staff to the civil service (**2010-2012 MTEF Framework, MoFNP (2009**) )

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- [5] http://www.mofnp.gov.zm

## Zambia:Other institutions involved in provision of health and social services

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Public health provision is a complex issue with many facets to be considered and the interests of many stakeholders. Personal interest have to balance with professional interests. Hence other institutions are also involved in the provision of health services.

Some administrative and regulative functions are shared between the MOH and other actors.

- The National AIDS Council of the National Cabinet's office holds a major role regarding coordination of HIV/AIDS activities.
- Local government agencies (health and civil authorities) have power to make bye-laws that govern health within their areas of jurisdiction.
- The Medical Council of Zambia sets standards of practice and monitors the activity all health professionals except nurses, who fall under the supervision and regulation of the General Nursing Council.
- The routine issues of professional practice are under the responsibility of professional associations that include (a) the Zambia Medical Association, (b) the Zambia Nurses Association, (c) the Pharmaceutical Society of Zambia, (d) the Zambia Faculty of General Practitioners and several other medical professional bodies.

**Health service provision** is mainly supported by Government-supported health facilities (87% of facilities, including CHAZ <sup>[3]</sup> faith-based health facilities which account for 30% of total health services). Yet, there is also the private sector health system (6% - private clinics, private hospitals, including the Mining Industry) and pharmacy outlets, as well as private drug vendors selling medicines and other health products from less well-established and sometimes mobile retail outlets. In an effort to scale-up the provision of anti-retroviral drugs, several non-governmental organizations (NGOs) and civil society organizations (CSOs) have joined efforts to establish own facilities or partner with governments at public facilities in providing ART services, including PMTCT services from ante-natal care outlets.

Several **consumer rights associations** exist in Zambia to promote patients rights as well as serving to empower patients with particular needs in order to better take care of themselves. These include the Sickle Cell Association of Zambia, The Mental Health Association of Zambia, The Zambia Epilepsy Foundation, the Zambia Albino Foundation, the Zambia Diabetes Association and the Zambia Dental Association.

Alternative health care purchasers remain scarce as compared with other countries. Still there is a small and growing health insurance sector in Zambia, largely private in set up (Zambia State Insurance Corporation, Madison Insurance, and Professional Life Insurance). More recently, the Ministry of Health has started considering the option of Social Health Insurance scheme as a way to secure access to health care and to contribute to health financing. In addition, the MOH is also considering other mechanisms with mainly performance-based financing schemes to help alleviate financial barriers on the demand side, and the Zambia Health Workers Retention Scheme as means to retain and motivate health workers.

There is a certain tradition of **trade unions** in the Zambian health sector. Some health workers fall under the Civil Servants Association of Zambia as the big umbrella trade union in order to help bargain for better salaries and conditions of work. Other cadres of health workers have formed splinter unions in order to better focus on their interests. Such splinter unions include the Zambia Union of Nurses Organizations (ZUNO). ZUNO has received recognition from the Ministry of Health to serve as a trade union for nurses interests in Zambia (salaries, conditions of service, etc).
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## Zambia:Utilization of health information

2007 Zambia DHS<sup>[3]</sup>

Equity Gauge<sup>[1]</sup>

Centre for Infectious Diseases Research in Zambia<sup>[2]</sup> (CIDRZ)

Zambia Prevention, Care and Treatment <sup>[3]</sup> (ZPCT)

University of Zambia<sup>[4]</sup>

London School of Hygiene and Tropical Medicine<sup>[5]</sup>

Karolinska Institute<sup>[6]</sup>

2008 mid-term review<sup>[2]</sup>

2007 Zambia Demographic Health Survey<sup>[3]</sup>

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- [4] http://www.unza.zm
- [5] http://www.lshtm.ac.uk/
- [6] http://ki.se/ki/jsp/polopoly.jsp?d=138&l=en

## Zambia:Health activity planning

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The MoH actively undertakes planning for the public health sector, including the CHAZ institutions. The planning cycle follows the Medium Term Expenditure Framework (MTEF) approach over a 3-year period but with a detailed activity budget for each following fiscal year. In addition to this, the national level HQ prepares a 5-year National Health Strategic Plan which guides MTEF planning and feeds into the 5-Year National Development Plans.

Health planning activities are placed under the authority of the Directorate of Planning and Development at MoH-HQ. It organizes and manages the activity on behalf of the MoH and is also the link unit to the National Development Plan. Within the Planning Directorate is also a Policy Unit, which is charged with formulating and processing policy recommendations into national health policies.

Planning and budgeting for primary health care in Zambia takes the form of "bottom-up planning" along an indicative planning figure: first health facilities develop their individual yearly planning ; then their proposals are submitted and consolidated into a district plan by the District Health Office; the provincial health office receives and scrutinises all district health plans for compliance to national level guidelines and compiles these into a provincial health plan; this plan is further scrutinized at national level for compliance to guidelines and set ceilings; finally the national level consolidates all provincial plans and budget into a national; level data for onward transmission to Ministry of Finance & National Planning.

Nevertheless, budget restrictions and ceilings often results in discrepancies between planning and disbursement as discussed in section 1.3.4. Also a study conducted by Equinet in 2005 on planning and budgeting for PHC<sup>[1]</sup> revealed that some challenges still remain regarding the actual influence of local actors in the planning and budgeting processes at their health facility.

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[1] https://extranet.who.int/mediawiki/images/2/21/Zambia\_-\_Planning\_and\_Budgeting\_for\_PHC\_-\_2005\_Equinet\_report.pdf

# Zambia:Policy dialogue and decision-making process

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The MOH has progressively developed a very participative policy making process, materialized through its advances SWAp and related institutional arrangements. A number of meetings have been designed in that framework:

- A number of technical working groups which meet monthly or as convenient to provide inputs to main programmes or functional areas of the MOH ;
- The monthly Policy Committee meeting that reviews policies and their implementation, with a view to make the necessary adjustments for improved outcomes.
- The Sector Advisor Group (SAG) held on a 6-monthly basis, that provides a technical review of health programmes under the authority of the Permanent Secretary.

Finally, around the end of each year:

- the Annual Consultative Meeting, chaired by the Minister and/or Deputy Minister of Health to discuss policy issues; and
- the Joint Annual Review (JAR) opened to a diversity of technical actors and focusing on health sector performance.

The SWAP secretariat is hosted in the MOH Directorate of Planning and Development. It sets the calendar of events and oversees its implementation. This calendar ensures stakeholder dialogue before, during and after policy implementation.

Based on this calendar, it sets the agenda of each of the meeting mentioned above, with notices circulated to participants soliciting for agenda items. Interested members may submit any issues they wished to be discussed. Relevant agenda items may be dictated by circumstances, e.g. communicating measures taken to global epidemics, such as the Swine Flu or SARS.

All these meetings are multi-stakeholder in nature, drawing participation from MoH, Government line ministries, Donors, UN agencies, NGOs, International NGOs, Civil Society Organizations, Faith-Based groups, Academic institutions, Research Institutions, trade unions, professional associations, and in some cases interested individuals.

In nearly all cases, policy formulation is based on evidence from local and international experience. As an illustration, the forthcoming Results Based Financing (RBF) policy is currently being developed along the following steps: a proposal was drafted and reviewed for approval, based on international experience; a pre-pilot intervention was suggested to evaluate the positive or negative impact of RBF on existing structures and mechanisms; the pilot phase got extended to 9 districts (one per province); if the results prove to be a success, then a policy will be developed to guide nationwide scaling up..

The HMIS and an Annual Health Statistics Bulletin are mainly used to assess policy outputs. In addition, specific independent teams are commissioned to assess policy outputs, with composition from external and international experts. Expert opinion is sought and valued by government.

## Zambia:Regulation, monitoring and evaluation

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The Ministry of Health is in charge of setting standards for health service delivery, to ensure that everyone can be covered with services, with a focus on equity and universal coverage. In this regard, the MoH has adopted the Primary Health Care (PHC) approach with a strong focus on district health services including the health centre level.

Other forms of regulation exists: Result Based Financing approaches are currently being experimented as a mean to stimulate compliance of health care providers to a number of qualitative and quantitative targets; health care providers must adhere to a number of professional norms and ethics by renewing their licences (through the Medical Council of Zambia or the General Nursing Council) and proving that they have attended continuous professional development programmes. Are there still other ones?? Accreditation?? Others???

These various forms of regulation require the contribution of a diversity of actors, beside the MOH, among which:

- The monitoring and evaluation technical working group that sets standards or performance targets in service delivery to which service delivery institutions aspire to reach. In addition to MoH officials, these groups include participation by donors, academic institutions, NGOs, and other interested parties who volunteer to become members.
- Besides the MoH, some regulation, monitoring and evaluation functions are delegated to public statutory bodies, such as the Medical Council of Zambia, the General Nursing Council, the Pneumoconiosis Control Board and the National Food and Nutrition Commission. These are semi-autonomous bodies, who receive a grant from the Government to undertake their mandate. Their contributions are recognized by national authorities and the results used for policy making.
- The Central Statistical Office <sup>[1]</sup> of the Ministry of Finance compiles national data and conducts complementary types of assessments in relation with health (as the 2-year Living Conditions Monitoring Surveys (LCMS) mentioned below).

The monitoring and evaluation procedures and documents for the health sector have been recently revamped following a reform of the HMIS (see section 6.3.1), bringing much more consideration to issues of primary health care reforms and universal coverage. In addition, the following monitoring programmes may provide useful complementary information: the Living Conditions Monitoring Surveys; the Zambia Demographic & Health Surveys; the Joint Annual Reviews; the Growth Monitoring Programmes

With these tools, the health system is now in a position to better address the issues of inequities in access and utilization of health services. Performance data contained in the HMIS is generally arranged to reflect the top 10 and bottom 10 performing districts, including consideration of inequities. In addition, the Zambian DHS provides information on access to and utilization of health services

The government has other projects ongoing that relate to regulation. It noticeably aspires to achieve universal access to safe and efficacious medicines and pharmaceutical supplies through the enactment of a National Drug Policy (NDP), as well as to safe blood through establishment of an effective national blood transfusion service.

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[1] http://www.zamstats.gov.zm

# Zambia:Priorities and ways forward - Leadership and governance

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## Zambia:Others - Leadership and governance

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## Zambia:Community ownership and participation - The Health System

Health systems can be transformed to deliver better health in ways that people value: equitably, people-centred and with the knowledge that health authorities administer public health functions to secure the well-being of all communities. These reforms demand new forms of leadership for health. The public sector needs to have a strong role in leading and steering public health care reforms and this function should be exercised through collaborative models of policy dialogue with multiple stakeholders, because this is what people expect and because it is the most effective.

A more effective public sector stewardship of the health sector is justified on the grounds of greater efficiency and equity. This crucial stewardship role should not be misinterpreted as a mandate for centralized planning and complete administrative control of the health sector. While some types of health challenges, for example public health emergencies or disease eradication, may require authoritative command and control management, effective stewardship increasingly relies on "mediation" to address current and future complex health challenges.

The interests of public authorities, the health sector and the public are closely intertwined. Health systems are too complex: the domains of the modern state and civil society are interconnected, with constantly shifting boundaries. Effective mediation in health must replace overly simplistic management models of the past and embrace new mechanisms for multi-stakeholder policy dialogue to work out the strategic orientations for primary health care reforms.

At the core of policy dialogue is the participation of the key stakeholders. Health authorities and ministries of health, which have a primary role, have to bring together:

- · the decision-making power of the political authorities
- · the rationality of the scientific community
- · the commitment of the professionals
- the values and resources of civil society.

This is a process that requires time and effort. It would be an illusion to expect primary health care policy formation to be wholly consensual, as there are too many conflicting interests.

However, experience shows that the legitimacy of policy choices depends less on total consensus than on procedural fairness and



transparency. Without a structured, participatory policy dialogue, policy choices are vulnerable to appropriation by interest groups, changes in political personnel or donor fickleness. Without a social consensus, it is also much more difficult to engage effectively with stakeholders whose interests diverge from the options taken by primary health care reforms, including vested interests such as those of the tobacco or alcohol industries, where effective primary health care reform constitutes a direct threat.

This section of the health system profile is structured as follows:

- 3.3.1 Analytical summary
- 3.3.2 Participation as an individual, and user and provider interactions
  - 3.3.2.1 Health literacy levels
  - 3.3.2.2 People-centredness of care
  - 3.3.2.3 Satisfaction with consultation processes
  - 3.3.2.4 Patient health care behaviours
  - 3.3.2.5 Structural issues
- 3.3.3 Local community mobilization
  - 3.3.3.1 Services design issues at locality
  - 3.3.3.2 Accountability of health services to locality and community watchdog functions
- 3.3.4 Civil society involvement
- 3.3.4.1 As a partner in policy-making
- 3.3.4.2 Accountability and "watchdog" functions

### References

 Systems thinking for health systems strengthening (pdf 1.54Mb). Geneva, World Health Organization, 2009 (http://whqlibdoc.who.int/ publications/2009/9789241563895\_eng.pdf)

# Zambia: Analytical summary - Community ownership and participation

In the Zambian health sector context, community ownership and participation in the governance and delivery of health services is considered as an important pillar of the health systems. In this respect, the Ministry of Health (MOH) <sup>[1]</sup> has established popular structures for facilitating broad-based community ownership and participation. Within this framework, community ownership and participation could be analysed at three levels: participation as individuals, user and provider interactions; local community mobilization; and civil society involvement.

## Zambia:Partnerships for health development -The Health System

There is a tension between the often short-term goals of donors, who require quick and measurable results on their investments, and the longer-term needs of the health system.<sup>[1]</sup> That tension has only heightened in recent years, where the surge in international aid for particular diseases has come with ambitious coverage targets and intense scale-up efforts oriented much more to short-term than long-term goals. Though additional funding is particularly welcome in low-income contexts, it can often greatly reduce the negotiating power of national health system leaders in modifying proposed interventions or requesting simultaneous independent evaluations of these interventions as they roll out.

Harmonizing the policies, priorities and perspectives of donors with those of national policy-makers is an immediate and pressing concern – though with apparent solutions. In addition, the selective nature of these funding mechanisms (e.g. targeting only specific diseases and subsequent support strategies) may undermine progress towards the long-term goals of effective, high-quality and inclusive health systems.

Even where this funding has strengthened components of the health system specifically linked to service delivery in disease prevention and control – such as specific on-the-job staff training – the selective nature of these health systems strengthening strategies has sometimes been unsustainable, interruptive and duplicative. This puts great strain on the already limited and overstretched health workforce. In addition, focusing on "rapid-impact" treatment interventions for specific diseases and ignoring investments in prevention may also send sharply negative effects across the system's building blocks, including, paradoxically, deteriorating outcome on the targeted diseases themselves.

Many of these issues have been recognized internationally, and a number of donors have agreed to better harmonize their efforts and align with country-led priorities – as outlined in the 2005 Paris Declaration on Aid Effectiveness <sup>[3]</sup> (see figure). However, although some progress has been made in applying the Paris Declaration principles, it has been slow and uneven. Change in the process and the nature of the relationship between donors and countries requires time, focused attention at all levels, and a determined political will.

This section of the health system profile is structured as follows:

3.4.1 Analytical summary

3.4.2 Partnership for health and coordination mechanisms

3.4.2.1 Partnership coordination mechanisms



3.4.2.2 Main partners by category, objectives and powers

3.4.3 Harmonization and alignment in line with primary health care approach

3.4.3.1 Explicit policy on partners' coordination

3.4.3.2 Explicit policy on intersectoral collaboration and action

3.4.3.3 Major actions carried out through intersectoral collaboration

3.4.3.4 Stakeholders mapping by level and coordination structures

3.4.3.5 Community awareness and involvement in the implementation of global initiatives – Millennium Declaration, Paris Declaration, etc.

3.4.4 Sector-wide approaches

3.4.4.1 Multi-Donor Budget Support

3.4.4.2 International Health Partnership and related initiatives (IHP+)/development of National Health Compacts

3.4.4.3 Harmonization for Health in Africa

3.4.4 Joint Assistance Strategy

3.4.5 Public-private partnership and civil society

3.4.5.1 Private health sector mapping

3.4.5.2 Explicit policy on private sector involvement

3.4.5.3 Forms of engagement with private sector including contractual service agreements

3.4.6 South–South cooperation

3.4.6.1 Existence of formalized South-South cooperation

3.4.6.2 Mapping of areas of cooperation especially those related to health development

3.4.6.3 Experiences to be shared regarding the South–South cooperation

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## Zambia:Partnership coordination mechanisms

Experiences with Primary Health Care in Zambia<sup>[1]</sup>. IHP+ Taking Stock Report 2008<sup>[2]</sup>).

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# Zambia:Health information, research, evidence and knowledge

Data are crucial in improving health.<sup>[1]</sup> The ultimate objective of collecting data is to inform health programme planning as well as policy-making and, ultimately, global health outcomes and equity. A well-functioning health information system empowers decision-makers to manage and lead more effectively by providing useful evidence at the lowest possible cost.

A health information system has been aptly described as "an integrated effort to collect, process, report and use health information and knowledge to influence policy-making, programme action and research". It consists of:

- inputs (resources)
- processes (selection of indicators and data sources; data collection and management)
- outputs (information products and information dissemination and use).

The role of a health information system is to generate, analyse and disseminate sound data for public health decision-making in a timely manner. Data have no value in themselves. The ultimate objective of a health information system is to inform action in the health sector. Performance of such a system should therefore be measured not only on the basis of the quality of the data produced, but also on evidence of the continued use of these data for improving health systems' operations and health status.

The availability and use of information enables:

- improved definition of a population
- recognition of problems
- setting of priorities in the research agenda
- · identification of effective and efficient interventions
- determination of potential impact (prediction)
- planning and resource allocation
- · monitoring of performance or progress
- evaluation of outcomes after interventions



- · continuity in medical and health care
- healthy behaviour in individuals and groups.

It also empowers citizens by enabling their participation in health care, policy and decision processes; and empowers countries and international partners by enabling better transparency and accountability through use of objective and verifiable processes.

Health knowledge gaps are where essential answers on how to improve the health of the people in Lesotho are missing. This is an issue related to the acquisition or generation of health information and research evidence. The

"know-do gap" is the failure to apply all existing knowledge to improve people's health. This is related to the issue of sharing and translation of health information, research evidence, or knowledge. Although there are major structural constraints, the key to narrowing the knowledge gap and sustaining health and development gains is a long-term commitment to strengthen national health information systems.

This section of the analytical profile is structured along the following lines:

3.5	Health information, research, evidence and knowledge
3.5.1	Analytical Summary
3.5.2	Context
3.5.3	Structural organization of health information
3.5.4	Data sources and generation
3.5.5	Data Management
3.5.6	Access to existing global health information, (evidence and knowledge
3.5.7	Storage and diffusion of information, (evidence and knowledge)
3.5.8	Research (Generation of information, evidence and knowledge)
3.5.9	Use of information, (evidence and knowledge)
3.5.10	Leverage information and communication technologies
3.5.11	Endnotes: sources, methods, abbreviations, etc.

### References

- [1] Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action (pdf 843.33kb). Geneva, World Health Organization, 2007 (http://www.who.int/healthsystems/strategy/everybodys\_business.pdf)
- [2] Framework and standards for country health information systems, 2nd ed. (pdf 1.87Mb). Geneva, World Health Organization, 2008 (http:// www.afro.who.int/index.php?option=com\_docman&task=doc\_download&gid=6233)

## Zambia:Availability of IT solutions

## Global Observatory for eHealth "eHealth for women's and children's health" 2013 survey World Health Organization, Country profiles

#### National eHealth policy or strategy

2012 National eHealth Strategy and Policy are in place as a chapter under the MoH National Health Policy. The eHealth Strategy will be ready by December 2013. Ehealth Strategy Ver 01 30th May 2013 -1 (2).doc CDC is funding production, consensus building meeting, printing and dissemination of the eHealth Strategy.

#### eHealth systems

Recording of Deaths and births is done partially using electronic systems since 2000. There is an electronic information system by the MoH in partnership with Churches Health Association of Zambia (CHAZ), Centres for Infectious Disease Research in Zambia (CIDRZ), Zambia Prevention, Care & Treatment II (ZPCT II) and John Snow (JSI) Health financial resources tracking is done electronically at national level by Ministry of Finance though not specifically giving brake down for reproductive, maternal, newborn and child health expenditure per capita.

#### Women's and children's health policy or strategy

No national policy on women's and children's health

#### Monitoring the status of women's and children's health

All the 11 parameters for women's and children's health are monitored using electronic and paper.

#### National overview of eHealth initiatives for women's and children's health

There are eHealth initiatives funded by either Public, Private or by Donors

#### Health services delivery

- Program Mwana, an mHealth initiative. Established system called 'Remind Mi' for treatment compliance and reminder for existing appointments.
- Pan African initiative at University Teaching Hospital (UTH). Established in 2010 for tele-consultations and eLearning.

#### Health monitoring and surveillance

• SmartCare Patient System

#### Access to information for health professionals

SmartCare Patient System

#### Other eHealth programs

• Nil

#### Possible barriers to implementing eHealth services

Infrastructure, Human Resources and Financial are the main barriers.

#### Knowledge base - eHealth for women's and children's health

The organization is willing to share information for publication on eHealth data base.

### ICT training for health sciences students

### Yes

### Continuing education in ICT for health professionals

Yes

### Internet health information quality

There is only voluntary compliance by content providers to quality of health related information on websites

### **Online safety for children**

There are no initiatives to provide information on internet safety and to protect children but service providers are legally mandated to provide online safety tools or technologies to protect children.

### Privacy of personal and health-related data

There is legislation on privacy of personal information and also specifically to health information of an individual. This is provided for in the National Health Policy and eHeath Strategy.

### Social media and women's and children's health

Social media has not been used to promote women's and children's health.

## Zambia:Health financing system

A good health financing system raises adequate funds for health, in ways that ensure people can use needed services and are protected from financial catastrophe or impoverishment associated with having to pay for them.<sup>[1]</sup> Health financing systems that achieve universal coverage in this way also encourage the provision and use of an effective and efficient mix of personal and non-personal services.

Three interrelated functions are involved in order to achieve this:

- the collection of revenues from households, companies or external agencies;
- the pooling of prepaid revenues in ways that allow risks to be shared including decisions on benefit coverage and entitlement; and purchasing;
- the process by which interventions are selected and services are paid for or providers are paid.

The interaction between all three functions determines the effectiveness, efficiency and equity of health financing systems.

Like all aspects of health system strengthening, changes in health financing must be tailored to the history, institutions and traditions of each country. Most systems involve a mix of public and private financing and public and private provision, and there is no one template for action. However, important principles to guide any country's approach to financing include:

• raising additional funds where health needs are high, revenues insufficient and where accountability mechanisms can ensure transparent and effective use of resources;



• reducing reliance on out-of-pocket payments where they are high, by moving towards prepayment systems involving pooling of financial risks across population groups (taxation and the various forms of health insurance

are all forms of prepayment);

- taking additional steps, where needed, to improve social protection by ensuring the poor and other vulnerable groups have access to needed services, and that paying for care does not result in financial catastrophe;
- improving efficiency of resource use by focusing on the appropriate mix of activities and interventions to fund and inputs to purchase;
- aligning provider payment methods with organizational arrangements for service providers and other incentives for efficient service provision and use, including contracting;
- strengthening financial and other relationships with the private sector and addressing fragmentation of financing arrangements for different types of services;
- promoting transparency and accountability in health financing systems;
- improving generation of information on the health financing system and its policy use.

This section of the health system profile is structured as follows:

- 3.6.1 Analytical summary
- 3.6.2 Organization of health financing
  - 3.6.2.1 Organizational chart and funding flows

3.6.2.2 Specific regulatory framework

- 3.6.3 Health expenditures patterns, trends and funding flows
  - 3.6.3.1 Trends in health expenditures
  - 3.6.3.2 Allocation of health expenditures to main health programmes
  - 3.6.3.3 Allocation of health expenditures to main inputs
- 3.6.4 Funding sources
  - 3.6.4.1 Out-of-pocket payments
  - 3.6.4.2 Health financing for the most vulnerable
  - 3.6.4.3 Voluntary health insurance
  - 3.6.4.4 Government funding
  - 3.6.4.5 External sources of funds
  - 3.6.4.6 Parallel health systems
- 3.6.5 Pooling of funds
- 3.6.6 Institutional arrangements and purchaser provider relations
- 3.6.7 Payment mechanisms
- 3.6.8 Priorities and ways forward

### References

 Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action (pdf 843.33kb). Geneva, World Health Organization, 2007 (http://www.who.int/healthsystems/strategy/everybodys\_business.pdf)

# Zambia:Analytical summary - Health financing system

The Zambian Health Sector is donor reliant. By 2006, 42% of the health sector expenditures coming from donors, 27% from households, 24% from government, 5% from employers and 1% from others. This is partly due to the SWAp arrangement and an upsurge in the number of parallel projects and vertical programmes which represents the bulk of external aid.

On the other hand the country is yet to develop a holistic and explicit policy on Health Care Financing and this has to some extent lead to fragmented financing of the health care services and inadequate Knowledge on the projected health care resource envelope.

In 2006 the country abolished user fees in health centres and districts hospitals of rural and peri – urban areas in an attempt to increase equity of access to health care services. A programme of social health insurance is also under study and is aimed at complimenting the existing resources for the health sector. Furthermore the government is also in the process of implementing Performance Based Financing Schemes <sup>[1]</sup> (PBFS) in order to optimize the use of scarce resources.

## References

[1] http://www.kit.nl/net/KIT\_Publicaties\_output/ShowFile2.aspx?e=1533

## Zambia:Organizational chart and funding flows



## Zambia:Service delivery - The Health System

In any health system, good health services are those that deliver effective, safe, good-quality personal and non-personal care to those that need it, when needed, with minimum waste. Services – be they prevention, treatment or rehabilitation – may be delivered in the home, the community, the workplace or in health facilities.<sup>[1]</sup>

Although there are no universal models for good service delivery, there are some well-established requirements. Effective provision requires trained staff working with the right medicines and equipment, and with adequate financing. Success also requires an organizational environment that provides the right incentives to providers and users. The service delivery building block is concerned with how inputs and services are organized and managed, to ensure access, quality, safety and continuity of care across health conditions, across different locations and over time.

Attention should be given to the following:

- Demand for services. Raising demand, appropriately, requires understanding the user's perspective, raising public knowledge and reducing barriers to care – cultural, social, financial or gender barriers.
- *Package of integrated services*. This should be based on a picture of population health needs; of barriers to the equitable expansion of access to services; and available resources such as money, staff, medicines and supplies.



networking within the community served and with outside partners<sup>[2]</sup>

- Organization of the provider network. This means considering the whole network of providers, private as well as public; the package of services (personal, non-personal); whether there is oversupply or undersupply; functioning referral systems; the responsibilities of and linkages between different levels and types of provider, including hospitals.
- *Management*. Whatever the unit of management (programme, facility, district, etc.) any autonomy, which can encourage innovation, must be balanced by policy and programme consistency and accountability. Supervision and other performance incentives are also key.
- Infrastructure and logistics. This includes buildings, their plant and equipment; utilities such as power and water supply; waste management; and transport and communication. It also involves investment decisions, with issues of specification, price and procurement and considering the implications of investment in facilities, transport or technologies for recurrent costs, staffing levels, skill needs and maintenance systems.

This section of the health system profile is structured as follows:

- 3.7.1 Analytical summary
- 3.7.2 Organization and management of health services
  - 3.7.2.1 Overview of the organization and management of health services delivery

3.7.2.2 Specific regulatory framework

- 3.7.3 Package of services
  - 3.7.3.1 Elaboration process of packages of services
  - 3.7.3.2 Primary care services
  - 3.7.3.3 Secondary and tertiary care services
  - 3.7.3.4 Long-term and chronic health care services
  - 3.7.3.5 Health care for specific populations
  - 3.7.3.6 Dental health services

- 3.7.3.7 Rehabilitation services
- 3.7.3.8 Mental health services
- 3.7.3.9 Other specialized services
- 3.7.4 Public and private health care providers
- 3.7.5 Person-centredness and characteristics of primary health care services
- 3.7.6 Shadow practices
- 3.7.7 Quality of health services
- 3.7.8 Priorities and ways forward
- Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action (pdf 843.33kb). Geneva, World Health Organization, 2007 (http://www.who.int/healthsystems/strategy/everybodys\_business.pdf)
- [2] Framework and standards for country health information systems, 2nd ed (pdf 1.87Mb). Geneva, World Health Organization and Health Metrics Network, 2008 (http://www.afro.who.int/index.php?option=com\_docman&task=doc\_download&gid=6233)

## Zambia: Analytical summary - Service delivery

Service delivery is largely dominated by the public sector that controls 90% of health facilities, either directly, or through agreements with Churches Health Association of Zambia (CHAZ)<sup>[1]</sup>. Yet the private sector is getting increasingly developed particularly in urban areas. The packages of health services are defined along a combination of paradigms: the need to identify limited priority cost-effective services through the definition of the Basic Health Care Package, population-based approach, through decentralisation of health care delivery to the districts and communities, disease-centred services, and life-cycle approach to health service delivery.

### References

[1] http://www.chaz.org.zm/

# Zambia:Overview of the organization and management of health services delivery

Mid-Term Review<sup>[2]</sup>

# Zambia:Elaboration process of packages of services

National Health Strategic Plan 2006-2010<sup>[1]</sup>

## Zambia:Primary care services

Table 2.2 summarized the Basic Package of Services as it has been defined for the primary level.

	PRIMARY LEVEL										
INTERVENTION	COMMUNITY	HEALTH POST	HEALTH CENTRE	1 <sup>31</sup> LEVEL							
Information, Education, Communication	Yes	Yes	Yes	Yes							
Nursing /midwifery care including training, co- ordination, rehabilitation, care of dying	Home based care	Ambulatory	Ambulatory, unless 24 hour service	Inpatient nursing and midwifery : also co- ordination of investigations and curative care, rehabilitation, care of dying							
Physiothempy	outreach where available	outreach where available	Outreach - training of carers	Inpatient services							
Drug therapy: essential drug list (EDL)	IEC, quality information on over the counter self medication	Not in EDL : Minimum likely (20% of time on curative work)	Yes : eg ORS, antacids, anti- malaria, analgesica, antibiotics, vaccinations	Yes – as HC plus neuroleptics, cardiovascular drugs, sim-ple anasethetics							
Inpatient care (iv fluids etc)	NIL	Nil	Nil unless 24 hr with trained staff	Yes							
Surgery (Diagnostic capacity (DC) at all levels)	Nil	Nil	Minor (manual evacuation after Nurses Act change, I + D, simple saturing)	Nil unless more than 2 medical officers in post and functioning blood bank							
High dependency/ Intensive care	Nil	Nil	Nil	Nil except for a possible special observation area/room							
Formal training occurs within institution	Nil	Nil	Yes : CO: EHT,HI CBE for nurses, med students	Nil usually Suggest attachment of 6th Year medical students							
Research and planning	Yes	Yes	Yes	Yes							

#### Table 2.2: Basic Health Care Package at primary level

## Zambia:Secondary and tertiary care services

Table 2.3: Basic Health Care Package at secondary and tertiary level

INTERVENTION	SECONDARY LEVEL	TERTIARY LEVEL
	2 <sup>80</sup> LEVEL HOSPITALS	3 <sup>2D</sup> LEVEL HOSPITALS
Information, Education, Communication	Yes	Yes
Nursing /midwifery care including training, co- ordination, rehabilitation, care of dying	Inpatient Specialised and professional skills as 1 <sup>st</sup> level nursing and midwifery	Inpatient Specialised and professional skills as 2 <sup>24</sup> level nursing and midwifery
Physiotherapy	Inpatient specialised	Inputient specialised
Drug therapy: essential drug list (EDL)	Specialised antibiotics Anasethesics Cardiac/Resp	Specialised Haemodialysis Neoplasms
Inpatient care (iv fluids etc)	Yes	Yes
Surgery (Diagnostic capacity (DC) at all levels)	Yes	Yes
High dependency/ Intensive care	Yes : post operative care and ICU / high dependency	Yes
Formal training occurs within institution	Some - clinical officers and nursing students	Yes medical, nursing, paramedical students
Research and planning	Yes	Yes

## Zambia:Public and private health care providers

Type of Facility	Numb	er of	Number of I O	Total Facilities			
	Beds	Coats	Government	Faith- based (CHAZ)	Private	Number	%
3 <sup>rd</sup> Level Hospitals	2,532	417	6	0	0	6	0.3%
2 <sup>nd</sup> Level Hospitals	4,204	827	13	3	5	21	1.0%
1 <sup>st</sup> Level Hospitals	6,016	859	39	29	4	72	5.0%
Health Centres: Urban	1,814	300	206	6	53	265	17.0%
Rural	9,224	559	930	77	22	1,029	66.0%
Health Posts	198	11	161	2	8	171	11.0%
TOTAL	23,988	2,973	1,355	117	92	1,564	100.0%
%	1.11	8 - 1 - 1	86.6%	7.5%	5.9%	100.0%	

Medical Council of Zambia<sup>[1]</sup>

## References

[1] http://www.medicalcouncilofzambia

## Zambia:Health workforce - The Health System

Health workers are all people engaged in actions whose primary intent is to protect and improve health. A country's health workforce consists broadly of health service providers and health management and support workers. This includes:

- private as well as public sector health workers
- unpaid and paid workers
- lay and professional cadres.

Overall, there is a strong positive correlation between health workforce density and service coverage and health outcomes.

A "well-performing" health workforce is one that is available, competent, responsive and productive. To achieve this, actions are needed to manage dynamic labour markets that address entry into and exits from the health workforce, and improve the distribution and performance of existing health workers. These actions address the following:

• How countries plan and, if needed, scale-up their workforce asking questions that include: What strategic information is required to monitor the availability, distribution and performance of health workers? What are the regulatory mechanisms needed to maintain quality of education/training and practice? In countries with critical



shortages of health workers, how can they scale-up numbers and skills of health workers in ways that are relatively rapid and sustainable? Which stakeholders and sectors need to be engaged (e.g. training institutions, professional groups, civil service commissions, finance ministries)?

- How countries design training programmes so that they facilitate integration across service delivery and disease control programmes.
- How countries finance scaling-up of education programmes and of numbers of health workers in a realistic and sustainable manner and in different contexts.
- How countries organize their health workers for effective service delivery, at different levels of the system (primary, secondary, tertiary), and monitor and improve their performance.
- How countries retain an effective workforce, within dynamic local and international labour markets.

This section of the health system profile is structured as follows:

3.8.1 Analytical summary

3.8.2 Organization and management of human resources for health

3.8.2.1 Overview of the organization and management of human resources for health

3.8.2.2 Specific regulatory framework

3.8.3 Modes of remuneration

3.8.3.1 Salaries and other financial rewards

3.8.3.2 Performance appraisal and non-financial incentive schemes

3.8.3.3 Problems and negotiation around remuneration issues

3.8.4 Stock and distribution of human resources for health

3.8.4.1 Numbers and distribution of health workers

3.8.4.2 Specific stock and distribution information

- 3.8.4.3 Estimated unemployment rates among health care professionals
- 3.8.5 Education and training
  - 3.8.5.1 Training courses
  - 3.8.5.2 Educational institutions by type of training programmes
  - 3.8.5.3 Number of graduates
  - 3.8.5.4 Standards setting for professionals and educational institutions
- 3.8.6 Planning for human resources for health
  - 3.8.6.1 Doctors and health professionals career path
  - 3.8.6.2 Migration of health workers
- 3.8.7 Priorities and ways forward

### References

[1] The world health report 2006: working together for health (7.11Mb). Geneva, World Health Organization, 2008 (http://www.who.int/whr/2006/whr06\_en.pdf)

## Zambia:Analytical summary - Health workforce

The World Health Report 2006 - Working Together for Health <sup>[1]</sup> identifies Zambia as one of fifty-seven countries worldwide suffering from a critical shortage of health care workers.

The crisis has arisen from a long period of under-funding to the health sector. The crisis manifests through a depleted workforce, inequitable distribution of the existing workforce, poor pay and poor work environment leading to high workloads and a de-motivated workforce. The Government of Zambia has recognized this crisis. It turned into the development of a Human Resources for Health Strategic Plan 2006-2010<sup>[3]</sup> which has since led to a number of measures to address and reverse the crisis.

### References

[1] http://www.who.int/whr/2006/en/

## Zambia:Overview of the organization and management of human resources for health

### CHAZ<sup>[6]</sup>

Cadre of Health Worker	Distribution of health worker cadre (mix) by Current Staff List (in the system)	Distribution of health worker staff mix by the Recommended establishment			
Doctors	6.6%	6.5%			
Clinical Officers	9.6%	12.8%			
Midwives	19.9%	22.5%			
Nurses	55.4%	48.8%			
Pharmacy	0.7%	1.5%			
EHTs	7.8%	7.9%			

Ministry of Health<sup>[1]</sup>

University of Zambia<sup>[1]</sup>

Human Resources for Health Strategic Plan 2006-2010<sup>[3]</sup>

Clinton Foundation<sup>[2]</sup>

## References

[1] http://www.unza.zm.org

[2] http://www.clintonfoundation.org

## Zambia:Salaries and other financial rewards

Table 3.2: Composite Monthly Pay before tax of a sample of health professionals (2005)

Cadre	Gross Salary (Monthly)	Recruitm ent & retention	Comm uted Overti me	Comm uted Night Duty	Uniform Upkeep	Housing Allowanc e	On-call Allowan ce	Grand Total (ZKW)	Grand Total (USD)	Allowan ces as % total
Doctor	3,778,438	755,688	n/a	n/a	Ľ.	500,000	1,200,00	6,234,126	1,453	39%
Pharmacist	3,072,188	614,438	n/a	n/a	35,000	400,000	n/a	4,121,626	960	25%
Lab. Scientist	2,687,500	537,500	n/a	n/a	35,000	400,000	n/a	3,660,000	853	27%
Tutor	2,429,500	485,900	n/a	n/a	35,000	450,000	n/a	3,400,400	792	29%
Senior Nurse & Paramedic	1,683,230	336,646	40,000	30,000	35,000	450,000	n/a	2,574,876	600	35%
Nurse	1,141,770	n/a	40,000	30,000	35,000	250,000	n/a	1,496,770	349	24%
Midwife	1,141,770	n/a	40,000	30,000	35,000	250,000	n/a	1,496,770	349	24%
Clinical Officer	1,141,770	n/a	40.000	30.000	35.000	250,000	n/a	1,496,770	349	24%
Lab Technologist	1,141,770	n/a	40,000	30.000	35,000	250,000	n/a	1,496,770	349	24%
Pharmacy Tech	1,141,770	n/a		l l	35,000	250,000	n/a	1,426,770	332	20%
Lab. Technician	981,354	n/a	40,000	30,000	35,000	150,000	n/a	1,236,354	288	21%

Source: MoH 2005: Exchange rate: USD\$1 = 4,292.00 Zambian Kwacha (October 2005); n/a = not applicable

## Zambia:Problems and negotiation around remuneration issues

Human Resources for Health Strategic Plan 2006-2010<sup>[3]</sup>

# Zambia:Numbers and distribution of health workers

#### Back to Country Profile Index

Information about the number and distribution of health workers is only available for the public sector (which makes the bulk of health professionals – see Overview of the organization and management of HRH).

As shown in table 3.3 below, all cadres of health workers are in short supply and below the recommended establishment, whether in urban or rural areas. The urban provinces of Lusaka and Copperbelt have relatively better staffing levels than the less urban provinces of Central and Southern provinces. The remaining rural provinces (Eastern, Luapula, Northern, North western and western provinces) have a relatively more severe shortage of workers that the urban provinces. Several positions at the health centre level, especially in the rural areas and remote rural health centres are served with under-skilled staff. The personnel emolument (PE) ceilings in the recruitment of new staff to the civil service puts a restriction on the numbers and pace at which the recommended establishments can be addressed.

Table 3.3: Current staff establishment and shortfalls in relation to recommended establishment	1
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Health cadre		Doctor	s		Clinical officers				Midwives			
Province	CurrSL*	Recomd Estab**	S/fall	% S/fall	CurrSL*	Recornd Estab**	S/fall	% S/fall	CurrSL*	Recornd Estab**	S/fall	% S/fall
Central	55	135	80	59%	125	172	47	27%	290	493	203	41%
Copperbelt	170	305	135	44%	190	410	220	54%	550	658	108	16%
Eastern	36	39	3	8%	136	196	60	31%	201	201	0	0%
Luapula	29	58	29	50%	59	187	128	68%	74	221	147	67%
Lusaka	367	412	45	11%	245	774	529	68%	500	635	135	21%
Northern	25	117	92	79%	102	309	207	67%	177	1,540	1,363	89%
North- western	24	60	36	60%	45	129	84	65%	58	216	158	73%
Southern	56	230	174	76%	180	429	249	58%	450	724	274	38%
Western	33	115	82	71%	79	283	204	72%	100	398	298	75%
Tatal	795	1,471	676	46%	1,161	2,889	1,728	60%	2,400	5,086	2,686	53%
Total	6.6%	6.5%			9.6%	12.8%			19.9%	22.5%		

Province	2	Nurse	s		Pharmacy Tech				EHTS			
	CurrSL*	Record Estab**	S/fall	% S/fall	CurrSL*	Record Estab**	S/fall	% S/fall	CurrSL*	Record Estab**	S/fall	% S/fall
Central	402	876	866	54%	10	11	1	9%	116	162	46	28%
Copperbelt	2,011	2,589	578	22%	13	157	144	92%	103	131	28	21%
Eastern	627	688	61	9%	4	5	1	20%	120	164	44	27%
Luapula	342	545	203	37%	1	15	14	93%	70	144	74	51%
Lusaka	1,451	1,524	73	5%	28	66	38	58%	107	205	98	48%
Northern	414	1,268	854	67%	21	55	34	62%	98	274	176	64%
North- western	315	465	150	32%	1	15	14	93%	67	140	73	52%
Southern	737	1,404	667	48%	9	15	6	40%	173	425	252	59%
Western	392	1,678	1,675	77%	3	8	5	63%	94	133	39	29%
Zambia	6,691	11,037	5,127	46%	90	347	257	74%	948	1,778	830	47%
(Total)	55.4%	48.8%			0.7%	1.5%			7.8%	7.9%		

\* CurrSL = Current Staffing levels, \*\* Record Estab = Recommended establishment, \*\*\* % Sifall = % shortfall Source: 2008 Annual Health Statistical Bulletin, MoH, 2009 Back to Country Profile Index

# Zambia:Specific stock and distribution information

#### Back to Country Profile Index

There are an estimated 12,085 health care workers in Zambia our of a total establishment of 22,608; this representing a shortfall of 11,304 (50%) (2008 Annual Health Statistical Bulletin, MoH). Of the total health care workers, the distribution by provinces loosely mirrors facilities and less so to population ratios (see table Table 3.7 below). However, the density of health workers (0.8 per 1,000 population) still falls short of the WHO recommended 2.5 health care workers per 1,000 population. This is higher in urban areas than in rural the rural areas.

The urban bias in the distribution of the human resources for health stock reflects the high density of health facilities in urban areas, coupled to health workers refusing to serve in rural areas due to poor socioeconomic infrastructure. The underlying factors to these geographical inequities in development outcomes are historical in nature and well beyond the control of the Ministry of Health acting alone.

The Ministry of Health has taken some measures to respond to this by firstly acknowledging the problems for what it is. In response, the 72 districts have been classified into 4 categories, namely A (Most urban), B, C, and D (most rural) (see Tables 3.7 and 3.8). Cash incentives are utilized for stimulating a voluntary reallocation of the staff to rural and disadvantaged areas (especially to category C and D districts). In addition to this, the forthcoming results-based financing approach (see Performance appraisal and non-financial incentive schemes) should provide a complementary tool to motivate and retain health workers in rural areas. The cumulative effects from these two initiatives will hopefully help to address inequitable imbalances in the Zambian health workforce.

	Doctors	Clinical officers	Midwives	Nurses	EHTs	All HCWs
Lusaka	11%	68%	21%	5%	48%	23%
Copperbelt	44%	54%	16%	22%	21%	26%
Central	59%	27%	41%	54%	28%	49%
Southern	76%	58%	38%	48%	59%	71%
Eastern	8%	31%	0%	9%	27%	11%
Luapula	50%	68%	67%	37%	51%	50%
Northern	79%	67%	89%	67%	64%	78%
North-western	60%	65%	73%	32%	52%	49%
Western	71%	72%	75%	77%	29%	71%
Zambia (overall)	46%	60%	53%	46%	47%	50%

Table 3.6: Staffing and shortfall of human resources for health in Zambia

Source: The 2008 Annual Health Statistical Bulletin, MoH (August 2009)

# Zambia:Estimated unemployment rates among health care professionals

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Unemploymnet rates are unknown at the moment as there is no such classification in unemployment national data, and no study linking graduated health workers and actually employed health workers.

A formal mechanism to track training with absorption into the health system is now under discussion, in the framework of the forthcoming Recruitment and Bonding System (see a August 2009 presentation of the related Technical Working Group<sup>[1]</sup> for more information).

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### References

[1] https://extranet.who.int/mediawiki/images/e/e4/Zambia\_-\_WP\_Recruitment\_%26\_Bonding\_System\_TWG\_27-8-09.pdf

## Zambia:Training courses

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The basic training takes 7 years for doctors; 3 years for clinical officers and registered nurses; 2 years for enrolled nurses. For the latter, another 1 year was required to specialize in midwifery. However as of 2009, there is now a direct entry registered midwifery qualification.

Basic training mainly focuses on the acquisition of technical skills. There is much less emphasis on teaching the primary health care qualitative dimensions of the provider / patients relationships. This component is part of the post-graduate courses and in-service training workshops.

In addition to basic training, doctors have an average of 3 years to get an MMed post-graduate degree at the University of Zambia, and a similar duration for postgraduate courses outside the country. Nurses without a midwifery training take up another one year to specialize in midwifery. Clinical Officers can take up another 2 years to qualify to become Medical Licentiates (Assistant Medical Officers), and thus acquire additional competences in surgery and obstetrics. The basic degrees mentioned earlier are pre-requisites to specialization.

The qualification from the basic training generally entitles one to practice with a temporary licence from regulatory bodies such as the Medical Council of Zambia <sup>[1]</sup> (MCZ) or the General Nursing Council of Zambia (GNC). Upon certification from supervisors (upon approved clinical rotations that last up to one year), a candidate is then given a permanent licence to practice unsupervised, and this licence is renewed annually.

There are no differences in the training of medical staff being trained in or working in quasi-public, private for-profit and private not-for-profit institutions

# Zambia:Educational institutions by type of training programmes

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The School of Medicine at the University of Zambia<sup>[1]</sup> is the only institution graduating doctors in Zambia. Similarly, Chainama College of Health Sciences is the only option for students willing to graduate as clinical officer. Nurses have the choice between 25 public / mission nursing school distributed throughout the country.

Zambian degrees generally benefit from a good international recognition. Doctors and registered nurses qualified in Zambia are accepted for registration and post-graduate training in the USA, the UK, South Africa, Zimbabwe, Australia, New Zealand and many other countries.

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## Zambia:Number of graduates

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For some years the production of health workers proven to be inadequate to meet the growing needs for human resources in the country and to bridge the gaps caused by departures (pensions, deceased, leave abroad, dismissals, others).

Chronic under investments in the training institutions contributed to this state of affairs with some schools having closed their doors.

In 2008 the government drew up an operational plan for training institutions in response to the severe human resources crisis it faces, with a view to invest and scale up the training of health workers (attach The Training Institutions Operational Plan). The plan is largely donor funded, and this source of funding has proven unstable and unpredictable, with many of the targeted training institutions now scaling down their ambitions or closing down again.

The shortage in human resources is most severe for doctors, pharmacists and midwives, with a 50% vacancy rate in the Zambian health system (see Specific stock and distribution information)

# Zambia:Standards setting for professionals and educational institutions

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Two para-statal units have the duty to regulate the practice and professional conduct of staff: the General Nursing Council (GNC) for nurses and midwives; and the Medical Council of Zambia <sup>[1]</sup> (MCZ) for all other health staff. Their activities include registration of graduates, setting of standards of conduct and monitoring.

Most Zambian training programmes conform to agreed international standards, usually in line with the British standards, for historical reasons.

Policies impact on human resources standards to some extent. For example, in 2007 and 2008, the policy to urgently scale-up the training of midwives led to development of a direct entry midwifery training, rather than through first getting a basic nurse training and then upgrading to a 1 year midwifery training after a period of service.

There are different institutions setting educational standards for different cadres. The University of Zambia <sup>[1]</sup> (through the school of medicine) oversees and supervises the training curriculum of nurses and clinical officers. GNC and MCZ also have a role to play in education. Training institutions under responsibility of the Ministry of Health have their standards set by the ministry (Nurses and clinical officers). Similarly, the Ministry of Education facilitates the setting of standards for the training institutions under its responsibility, through bodies such as the senate (for universities) or curriculum review committees drawn from the teaching staff and identified experts in the field.

Teaching institutions make ongoing efforts to adapt their standards and make sure that they respond to professional needs. As an illustration, it is not rare that students from Zambian schooling medical school institutions are sent abroad to verify whether their level matches with the requirement of foreign teaching institution with an international perspective.

The set standards are adhered to and respected by all teaching facilities in the country. This is important for accreditation and registration purposes of graduates, since the regulatory statutory bodies are part of the standard setting committees.

## Zambia:Planning for human resources for health

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The Directorate of Human Resources and Administration is the MOH authority in charge of HR planning. Their plans require approval by the Public Service Management Division (PSMD) of the Government cabinet office for alignment with the ceiling agreed on within the IMF policies.

HR planning and previsions have been recently improved with the creation of a data bank of all health workers on public sector payroll in August 2009. It is updated monthly through the feed-in from newly posted HR Officers at provincial and district levels.

Training institutions were not able to produce graduates to their full capacity due to chronic under-investment (see Number of graduates). The capacity at some was even reduced due to shortage of tutors, accommodation and equipment. An Training Institution Operational Plan has been set in 2008 (**attach doc**) for scaling up the production of HRH by attracting more tutors to training institutions and improving and expanding the infrastructure.

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# Zambia:Doctors and health professionals career path

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Two main options are offered to nurses ambitioning improvement in their career paths

- Either climbing the administrative scale (1st level to 2nd and 3rd level, management teams at district, provincial and central level)
- Or getting some form of specialization. Nevertheless, apart from gradual professional evolution, chances of getting a Government specialization sponsorship are competitive and stiff. Some prefer to seek sponsorships outside the government, which could intensify the existing brain drain.

The professional career path for a doctor is pretty much defined by a standard bureaucratic setup. There is no real stimulus to move across hospitals, clinics and departments. Similarly, all administrative movement are subject to official authorization. In these conditions, the recently-graduated doctor typically starts from being an intern with the rank of a Junior Resident Medical Officer (JRMO). After one year of successful internship, one is promoted to the rank of Senior Resident Medical Officer (SRMO). From this point, the doctor needs to specialize in one of the field before getting to the rank of Registrar, and then rising to Senior Registrar before reaching the top rank of consultant. This career progression structure applies at a secondary and tertiary level hospital. At a level 1 hospital, the lucky ones can become a medical Officer and then rising to District Medical Officer (DMO). They then enter the administrative health world and may start longing at provincial or MOH positions. In these circumstances, conditions offered by international agencies or foreign institution obviously exert a certain attraction.

Work conditions have been and are still an issue. Work conditions must be approved by the Cabinet office, outside the control and influence of the MoH. The failure to rectify grievances over the unattractive working conditions appears often as a major and significant reason for leaving the public health sector. Back to Country Profile Index

## Zambia:Migration of health workers

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Migration and brain drain are major issues in the country. As an illustration, 15% of the nurses trained from 1992 to 2003 were working outside Zambia<sup>[1]</sup>. The problem is believed as being more serious for doctors and specialist. Many recruiting agents have now settled in Zambia to entice willing health workers to apply for work abroad. In addition, many international NGOs also recruit heath workers from the public health system as shown in a 2008 case study on HRH <sup>[2]</sup> conducted by WEMOS. Finally others migrate to well-paying jobs in other industries or go into self employment. Cumulative effects have led to increased migration rates among health workers

The rate of staff turnover in the Zambian health system is worrisome, especially in rural health clinics. According to a recent survey on public expenditure tracking and quality of service delivery conducted in 2007<sup>[3]</sup>, at rural health centres (RHCs), out of 688 staff assessed, 69 were "incoming" (10.0 percent) while 148 were "outgoing" (21.5 percent) giving a net loss of 11.5% of staff. The corresponding proportions for (a) urban health centres (UHCs) (1,756 staff), were "incoming" (9.4 percent) and "outgoing" (9.8%), and (b) hospitals, (1,442 staff), were "incoming" (9.2 percent) and "outgoing" (4.2 percent). Hospitals are able to retain their staff better (with a net gain of 5%) than RHCs and UHCs. Few new staff opt to go to RHCs while over twice as many of those in-post leave RHCs.

The issue of health worker migration is also an equity issue. In the affected countries, it takes away health workers from the already under-served areas to go into urban areas, better paying jobs offered by international organizations, or abroad. For the latter, recipient countries tend to deploy them to their rural under-served areas as a measure to correct their own imbalances in health worker distribution <sup>[4]</sup>.

[2] https://extranet.who.int/mediawiki/images/0/04/Zambia\_-\_HR\_Case\_study\_report\_-\_WEMOS\_2008.pdf

[3] Ministry of Health; The Zambia public expenditure tracking and quality of service delivery survey (PET/QSDS) in the health sector - findings and implications. MoH, World Bank, SIDA and University of Zambia (2007)

[4] WHO (AFRO), EQUINET, ECSA-HC, SADC (2009) Impacts of health worker migration on health systems in east and southern Africa Report of a regional research methods meeting, 14-16 July 2009, Harare, Zimbabwe. WHO AFRO, EQUINET: Harare

<sup>[1]</sup> Source: WHO-Afro/CHESSORE study on the migration of health workers in the African Region – The Zambia Case Study (2003))

# Zambia:Priorities and ways forward - Health workforce

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The main weaknesses and bottlenecks regarding efforts to address the health workforce crisis in Zambia is the failure to translate the generated political will into actions that are backed by appropriate budgetary allocations. For this to happen, a multi-sectoral approach is required between the Ministry of Health, the Ministry of Finance and National Planning as well as with Cabinet Office (Public Service Management Division – PSMD). The recent 2010 MTEF ceilings and Frameworks disseminated for public review and comment by the Ministry of Finance and National Planning indicate that consensus on a multi-sectoral approach is yet to be reached.

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# Zambia:Medical products, vaccines, infrastructures and equipment

A well-functioning health system ensures equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost effectiveness, and their scientifically sound and cost-effective use.<sup>[1]</sup>

To achieve these objectives, the following are required:

- national policies, standards, guidelines and regulations that support policy;
- information on prices, international trade agreements and capacity to set and negotiate prices;
- reliable manufacturing practices and quality assessment of priority products;
- procurement, supply, storage and distribution systems that minimize leakage and other waste;



support for rational use of essential medicines, commodities and equipment, through guidelines, strategies to
assure adherence, reduce resistance, maximize patient safety and training.

Major components of the medicines market are shown in the figure.

This section of the health system profile is structured as follows:

3.9.1 Analytical summary

3.9.2 Medical products

3.9.2.1 Organization and management of pharmaceuticals

3.9.2.2 Regulation, quality and safety of the pharmaceutical sector

3.9.2.3 Drug procurement system

- 3.9.2.4 Rational use of medicines
- 3.9.3 Vaccines
  - 3.9.3.1 Organization and management of vaccines
  - 3.9.3.2 Vaccines procurement system
  - 3.9.3.3 Cold chain and other quality issues

3.9.4 Infrastructures and equipment

3.9.4.1 Organization and management of infrastructures and equipment

3.9.4.2 Health infrastructures

3.9.4.3 Medical equipment, devices and aids

3.9.4.4 Information technology

3.9.4.5 Maintenance policy and other quality issues

3.9.5 Clinical biology

3.9.5.1 Organization and management of clinical biology

3.9.5.2 Procurement system of clinical biology inputs

3.9.5.3 Maintenance of clinical biology equipment

3.9.5.4 Quality control of clinical biology equipment

3.9.6 Blood

3.9.6.1 Organization and management of blood products

3.9.6.2 Collection and distribution system of blood products

3.9.6.3 Quality and safety of blood products

3.9.7 Priorities and ways forward

3.9.8 Others

### References

- Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action (pdf 843.33kb). Geneva, World Health Organization, 2007 (http://www.who.int/healthsystems/strategy/everybodys\_business.pdf)
- The world medicines situation (pdf 1.03Mb). Geneva, World Health Organization, 2004 (http://apps.who.int/medicinedocs/pdf/s6160e/ s6160e.pdf)

# Zambia:Analytical summary - Medical products, vaccines, infrastructures and equipment

Support services are probably remaining one of the weak chain of the Zambian health sector. Efforts have been consented these last years on restructuring and streamlining the organization of pharmaceuticals, but some problems remain. Some areas, particularly rural and peri-urban areas in poor provinces, suffer from insufficient equipment and infrastructure, and poor maintenance.

# Zambia:Organization and management of pharmaceuticals

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The pharmaceutical sector is now under the full authority of the Pharmaceutical Regulatory Authority (PRA), which is a semi-autonomous public board created under the National Drug Policy (**attach doc**) in 2006. Previously the function was shared between Pharmacy and Poison Board and a number of specialized boards, each of them with a specific but limited mandate.

The Pharmaceutical Regulatory Authority is in charge of registration and regulation, procurement and distribution of drugs, financial management, as well as issues concerning quality control of drugs and rational use of medicines

The warehousing and distribution of medicines at the central level is undertaken by three types of central medical stores: (1) Medical Store Limited <sup>[1]</sup>, acting as a parastatal agency for the public system; (2) Churches Health Association of Zambia <sup>[6]</sup> Medical Store, which mainly deliver to other facilities and might facilitate procurement for other NGOs or CPs; (3) a number of private pharmacy wholesalers<sup>[2]</sup>, which provide the private market with drugs and medical products. Before 2006, all used to apply different rules. The creation of the PRA has allowed harmonizing the regulation and standards among these three type of providers.

The public network of medical stores throughout the country has been developed following the National Health Policies and Strategies 1992<sup>[1]</sup>. It offers a very comprehensive mapping of the country with a network of Provincial Medical Store, District Medical Store, Hospital Medical Store and Health Facility Medical Store. The CHAZ medical store distributes medicines directly from central level to CHAZ health facilities. The Private sector Pharmacy Wholesalers sell to a network of various outlets that include licensed pharmacies, local (provincial or district) licensed wholesalers and unlicensed drug vendors.

Most producers of medicines circulating on the Zambian drug markets are foreign producers. To receive the market authorization, they must all comply with anyone of the following set of regulation: the WHO certification, the certification standards of the country of origin of the drugs and/or re-testing by the Zambia Food and Drug Laboratory. Medicines produced by local manufacturers must be certified by the Zambia Food and Drugs Laboratory before being introduced on the market.

<sup>[1]</sup> http://medstore.com.zm

<sup>[2]</sup> Wholesalers and pharmacies which are properly licensed have the option to bypass the national medical stores and to import directly from the foreign producer.

# Zambia:Regulation, quality and safety of the pharmaceutical sector

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The National Drug Policy, passed in 1998, provides the regulatory framework that guide the registration and regulation, procurement and distribution of drugs, financial management, issues concerning quality control of drugs and rational use of medicines, whether manufactured locally or imported. Its enactment has been the starting point for a set of policies and initiatives contributing to regulate the market of drugs and medical products in Zambia.

The National Essential Medicines List (NEML) defines 'essential medicines' that are associated with the implementation of a basic health care package (BHCP). The NEML is supposed to be updated every 2 years to keep pace with trends, but this is not so in practice. The list was last updated 4 years ago, thereby making it out-of-date for some clinical conditions (see Rational use of medicines)

The Zambia Standard Treatment Guidelines (ZSTG) is produced by the National Formulary Committee every 2 years to reduce irrational prescribing behaviour (e.g. excessive use of injection to please the demand, excessive prescription ending up in budget shortages). However, a recent study<sup>[1]</sup> has noted that some facilities did not prescribe medicines consistently and according to ZSTG

There is no specific or special policy promoting utilization of generic drugs. Yet, they are allowed on the Zambian market, as long as they meet the Zambian quality standards.

The Pharmaceutical Regulatory Authority (PRA) has the responsibility to deliver market authorization to providers. A specific committee is set up for that purpose, to review all information as per provider along criteria defined by the PRA (quality, safety, storage conditions, observation of clearance with other (international) certification boards).

All new drugs entering the country should ideally be sample-tested by the Food and Drugs Laboratory. However, this is not so in practice, due to funding shortages.

The quality conditions of warehousing and distribution of medicines to the public health sector are under the responsibility of the Medical Store Limited for the public sector, and other medical stores for the faith-based and private sector (see the previous section).

Cost of drugs in public health facilities is included in a lump sum per episode of illness. This lump sum must (in theory) result from an annual negotiation process between each public health facilities and the surrounding population, with later justification to the ministry of Health. As a reminder, nowadays, most drugs under the Basic Health Care Package & all drugs dispensed at urban & peri-urban health centres and district hospitals are free. The picture is obviously not the same in the private sector, which is fully liberalized since 1991, with prices varying and payment mechanisms among providers. Still some NGOs subsidize and facilitate access to some priority drugs.

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### References

[1] MoH / WHO; Pharmaceutical Sector Baseline Survey report (2006), Lusaka, Zambia].

## Zambia:Drug procurement system

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The organizational structure and procurement policies of essential medicines are based both on the principles of decentralization and the autonomy of each facility within the drug management and distribution system (i.e. Medical Store Limited (MSL)  $\rightarrow$  Hospital and MSL  $\rightarrow$  District  $\rightarrow$  health centres). Each facility is granted an annual drug budget by the MOH and is kept responsible for its own procurement decisions.

Public health facilities are given clear guidelines and tools for quantifying drugs. Ideally at health centre level, a committee must be set up with health staff and community representatives for determining the volume of drugs needed according to consumption and remaining stock. In practice, the calculation often rest in the hands of one staff member, often with insufficient capacities. Governance arrangements are quite poor at lower levels, and suffer from the absence of external control and weak accountability.

Orders from health centres will be sent (normally every quarter) to the District Medical Store (DMS), placed under the responsibility of the District Health Management Team. (DHMT). As long as drugs are available, they are usually delivered on short notice, but what you order is rarely what you get, as DMS budget ceilings create numerous restrictions. District hospital proceed the same way, while provincial hospital usually directly manage the Provincial Medical Store.

In general, MOH procurement rules state that a hospital or DMS must look to MSL first, to source for its pharmaceutical supply needs. If MSL is unable to meet these needs, and the requested item is out of stock, then the district or hospital can buy from the open market. However, budget allocation for this purpose caters only for emergence drugs and not necessarily for all essential medicines, and because of frequent stock-outs, funds for emergency items are often times used to purchase other essential pharmaceuticals. For lower level facilities, a similar approach is followed by going to the district health office first, then only when the district is unable to supply can the health centre turn to the private sector, through the district. Government allocates up to 10% of the grant to cover for this foreseen eventuality.

In terms of the flow of pharmaceutical supplies, the DMS makes order to the PMS on a quarterly basis. The PMS on a quarterly basis makes order to the national medical store. Here also there is a ceiling on how much each institution is allowed to order to guide with equitable distribution and consumption.

Some alternative systems are operated in parallel particularly for vertical programmes (e.g. PEPFAR buys in the US and conveys the drugs up to the targeted health facilities. Most other vertical programmes or NGOs would buy the drugs themselves but distribute it through an existing network (public, CHAZ)

Procurement of vaccines is separate: come from GAVI & UNICEF under the authority of the UCI unit which buy, store, and distribute vaccines with their own logistics during the immunization weeks apart from the existing network.

A recent study<sup>[1]</sup> reported serious problems of acces to medicines, with stock-outs up to 14% of the stock. Stock outs occurred in both private and public health facilities, of maximum 86.5 days and 112 days respectively, (more than 3 months), The reasons for stock outs were given as (i) the lack of staff, (ii) lack of transport, (iii) patient load and (iv) logistical system to capture data for better planning at lower levels of the system. On average, 2.9% of public health facilities and 0.34% private drug outlets were found with expired drugs on the shelves; reaching a maximum of 31% and 7% at public and private facilities, respectively.

It is common knowledge that Zambia has a serious problem with importation of fake drugs, largely from the middle and Far East. Such drugs are illegally imported by private drug sellers and distributed through the network of (unlicensed) private retail outlets. Finally there is no specific problem of geographical inequity regarding drug procurement. The centralization of drug funding and procurement under the MOH authority seems to have provided poor and better-off areas with similar conditions. However, the distribution of medicines to the periphery (especially to the health centre level) can be a problem, and recourse to alternative procurement from the 10% grant allocation is limited; thereby contributing to cases of drug shortages.

[1] MoH/WHO; Pharmaceutical Sector Baseline Survey Report issued in 2006

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# Zambia:Organization and management of vaccines

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The authority in charge of regulating vaccines is the Directorate of Public Health and Research, which is a directorate within the Ministry of Health  $^{[1]}(MOH)$ 

Main actors are the MOH (regulation and coordination), GAVI & UNICEF (funders) and the Universal Child Immunization (UCI) unit at MoH, which undertakes all logistical aspects and serves as a coordination secretariat.

All the vaccine consignments are procured and managed according to the UNICEF technical specifications, thereby ensuring quality. In addition, bulk buying by UNICEF helps to ensure procurement at lower costs.

Objective of vaccinations are set every year by the MOH in the annual planning cycles and are aimed at attaining the MDGs. The annual projection of needs per district are estimated by a national technical working group, coordinated by the UCI unit, with input from district health offices countrywide.

## Zambia:Vaccines procurement system

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Based on the annual projections done by the national technical working group, quantifications of need orders are made in line with action plans drawn up. UNICEF & GAVI play a big role in procurement (see the previous section).

Upon arrival in the country, vaccines are stored at Universal Child Immunization (UCI) cold chain equipment and relayed through the cold chain system in place in the country, down to the HC level, for storage prior to use (see the section on drug procurement system for further details about the existing procurement network).

For routine vaccination usage, vaccines are procured on demand from the UCI unit national cold chain stores to provincial stores, which distribute to district stores, who in turn distribute to facility stores (hospitals and health centres). Routine vaccination sessions are undertaken at facilities (static sessions) or during outreach services, using vaccine carrier bags.

In addition, mass vaccination campaigns are undertaken twice in a year over a 7-day period, to help ensure reaching the 80% target coverage set by the Ministry of Health <sup>[1]</sup>. Calculation of the number of doses needed obviously does not depend on the decentralized level, but is coordinated by UCI, in line with the annual planning. Vaccine supplies are dispatches to points of use along the channels as described.

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## Zambia:Cold chain and other quality issues

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There are some quality and equity issues in getting effective vaccination coverage. At the national level, the quality of vaccines is assured through the technical specifications and contracting by UNICEF. However, problems may arise in-country, which are related to long distances and difficult road conditions to some distribution points, associated with poor maintenance of cold chain conditions.

# Zambia:Organization and management of infrastructures and equipments

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Investment in medical equipment and accessories falls under the authority of the Technical Support Services directorate of the Ministry of Health <sup>[1]</sup>; while real estate investment falls under the authority and supervision of the Policy and Planning Directorate.

National decisions on how much to allocate to these investments are also strongly influenced by the availability of resources and financial ceilings set by the Ministry of Finance and National Planning<sup>[1]</sup>.

Local decisions on actual investment result from the health planning process as described in the section on health activity planning. Health staff and population at local level have some say regarding their investment but end up being constrained by the total budgetary envelope. There is some additional discretionary space to use collections on infrastructure improvements in places where user fees are still applied. Yet, extension of removal of user fees has reduced this budget allocation space in many health facilities, although part of the Government grant is still supposed to remain to the discretion of local decision makers (e.g. health centre staff & health centre committees).

Equity issues regarding investment and infrastructures are treated at central level according to national priorities. Some clear inequities subsist, as e.g. 19 districts subsisting without a district hospital. Work is in progress (and at various stages of implementation) to ensure every district has a district hospital.

There has been a significant increase in physical investment over the last 3 to 4 years; comprised of (i) completion and extension of existing health infrastructures to reach geographical coverage, (ii) expansion, renewal and expansion of all training institutions, (iii) significant procurement of motor vehicles and motorcycles to all districts, and (iv) investment in critical missing medical equipment (medical imaging, laboratory equipment, etc).

Projections are also quite encouraging. In the 2010 national health budget and over the Medium-Term Expenditure Review period 2010 - 2012, the government plans to spend 2% - 3% of the budget procuring medical equipment and accessories; and a further 14% - 16% on investments in infrastructure<sup>[2]</sup>.

Different documents and tools contribute to regulate and provide necessary information for the development of infrastructure and equipment.

- Health facility censuses have been undertaken in 2005 2006. They gathered critical data on the availability of equipment, infrastructure, human resources and other inputs and investments made for use in making subsequent national health strategic plans.
- All health facilities were mapped using the Geographical Information System (GIS) in 2005 2006 This was undertaken to get a better view of the distribution of health facilities countrywide and within a district. The primary purpose of this activity and the health facility census was to take an inventory of key health care delivery thrusts, map them and ensure improved support to targeted sector development.
- The Policy and Planning Directorate has also coordinated the development of an infrastructure development plan in 2006, to ensure creation of a conductive work environment. It did not only focus on improvement and extension of health facilities, but also to the upgrading and creation of training institutions, in line with MOH's current efforts regarding teaching and education.
- A transport management system was set up in 2004 to ensure the setting up of a transport maintenance unit and capacity within the Ministry of Health; thereby increasing the lifespan of procured transport fleet.
[1] http://www.mofnp.gov.zm/

[2] Source: 2010 – 2012 MTEF ceilings and frameworks and 2010 budget, Ministry of Finance, August 2009)

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### Zambia:Health infrastructures

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The mapping of public health infrastructures is planned as follows

- On average, a district comprises 19 health centres, 1 to 2 hospitals and is placed under the management of one district health office
- A province is made of an average of 8 districts and lead by the province health office.
- At national level, there are 5 central hospitals, for national referrals to access specialized care.

There is a clear geographic imbalance within the country, which reflect the different levels of socioeconomic development. Rural areas and some rural provinces categorised as D suffer from undeniably poorer infrastructure and equipment (see the Government's categorization into 4 categories, namely A (Most urban), B, C, and D (most rural) as discussed in Specific stock and distribution information). The issue is clearly identified by the government and corrective actions are being taken along parallel policies aimed at rebalancing health workforces in these underserved areas (see Performance appraisal and non-financial incentive schemes)

Conditions of health facilities are improving. Previous water and sanitation concerns are almost solved now. PROVIDE ADDITIONAL APPRECIATION ABOUT IMPROVEMENTS & UNSOLVED ISSUES IN HEALTH INFRASTRUCTURES

## Zambia:Medical equipment, devices and aids

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Medical equipment and instruments are better maintained than non-medical equipment. Health facilities had surprisingly low rates of nonfunctional medical equipment. Only 2-4 percent of health facilities reported non-functioning medical equipment in their possession (such as x-ray, sonogram, refrigeration equipment, anesthetic equipment, laboratory equipment, blood bank, and oxygen supply). Rural health centres were least provided with these equipment and expressed the highest demand for items such as height measuring devices, microscopes, audioscopes, surgical insruments for Obstetrics & Gynaecology, gowns and protective clothing, malaria blood smears, and urine test strips<sup>[1]</sup>.

[1] Ministry of Health/World Bank; The Zambia Public Expenditure Tracking and Quality of Service Delivery Survey (PET/QSDS) in the Health Sector - Findings and Implications. Lusaka (2006)

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### Zambia:Information technology

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Since the mid 1990s, the health system is computerized up to the district hospital level. Nowadays, some health centres are equipped with IT facility, but mainly in urban and provinces classified as A (among the richest)

Actually, Zambia can be presented as a pioneer country within low-and-middle-income-countries regarding its utilization of computerized information in health. The very first computerized HMIS was developed in 1995 and already standardized countrywide. It has been significantly improved and extended in 2008 (see Organization and management of HIS). Other management systems are computerized as the recently introduced Human Resource management database (see Overview of the organization and management of HRH). A patient file database is also under development.

Internet is slowly getting expanded thanks to mobile phones connections, but there is currently no reliable network throughout the country. Zones A & B are quite well covered, while the poorest C & D tend to have a lower network. Most government agencies are currently working with the Zambian public provider Zamnet <sup>[1]</sup>. Yet it appears that the system is poorly reliable and does hardly hold the comparison with existing private providers and the upcoming optical fibre.

There are plans to further develop the IT systems as a condition for the efficient utilization of the related information systems. The first step would obviously to ensure an appropriate IT coverage throughout the country, and find efficient ways to transfer and backup information coming from health centre level. Ambitious additional projects are sometimes evoked, as a telemedicine programme which would require videoconferencing facilities. But there are probably some intermediary steps.

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#### References

[1] http://www.zamnet.zm/

# Zambia:Maintenance policy and other quality issues

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The Ministry of Health recognizes that maintenance issues were not highlighted in previous initiatives, thereby resulting in under-investment and major waste on equipment. Since 2005, the MoH has initiated a special programme to help with maintenance of medical equipment at the Northern Technical College (Nortec) in Ndola. The college will train technicians to maintain medical equipment countrywide.

EXPLAIN A BIT MORE: who sets the standards for maintenance? how is it organized? Are there some specific maintenance agents at each level of the system? How has the budget for maintenance evolved these last years? ... and related questions...

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## Zambia:Blood

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# Zambia:Organization and management of blood products

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# Zambia:Collection and distribution system of blood products

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## Zambia:Quality and safety of blood products

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## Zambia:Priorities and ways forward - Medical products, vaccines, infrastructures and equipment

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# Zambia:Others - Medical products, vaccines, infrastructures and equipment

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### Zambia:General country health policies

Public policies in the health sector, together with those in other sectors, have a huge potential to secure the health of communities.<sup>[1]</sup> They represent an important complement to universal coverage and service delivery reforms. Unfortunately, in most societies, this potential is largely untapped and failure to effectively engage other sectors is widespread. Looking ahead at the diverse range of challenges associated with the growing importance of ageing, urbanization and the social determinants of health, there is, without question, a need for a greater capacity to seize this potential. That is why a drive for better public policies forms a third pillar supporting the move towards primary health care, along with universal coverage and primary care (see figure).

The following policies must be in place:

- *Systems policies* the arrangements that are needed across health systems' building blocks to support universal coverage and effective service delivery. These are the health systems policies (related to essential drugs, technology, quality control, human resources, accreditation, etc.) on which primary care and universal coverage reforms depend.
- *Public health policies* the specific actions needed to address priority health problems through cross-cutting prevention and health promotion. Without effective public health policies that address priority health problems, primary care and universal coverage reforms would be hindered. These encompass the technical policies and programmes that provide guidance to primary care teams on how to deal with priority health problems. They also encompass the



classical public health interventions from public hygiene and disease prevention to health promotion.

Policies in other sectors – contributions to health that can be made through intersectoral collaboration. These
policies, which are of critical concern, are known as "health in all policies", based on the recognition that a
population's health can be improved through policies that are mainly controlled by sectors other than health. The
health content of school curricula, industry's policy towards gender equality, or the safety of food and consumer
goods are all issues that can profoundly influence or even determine the health of entire communities and that can
cut across national boundaries. It is not possible to address such issues without intensive intersectoral
collaboration that gives due weight to health in all policies.

This section of the health system profile is structured as follows:

- 3.10.1 Analytical summary
- 3.10.2 Overview of major policy reforms
- 3.10.3 Public health policies
- 3.10.4 Health system policies

- 3.10.5 Policies in other sectors and intersectoral policies
- 3.10.6 Priorities and ways forward

#### References

 Systems thinking for health systems strengthening (pdf 1.54Mb). Geneva, World Health Organization, 2009 (http://whqlibdoc.who.int/ publications/2009/9789241563895\_eng.pdf)

# Zambia:Analytical summary - General country health policies

Over the past years, the Government of Zambia has taken a number of actions and strategies in various sectors, aimed at reducing inequities and improving health and living conditions. The concept of "*equity of access to assure quality, cost-effective and affordable health services, as close to the family as possible*" is at the heart of the 1992 National Health Policies and Strategies which is guiding policy reforms since it enactment.

### Zambia: Overview of major policy reforms

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Over the years, the health sector has under-gone major policy reforms, which are still on-going. These reforms have been guided by the National Health Policies and Strategies <sup>[1]</sup> of 1992, which has provided the strategic direction to the reforms, based on the following vision, goal and principles:

- Vision: Equity of access to assured quality, cost-effective and affordable health services, as close to the family as possible.
- Goal: To further improve health service delivery in order to significantly contribute to the attainment of the health Millennium Development Goals and national health priorities.
- Principles: Equity, cost-effectiveness, affordability, accountability, partnerships, decentralisation and leadership.

In practice, these policy reforms materialized into a major restructuring of the health sector which conducted to the enactment of the National Health Services Act (**attach doc**) of 1995. This led the same year to the first model of decentralization of responsibilities of priority setting, planning and health service delivery to the districts and local communities. Yet, the model opted for was hardly sustainable in practice and the second version developed in 2005 somewhat resulted in re-centralization of decision-taking at central level, as discussed in Decentralization of the system

Also in 2005, the Government of Zambia has launched a new long-term vision, called "Vision 2030" (**attach doc**), which aims at transforming the country into a "middle-income prosperous nation by 2030". During the same year, the Fifth National Development Plan (FNDP) (**attach doc**), the National Health Strategic Plan 2006-2010<sup>[1]</sup> and the Human Resources for Health Strategic Plan 2006-2010<sup>[3]</sup>, all covering a period of 5 years from 2006 to 2010, were launched, and are still being implemented. The FNDP is broad-based and focused at achieving accelerated, meaningful and sustainable development across the sectors. In this respect, it is largely influenced by local and international priorities, particularly the Millennium Development Goals (MDGs). Through this plan and the respective sector strategies, all the 8 MDGs have been appropriately domesticated and incorporated.

A summary of the evolution of the major health sector policy reforms implemented since 1992 is provided Table 7.1 below.

Year	Policies and Reforms			
1992	National Health Policies and Strategies developed			
1993	Public Service Reform Programme (PSRP) launched			
1993	Health Reforms Implementation Team (HRIT) established			
1995	<ul> <li>National Medical Services Act, 1985, repealed</li> </ul>			
	<ul> <li>National Health Services Act, 1995 passed</li> </ul>			
	<ul> <li>1st National Health Strategic Plan (1995-2000) developed</li> </ul>			
1996	Major restructuring of the health sector, based on decentralisation of functions and resources to the district/communities:			
	<ul> <li>Ministry of Health (MOH) responsibilities redefined and narrowed to policy formulation, monitoring and evaluation</li> </ul>			
	<ul> <li>Semi-autonomous health service delivery boards established, including the Central Board of Health (CBOH), District Health Boards and Hospital Boards</li> </ul>			
	<ul> <li>Statutory boards (service and regulatory) reorganised</li> </ul>			
1998	National Drugs Policy ratified			
1999	Hospital Reforms Steering Committee established			
2000	<ul> <li>Basic Health Care Packages (BHCP) defined for 2<sup>nd</sup> and 3<sup>rd</sup> levels</li> </ul>			
	BHCP for 1 <sup>st</sup> level (district) reviewed in order to make it more comprehensive			
	<ul> <li>2<sup>nd</sup> National Health Strategic Plan (2001-2005) developed</li> </ul>			
	<ul> <li>Bottom-up approach to annual action planning introduced</li> </ul>			
2001	National Hospital Policy developed			
2003	National Decentralisation Policy, 2003 launched			
2004	<ul> <li>Health sector institutional review conducted</li> </ul>			
	<ul> <li>Health sector performance review conducted</li> </ul>			
2004?	Highly Indebted Poor Countries (HIPC) completion point attained			
2005	Ministry of Health Institutional Strategic Plan (2005-09) developed			
	Another major restructuring of the health sector:			
	<ul> <li>National Health Services Act of 1995 repealed</li> </ul>			
	<ul> <li>CBOH, district and hospital management boards disbanded</li> </ul>			
	<ul> <li>MOH assumes full responsibility for policy formulation, health service delivery and monitoring and evaluation</li> </ul>			
	National Health Strategic Plan (2006-10) developed (incorporating national health priorities, MDGs and other regional and international commitments)			
	National Human Resources for Health Strategic Plan developed			
	National HIV/AIDS/STI/TB Policy, 2005 and strategic framework developed			
	Fifth National Development Plan (FNDP) developed			
2006	National HIV/AIDS/STI/TB Act passed			
2008	<ul> <li>Restructuring of MOH, hospitals and health training institutions completed</li> </ul>			
	<ul> <li>Restructuring of health statutory boards commenced</li> </ul>			
	<ul> <li>Draft Social Health Insurance (SHI) developed</li> </ul>			
2009	Revision of the Basic Health Care Package (BHCP)			

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### Zambia:Public health policies

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By design, the existing health policies are modelled along the national health vision of "equity of access to assured, cost-effective and affordable health services, as close to the family as possible".

In this respect, key policies and accompanying strategies implicitly comprise an objective of ensuring equitable access to primary health care services for all the population, regardless of the social, economic and geographical status, and comply with most recommendations of the WHO Commission on Social Determinants for Health.

The Zambian policy formulation process, is articulated around broad consultations at all the levels of the health system, which provide additional guarantee on their compliance with international standards and concepts (as the WHO PHC renewal). The process is also significantly influenced by global health initiatives, through the SWAp arrangement and also through various global initiatives and disease-centered approaches<sup>[1]</sup>.

However, in practice, the health system faces a number of challenges which contribute to inequities in various areas, such as: inadequate funding and imperfect coordination arrangements regarding Global Initiatives; critical shortages of health workers and sub-optimal distribution of available health workers, to the disadvantage of rural communities; weaknesses in the supply of drugs and other medical items; inappropriateness of some infrastructures and equipment, and maintenance issues.

The above factors largely affect health service delivery, particularly for rural communities and disadvantaged vulnerable population groups, such as women, children, and physically challenged groups. These matters are discussed in addressed in a number of reports and assessments<sup>[2]</sup>. It creates various forms of iniquities:

- Iniquities between the urban and rural areas in several areas, including the distribution of facilities, human resources and drugs and other medical supplies.
- Iniquities between provinces with a significant differential in the distribution of resources between A and D provinces (see among others the section on HR stock and distribution). These iniquities actually extends to differences in socio-economic development and access to other essential public services (education, transports, etc.).
- others

Efforts made towards primary health care policies are also somewhat undercut by the importance taken by priority health programmes in the Zambian health system. These mainly include: HIV&AIDS programmes, including the National HIV/AIDS/STI/TB Council (NAC); the National Malaria Control programme; National TB and Leprosy Control Programme; the Child Health and Nutrition Programme; and the Maternal Health Programme.

These programmes undoubtedly play an important role in the implementation of various health policies, which they spearhead at all the levels. Nevertheless the vertical nature of their activities may undermine PHC services, mainly through creation of imbalances in the financing and support to critical activities throughout the health system and through inadequate coordination and integration within the SWAp institutional arrangements.

- [1] It includes: the Global Alliance for Vaccines and Immunization (GAVI); the Global Fund to Fight AIDS, TB and Malaria (GFTATM); the USG Presidential Emergency Plan for AIDS Relief (PEPFAR) and the Presidential Malaria Programme; and several other initiatives under the UN Group
- [2] These reports and assessment comprise among others the Joint Annual Reviews (JARs), Mid-Term Reviews (MTRs), Zambia Demographic and Health Survey (ZDHS), the Health Sector Public Expenditure Review (PER), the National Human Resources for Health Strategic Plan (NHRHSP) and other studies

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### Zambia:Health system policies

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Zambia's health system offers an interesting set of policies, which have clearly been influenced by principles as decentralization, community participation, patient centeredness and equity.

Yet, reforming a health system takes time. For various reasons, there are still gaps between the principles ("bringing health services as close to the family as possible") and actual implementation.

In this section, we briefly discuss, building block per building block, to what extent health system reforms comply with the primary health care (PHC) objectives and the key options conveyed by the Commission on Social Determinants for Health.

Leadership and governance (see Chapter 1<sup>[1]</sup>)

- The 1995 decentralization policy was a clear attempt to strengthen community participation, distribution of power, and the responsiveness of the health system to the patients' demand. However, the actual outcomes are now being questioned with the latest 2005 restructuring, which appears to have re-concentrated decision-making power back to the MOH.
- The long-lasting SWAp governance system is a strong Zambian asset to stimulate the participation of main stakeholders of the sector, including other sectors, cooperating partners. Yet, these are mainly the big players. An important (identified) challenge is now to see how it can be extended to the civil society and under-represented groups, as NGOs and civil society organizations.

Service Delivery (see Chapter 2<sup>[2]</sup>)

- A policy on Basic Heath Care Packages (BHCP) is under discussion since 2004, and should guarantee citizens with access to a full range of essential and affordable health services at the different levels of the health system. However it is not yet implemented and the current organization of services does not full comply with PHC requirements.
- The Government has consented important efforts for improving geographical coverage with the agreement made with the (faith-based) Churches Health Association of Zambia <sup>[6]</sup> health facilities, including provision of subsidized health staff. The opportunity to conduct similar arrangements with the private for-profit sector is a pending question.
- Vertical programmes are contributing significantly to health services delivery at primary level, including in underserved areas. To a certain extent, they may also interfere with PHC performance. As an illustration, it is estimated that approximately US\$200 millions, from the USG alone, are absorbed by HIV/AIDS activities country-wide
- The MOH acknowledges failures in the provision of PHC services and attempts to provide alternative solution through e.g. innovative targeting initiatives as the Child Health Weeks (CHW) (provision of a comprehensive set of preventive and curative services to children during specified weeks).

Health Workforce (see Chapter 3<sup>[4]</sup>)

- The MOH is struggling for years to provide solutions to the critical shortages and imbalanced in the distribution of health workers throughout the country. The policies currently under discussion include:
  - The retention programme is aimed at motivating quality health workers to settle in underserved areas. It was successfully introduced in 2008 and is now getting expanded to include other medical cadre, in addition to medical doctors
  - Since the 1990s, bonding of students agreements aim at improving the distribution of health workers, particularly for rural areas, by requiring students to work for specified institutions and for a specified minimum period upon completing the course.
  - A contracting strategy is being considered since the mid 2000s to fight the brain drain. It would encourage the recruitment on short-term renewable contracts of health professionals that are either returning from abroad or have been retired. The results are mild so far, with some partial success regarding retired professionals but no real results as relates to attracting Zambians from abroad.
- Staff development: in-service training programme targeted at continuous capacity-strengthening. In 2008, a comprehensive in-service development plan was developed and is under implementation. This initiative is intended to provide for continuous upgrading of skills for the health workers, inorder for them to favourably cope with the changing health needs and environments;
- Vertical programmes attract significant portion of skilled workforce due to the attractive conditions they offer. It impacts on the availability of health workers to the public sector, and particularly at primary level. Poor coordination of activities with the public sector may also negatively impact on PHC activities.

Medical products and infrastructures (see Chapter 4<sup>[3]</sup>)

- At present time, the distribution of health infrastructures and equipment is inequitable and favours urban areas, and the Lusaka and Copperbelt provinces. Efforts are being undertaken to correct geographic inequalities. The first comprehensive Health Facilities Census (HFC) has been conducted in 2006, together with a health facility database, which are now both used by the government and SWAp partners to orientate decisions and funds allocation.
- Drug supply still suffers from shortages and erratic distribution, particularly in poor underserved areas. Since 2007, the issue of drugs procurement has been separated from other procurement arrangment, specific accompanying measures and budget lines were introduced. Also reforms of the drug information system were recently introduced together with other reforms of the Health Information System (e.g. reform of the

HMIS). It led to significant improvements discussed during the latest Joint Annual Review. Health financing (see Chapter 5<sup>[4]</sup>)

- There is surprisingly no formal Health Financing Policy at present time (2009). Discussions are ongoing since the mid-2000s and should soon lead to the production of a formal strategy and policy.
- Results Based Financing (RBF) approaches have been piloted in 2008 with a aim to improve staff allocation throughout the country (with increased satisfaction and motivation), as well as the quality of services and their responsiveness to the population's expectations. The policy is to be extended in the coming months.
- Financing options contributing to universal coverage are are still at an early stage in Zambia. Two main options are being considered for the time being: (1) a user fee removal policy which was implemented in health centres and district hospitals in rural areas in early 2006, and later extended to cover facilities in peri-urban areas in mid-2007<sup>[5]</sup> and (2) a forthcoming social health insurance for the formal sector (targeting a better-off population), which will probably be piloted in late 2009 / early 2010 (see the 2008 SHI Actuarial Report <sup>[6]</sup>). It seems that the insurance / risk pooling option would be the preferred approach for future development towards universal coverage, yet this will still have to be confirmed in the forthcoming health financing policy.
- The coordination of financial resources and alignement of strategies are quite satisfying in Zambia due to the long-lasting history of SWAp and basket funding arrangements. Still, only an estimated 25% of all donor funding transits through basket funding. There are also fears that specific global initiatives budget lines and some unaligned cooperating partners could jeopardize further coordination of partners and funds.

Health Management Information System (see Chapter 6<sup>[7]</sup>)

- Zambia benefits from a comprehensive set of data sources, which is constantly being improved, and can provide the information needed for conducting efficient primary health care reforms. SWAp arrangements and, to a lesser extent, decentralization policies, favour their concerted utilization in policy orientations and decision-making process.
- The restructuring of the HMIS in 2008 is considered as a success. The new system has improved capabilities and features for data capturing, analysis and reporting, with additional capacity to provide refined information by gender, age, geographic area and other level of details.
- $[1] \ https://extranet.who.int/mediawiki/index.php/Index_for_Zambia_-_Leadership_and_Governance_Source_So$
- [2] https://extranet.who.int/mediawiki/index.php/Index\_for\_Zambia\_-\_Service\_Delivery
- [3] https://extranet.who.int/mediawiki/index.php/
- $Index\_for\_Zambia\_-\_Medical\_products\%2C\_vaccines\%2C\_infrastructures\_and\_equipment$
- [4] https://extranet.who.int/mediawiki/index.php/Index\_for\_Zambia\_-\_Health\_Financing\_System
- [5] An evaluation has been performed with the support of the London School of Hygiene and Tropical Medicine. A first draft report has been communicated in August 2009 but is not yet ready for publication.
- [6] https://extranet.who.int/mediawiki/images/3/3b/Zambia\_\_SHI\_Actuarial\_Report\_\_2008-05.pdf
- [7] https://extranet.who.int/mediawiki/index.php/Index\_for\_Zambia\_-\_Health\_Information\_Systems

# Zambia:Policies in other sectors and intersectoral policies

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In Zambia there are quite a number of policies and actions in various sectors which have a clear impact on health status and health inequities. Some of them include:

- Nutrition : scaling up of activities, particularly in schools and vulnerable groups in rural areas, through a multi-sectoral approach (attach doc);
- "Keep Zambia clean" campaign, a Presidential initiative aimed at improving general hygiene in public places, currently being implemented in all the districts (**attach doc**);
- HIV/AIDS awareness campaign is placed under the leadership of the central governments and aims at ensuring that all sectors develop a HIV/AIDS component, in order to use every public opportunity to inform and educate the public (**attach doc**);
- The Road safety initiatives under the leadership of the Road Safety Agency (RTA) is made of various actions related to inappropriate driving behaviour (drinking, cell phone, no helmet protection...). It strongly collaborates with the Police Service and led to increased road patrols, licensing rules and speed controls, with significant impacts on road safety (**attach doc**).

These health-related initiatives are merely the result of a strong leadership taken by the central Government on public health issues, rather than a direct influence of the MOH on other sectors' agenda.

It does not mean that the MOH's influence must be neglected. The National Health Strategic Plan 2006-2010<sup>[1]</sup> sets partnership as one of the leading principles underpinning the health sector reforms. It applies to the main stakeholders of the health sector, but also to stakeholders from other sectors, whose policies and actions may have an impact on the general health status of the population and on health inequities.

In this regard, stakeholders from a variety of sectors are invited as active voting members of the Sector Advisory Group (SAG), and represented at the lower levels of the SAG (Technical Working Groups, sub-committees etc.). It provides them with opportunities to influence and get a better ownership on public health issues discussed in the SAG. Reversely, the MOH to influence other ministries' policies by participating to their SAG.

Yet, results are mild so far. Except regarding HIV/AIDS, only a few sectors have a specific health programme on their agenda<sup>[1]</sup>. Similarly other ministries do not specifically attempt to measure the positive or negative externalities of their policies on the general health status of the population and on health inequities. Yet, the indicators produced by all ministries are consolidated and used to evaluate the implementation of the national development plan (NDP) (**attach doc**). Putting essential primary health care indicators higher on the NDP requirements to other ministries could possibly be an option to improve knowledge on progresses made regarding "Health in All" policies.

<sup>[1]</sup> The only ones who do have some kind of health-related policy (most often with a long-lasting collaboration with the MOH) include: Ministry of Local Government and Housing, Ministry of Education, Ministry of Labour and Social Services, Ministry of Agriculture, Food and Fisheries and Ministry of Defence and Home Affairs.

## Zambia:Priorities and ways forward - General country health policies

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### Zambia:Others - General country health policies

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### Zambia:Universal coverage

People expect their health systems to be equitable. The roots of health inequities lie in social conditions outside the health system's direct control. These root causes have to be tackled through intersectoral and cross-government action. At the same time, the health sector can take significant action to advance health equity internally. The basis for this is the set of reforms that aims at moving towards universal coverage, i.e. towards universal access to health services with social health protection. Health inequities also find their roots in the way health systems exclude people, such as inequities in availability, access, quality and burden of payment, and even in the way clinical practice is conducted.

The fundamental step a country can take to promote health equity is to move towards universal coverage: universal access to the full range of personal and non-personal health services required, with social health protection. The technical challenge of moving towards universal coverage is to expand coverage in three ways (see figure).:

• *The breadth of coverage* – the proportion of the population that enjoys social health protection – must expand progressively to encompass the uninsured, i.e. the population groups that lack access to services and/or social protection against the financial consequences of taking up health care.



- *The depth of coverage* must also grow, expanding the range of essential services that is necessary to address people's health needs effectively, taking into account demand and expectations, and the resources society is willing and able to allocate to health. The determination of the corresponding "essential package" of benefits can play a key role here, provided the process is conducted appropriately.
- *The height of coverage*, i.e. the portion of health care costs covered through pooling and prepayment mechanisms, must also rise, diminishing reliance on out-of-pocket copayment at the point of service delivery. Prepayment and pooling institutionalizes solidarity between the rich and the less well-off, and between the healthy and the sick. It lifts barriers to the uptake of services and reduces the risk that people will incur catastrophic expenses when they are sick. Finally, it provides the means to reinvest in the availability, range and quality of services.

This section of the health system profile is structured as follows:

3.11.1 Analytical summary

- 3.11.2 Organizational framework of universal coverage
  - 3.11.2.1 Overview of main actors and arrangements related to universal coverage
  - 3.11.2.2 Specific regulatory framework
- 3.11.3 Health mapping and geographical coverage
- 3.11.4 Health financing strategy towards universal coverage
  - 3.11.4.1 Breadth extending the target population
  - 3.11.4.2 Depth expanding the package of services
  - 3.11.4.3 Height reinforcing protection against financial risk
  - 3.11.4.4 Transversal challenges of universal health financing
- 3.11.5 Other initiatives towards universal coverage
- 3.11.6 Barriers on access to health services

## Zambia: Analytical summary - Universal coverage

Access by the population to quality social and health services has been an area of concern for successful Zambian Governance since ninepence in 1964. Public health infrastructures have been progressively brought closer to the population, while decentralization policies were aimed at giving them ownership on their health services. Different health financing systems have been tested, resulting today in an increasing tendency towards the provision of free or highly subsidized health services.

# Zambia:Organizational framework of universal coverage

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# Zambia:Overview of main actors and arrangements related to universal coverage

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Coverage of the health and other social needs of the population has been a driving force in successive Zambian political orientations since the independence.

As from 1964, Zambia set out on a mission to expand access to health care services, education and other social services and reduce social inequities. The main focus at that time was to promote employment and to facilitate the expansion of health services, education and other social services on a free of charge basis. This Socialist-oriented held the power power from 1964 to 1991. Major successes were achieved, particularly in infrastructure development at all the levels, including primary level, health, educational and transport and communication infrastructure, thanks to maintained political will and a strong economy boasted by high international copper prices

However, the situation deteriorated during the 1970s and 1980s, mainly due to major economic crisis precipitated by the drop in copper prices, the mainstay of the economy. This led to reduced investments at all levels of health services, especially primary level, and deteriorations in standards of living of the general population.

In 1991, multi-party politics were reintroduced and the economy turned towards a free market system. Since then, Zambia has been implementing major socio-economic reforms. By that time, significant deterioration in health services had been observed, with resource allocation to the health sector dropping from US\$26 per capita in the 1970s to US\$6 in the 1990s. The main focus of the health sector has been on equity of access to health care services, as close to the family as possible.

The major policy reforms passed since 1991 in relation to the concept of universal health coverage in Zambia include:

- 1995 National Health Services Act passed. Willingness to raise the voice of the population in the management of health services through the decentralization of health services;
- 1995 User fees introduced in the health sector following Alma Ata and Bamako declarations. Also introduced in other social sectors, such as education. Exemption of some categories of the population from paying for health services, including children, the aged and military personnel;
- 2005 Second phase of major restructuring of health sector. Reduction in the decentralisation of powers, through the dissolution of health management boards;
- 200X Basic education services are decreed free, before health services. Extended in 2009;
- 2006 Removal of user fees for health centres and district hospitals in rural areas, extended to peri-urban areas in 2007;
- 2008-2009 Draft Health care Financing Policy and Social Health Insurance (SHI) scheme developed. Finalisation planned for late 2009 or early 2010;

Nowadays, universal coverage issues are discussed (together with other health system issues) in the existing coordination forums at national and decentralized level. The long-lasting coordination with partners and SWAp arrangements has certainly contributed to set the issues of universal coverage and equity high on the Zambian agenda. Progresses in the field of equity are also being made within these institutions to allow the voice of a diversity of actors in the governance on health issues. For example, SWAp bodies are progressively getting extended to include previously excluded players, such as the NGOs and grassroot organization.

There are also a number of other mechanisms to make the demands of the population heard regarding inequities and coverage failures: (1) the planning cycle developed through the reforms provides a decent opportunity to decentralized level, including the population, to raise their voice in the national policy debate; (2) traditional leaders

are becoming more and more active in claiming the rights to social services for their populations, due partly to the decisive influence they may have on local votes in national elections; (3) churches also play an important role in passing on the communities' complaints to the related authorities (the Catholic Commission for Justice and Peace is one such important church institutions in advocating and promoting peace and social justice); (4) finally, a number of Non-Governmental Organisations (NGOs) and Community Based Organisations (CBOs) are also specialized in advocacy for health-related and other social problems and are having increasing influence in the course of liberalization of Zambia.

Zambia benefits from a significant set of information sources to measure inequities and coverage failures. As discussed in the chapter on Health Information System <sup>[7]</sup>, recent reforms in the HMIS allow for detailed socio-economic analyses by age, gender, socio-economic status, etc. In addition, a number of reports and surveys (DHS, ZSBS, MIS, LCMS) provide additional information. Institutional arrangements within the MOH and with partners at central level allow for optimal use of this information in decision-making and policy formulation processes, including universal coverage issues.

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# Zambia:Health mapping and geographical coverage

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The total population of Zambia is estimated at approximately 12 million people, comprising of 40% urban and 60% rural populations. According to the **xxxxx** survey, approximately **xxx%** of the total population have access to decent health care, representing **xxx%** of the urban and **xxx%** of the rural populations. As a result of this failure in achieving the desirable levels in universal coverage, some people resort to seeking health services from sub-standard unauthorised providers, which endangers their lives.

The country face a number of issues regarding geographical coverage. The overall problem relies in an uneven repartition of health infrastructures, personnel and other inputs between urban and rural areas, and between provinces (Lusaka and Copperbelt being significantly advantaged).

More particularly, the poor state of transport and communication infrastructure, especially for rural areas, presents a major challenge. Even though the government has already mapped and defined the types and numbers of health facilities needed for each district, the available facilities are inadequate. Further, some facilities are considered as inappropriate by the patients (e.g. mothers delivering at home due to the absence of mothers' waiting shelters that meet their standards). The country has also continued to face a critical shortage of qualified health workers, with only about 52% of the total number of health workers needed. The rural areas are worst affected, due to inequitable distribution of the available health workers. Though the Joint Annual Review 2008 <sup>[1]</sup> observed that there were significant improvements in the availability and distribution of essential drugs and other pharmaceuticals, it also pointed out that there were still shortages being experienced in some parts. This again, is more prevalent in rural areas.

The government has undertaken several measures and developed strategies aimed at dealing with these challenges to geographical coverage. These include:

- Scaling up of infrastructure development in health, transport and communication, and education;
- Strengthening of partnership with the faith-based health sector under the Churches Health Association of Zambia (CHAZ) (now accounting for approximately 30% of total national health services and approximately 60% in rural areas);

- Promotion of outreach operations, conducted by health facilities, the Zambia Flying Doctor Service and specific disease based programmes, as a strategy to compensate the gap of primary health care services.
- Strengthening of the community health worker strategy for provision of basic health care services, including maternal health in communities; and
- Continuous efforts to develop primary health care services at all level of the health system.

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## Zambia:Health financing strategy towards universal coverage

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At present time (2009), there is no formal Health Care Financing policy. A draft had been prepared in 2003, updated in 2008, but not amended yet.

In these conditions, one cannot draw with certainty the vision defended by the MOH and its partners regarding health financing options towards universal coverage, and its implication in terms of extension of the target population, package of services and social protection (see the following subheadings).

Officially, user fees are still in application in the health sector. Yet, the population benefits from so many subsidy mechanisms from the government and partners that user fees tend to narrow down to some lump sum payments in urban health facilities. There are actually a variety of exemption options:

- Some important groups of the population (under five, elderly) benefits from free services for years;
- The entire population gets a selection of services for free or at nominal fees under the Basic Health Care Package policy<sup>[1]</sup>;
- Health services are free in health centres and district hospital located in rural and peri-urban areas (representing about xxx% of the population), since the two successive waves of user free removal in 2006 and 2007. The early results of this strategy have been the subject of an evaluation in late 2008 utilized during the Joint Annual Review<sup>[2]</sup>.
- Some additional forms of characteristic free services come in addition (for the militaries, etc.).
- All other services are subject to partial subsidy and only invoiced through a lump sum mechanism.

A strategy of Social Health Insurance is currently being discussed, and is supposed to be finalized by late 2009 and soon piloted (see the 2008 SHI Actuarial Report <sup>[6]</sup>).

In line with the stated vision of the MOH to bring health services "*as close to the family as possible*" it is very likely that the government will adopt some form of strategy towards universal coverage at a certain stage. Yet, in the absence of health financing policy, what this strategy will be is still to be defined.

It seems, according to early works around the Health care financing policy under preparation, that insurance mechanisms would be the preferred option with extension of the forthcoming SHI for the formally-employed workers and development of community-based health insurance for the rest of the population.

As a matter of fact, in the current situation, citizens can only claim for a partial social protection for health. For instance, none of them is protected against the high out-of-pocket expenditures to be encurred at provincial or national hospital level.

In that respect, the option to progressively launch and extend insurance mechanisms, first to formal employees, and then to communities, could make sense as long as it provides a quite comprehensive protection (as Zambian citizens already enjoy some protection).

But risk pooling mechanisms are complicate process in which Zambia has virtually no experience. Beside, there might also be arguments in favour of extension of the package of already existing free services.

The subject requires further reflexion and technical guidance. In practice, the two options will imply making a choice between focusing on, strengthening and reforming two different funding sources: (1) either demand-side financing for SHI (2) or tax-based financing + donor financing for free health care services.

[1] The elements of the Basic Health Care Package are selected on the basis of an epidemiological analysis of those diseases and conditions that cause the highest burden of disease and death.

[2] The study was conducted with the support of the London School of Hygiene and Tropical Medicine. A first draft has been delivered in mid-2009 but is not yet ready for dissemination.

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# Zambia:Breadth - extending the target population

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In the absence of clear health financing policy<sup>[1]</sup>, the strategy to extend the coverage of the population in Zambia is still to be defined.

See the discussion on possible options in the generic section on Health financing strategy towards universal coverage for further information.

[1] The health financing policy is under discussion since the mid-2000s and should hopefully lead to an amended policy and strategy in 2010

# Zambia:Depth - expanding the package of services

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In the absence of clear health financing policy<sup>[1]</sup>, the strategy to extend the coverage of the population in Zambia is still to be defined.

See the discussion on possible options in the generic section on Health financing strategy towards universal coverage for further information.

[1] The health financing policy is under discussion since the mid-2000s and should hopefully lead to an amended policy and strategy in 2010

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# Zambia:Height - reinforcing protection against financial risk

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In the absence of clear health financing policy<sup>[1]</sup>, the strategy to extend the coverage of the population in Zambia is still to be defined.

See the discussion on possible options in the generic section on Health financing strategy towards universal coverage for further information.

[1] The health financing policy is under discussion since the mid-2000s and should hopefully lead to an amended policy and strategy in 2010

# Zambia:Transversal challenges of universal health financing

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# Zambia:Other initiatives towards universal coverage

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Equity and universal coverage are for long high on the Zambian policy agenda, as demonstrated in the cross-sectoral National Population Policy since 1989 as discussed under specific regulatory framework, or efforts and reflexion made for more than 15 years around decentralization of decision and priority setting to the local population and health workers (see the section on decentralization of the health system)

It led to the development of actions and strategies taken in various sectors, aimed at reducing inequities and improving health and living conditions (see Social determinants for Health).

Universal coverage also means favouring cross-sector interventions. For instance, in order to counter the challenges associated with long distances and communication barriers, the Government now invest on infrastructure development plan; improvement of road conditions along the ministry of works and supply policy, and communication infrastructure with the ministry of communication and the private sector. The general policy context favouring similar interventions is discussed in the section on Policies in other sectors and intersectoral policies.

### Zambia:Barriers on access to health services

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There are no recent specific study giving an appropriate picture of the barriers faced by patients when trying to access health services. Yet the barriers issue is acknowledged and addressed in a number of recent policy decision taken by the MOH in coordination with partners (e.g. inclusion of socioeconomic indicators in the revised HMIS, development of retentions schemes and bonding systems...)

- The distribution of health facilities is inequitable with the country. The government has classified districts in A to D zones, C & D zones being the districts suffering from the poorest level of investment. Patients in these zones are believed to face additional barriers in accessing health facilities due to poorer health mapping, allocation of health staff, equipment, maintenance level, road conditions, etc.
- The Zambian health financing system is characterized by a combination of specific free health care policies at lower levels (see the section on health financing in this chapter). The financial barrier to access public services is then reduced, and most out-of-pocket expenditures actually relate to paying private health services<sup>[1]</sup>. Nevertheless, user fees are applied in the public secondary and tertiary level, where services are more expensive, and could lead to catastrophic health care expenditures. This is partly compensated by a general policy of subsidized lump sum payment per episode of illness. Still, in the absence of risk- and cost-pooling mechanism, the poor undoubtedly face financial barrier in accessing hospital services, and one can not talk about any form of vertical and horizontal equity<sup>[2]</sup>. Social Insurance mechanisms are envisionned as a possible option, but early pilots (in late 2009 / early 2010) will remain focused on formally employed workers, who are less confronted to financial barriers.
- Equity in the distribution of human resources is a key concern in Zambia. Only 50% of planned posts are covered, and poorest areas (C & D) suffer the most. Yet, since 2005, the MOH and its partners have launched a comprehensive set of measures (retention schemes, incentive schemes, bonding system, invesment on training institutions) in line with the Human Resources for Health Strategic Plan 2006-2010<sup>[3]</sup> (see the chapter on health workforce<sup>[4]</sup>).
- It seems that most health facilities manage in reasonnably covering their package of activities as defined under the Basic Health Care Package. Main failures are related to investment and budgetary issues as: (1) drug stock-outs, which is a recurrent issue related among others to insufficient government grant; (2) lack for equipment or of human resources to cover specific aspects of the package (e.g. maternal care). Problems related to the "human factor" as absenteism, under-the-table payments and other shadow practices seem to be less prevalent than in numbers of low and middle income countries.

Only few information is available about the barriers on access to health services which may be related to the patient's profile. Are some sections of the population discriminated, what are the main cultural and social barriers, does the chronic patient represent a social load for his family? It remains unclear. The 2007 Demographic and Health Survey <sup>[3]</sup> tends to show that women have a say in household expenditures decision, which is a positive sign. Also one may guess that the population from C & D zones faces additional barriers due to poorer living conditions (and then discrimination), poor education (and then a less informed decision-making process) etc. But more research is needed on this question.

- [1] The 2008 Public Expenditure Review has shown that 71% of patients out-of-pocket expenditures were merely allocated to private health services.
- [2] The rich pays the same as the poor while he could contribute more; the ill pays more than the healthy while he is not responsible for being ill.

## Specific Programmes and Services

## **Zambia:Specific Programmes and Services**

The specific programmes and services represent principally the major disease and services vertical programmes that are developed to some extent out of the regular system. These programmes and services include HIV/AIDS, malaria, tuberculosis, immunization and vaccines development, child and adolescent health, maternal and newborn health, gender and women's health, epidemic and pandemic-prone diseases, neglected tropical diseases, and noncommunicable diseases and conditions.

This section describes the specific programmes and services in the WHO African Region and is structured as follows:

- 4.1 HIV/AIDS
- 4.2 Tuberculosis
- 4.3 Malaria
- 4.4 Immunization and vaccines development
- 4.5 Child and adolescent health
- 4.6 Maternal and newborn health
- 4.7 Gender and women's health (including sexual and reproductive health)
- 4.8 Epidemic and pandemic-prone diseases
- 4.9 Neglected tropical diseases
- 4.10 Noncommunicable diseases and conditions

## Zambia:HIV/AIDS

This analytical profile on HIV/AIDS is structured as follows:

- 4.1.1 Analytical summary
- 4.1.2 Disease burden
- 4.1.3 National commitment and action
- 4.1.4 Programme areas
  - 4.1.4.1 Health systems
  - 4.1.4.2 Blood safety
  - 4.1.4.3 Antiretroviral therapy
  - 4.1.4.4 Prevention of mother-to-child transmission
  - 4.1.4.5 Comanagement of tuberculosis and HIV treatment
  - 4.1.4.6 HIV testing and counselling
  - 4.1.4.7 Prevention of HIV in health care setting
  - 4.1.4.8 Services for orphans and vulnerable children, and education
- 4.1.5 Knowledge and behaviour
- 4.1.6 State of surveillance

## Zambia: Analytical summary - HIV/AIDS

Zambia is among the countries that are most affected by the HIV and AIDS epidemic in Sub-Saharan Africa. The epidemic is generalized and cuts across gender, age, geographical, and socio-economic status of the population. In view of the foregoing, HIV and AIDS form part of the national health priorities.

Over the past 10 years, the country has intensified the fight against HIV and AIDS, through introduction and scaling of high impact interventions in prevention, treatment and care. The main objective is to halt and begin to reduce the spread of HIV/AIDS and STIs, by increasing access to quality interventions. Both the objective and targets are aligned to the MDGs.

Further, in line with the UNAIDS/WHO "Universal Access" goal, Zambia is on track towards reducing new HIV infections in children by 50% by the end of 2010. The country has also adopted the goal of " virtual elimination of paediatric HIV transmission by 2010". In this respect, MOH and its Partners intend to achieve this by reducing the rate of transmission via Mother to Child Transmission (MTCT) to less than 5%, through further scaling up of Prevention of Mother to Child Transmission (PMTCT).

### Zambia:Disease burden - HIV/AIDS

Zambia is among the countries that are most affected by the HIV and AIDS epidemic in Sub-Saharan Africa. The epidemic is generalized and cuts across gender, age, geographical, and socio-economic status of the population. In view of the foregoing, HIV and AIDS form part of the national health priorities. Recent trends indicate that significant progress is being made in the fight against the epidemic. HIV prevalence in adults aged between 15 and 49 years has dropped from 16.1% in 2002 to 14.3% in 2007. However, this rate is still considered to be unacceptably high. Prevalence rates also vary between the different gender, age groups, and geographical locations. Prevalence among females is at 16.1%, against 12.3% in males. Urban-rural differentials also exist, with urban areas having a much higher prevalence rate of 20% compared to 10% for rural areas. Knowledge of HIV and AIDS is also high and almost universal. According to the ZDHS 2001, 99% of women and men aged 15-49 years reporting that they have heard about HIV and AIDS. However, the rate of people with comprehensive knowledge about the epidemic is much lower, at 36% for women and 39% for men.

### Zambia:National commitment and action

Over the past 10 years, the country has intensified the fight against HIV and AIDS, through introduction and scaling of high impact interventions in prevention, treatment and care. The main objective is to halt and begin to reduce the spread of HIV/AIDS and STIs, by increasing access to quality interventions. Both the objective and targets are aligned to the MDGs. Further, in line with the UNAIDS/WHO "Universal Access" goal, Zambia is on track towards reducing new HIV infections in children by 50% by the end of 2010. The country has also adopted the goal of " virtual elimination of paediatric HIV transmission by 2010". In this respect, MOH and its Partners intend to achieve this by reducing the rate of transmission via Mother to Child Transmission (MTCT) to less than 5%, through further scaling up of Prevention of Mother to Child Transmission (PMTCT).

## Zambia:Programme Areas

Major achievements have been scored in prevention, treatment and care. Key interventions include scaling up of Counseling and Testing (C&T), ABC activities, Prevention of Mother to Child Transmission (PMTCT) of HIV, blood safety, access to free Anti-Retroviral Therapy (ART) and care, and public awareness and education. PMTCT centers were increased from 936 in 2009 to 1,100 in 2010, spread across the country, the number of clients accessing ART increased from 156,299 in 2007 to 219,576 in 2008, an increase of 28%.

## Zambia:Antiretroviral therapy

Although HIV prevalence and the rate of new HIV infections have been slowing down, the number of People Living with HIV (PLHIV) has continued to increase, partly due to the increase in population size and the scaling up of access to free ART, leading to more infected people living longer. Currently, over 900,000 Zambians are living with HIV and over 250,000 are receiving ART.

# Zambia:Co-management of tuberculosis and HIV treatment

The Tuberculosis(TB)/HIV co-infection rate is high, estimated at 70%. In this regard, HIV/TB collaborative activities are being implemented in all the provinces and districts of Zambia. The rate of HIV testing for TB patients increased from 23% in 2006 to 72% in 2009, while the proportion of HIV positive TB patients receiving cotrimoxazole, and ART increased from 30% and 37% in 2006 to 63% and 42% in 2009, respectively. Due to improved care and treatment of both TB and TB/HIV infected patients, deaths have reduced over the past five years to less than 5,000 per annum.

### Zambia:Tuberculosis

This analytical profile on tuberculosis is structured as follows:

- 4.2.1 Analytical summary
- 4.2.2 Disease burden
- 4.2.3 DOTS expansion and enhancement
- 4.2.4 MDR, TB/HIV and other challenges
- 4.2.5 Contributing to health systems strengthening
- 4.2.6 Engaging all care providers
- 4.2.7 Empowering people with TB, and communities
- 4.2.8 State of surveillance
- 4.2.9 Enabling and promoting research

### Zambia: Analytical summary - Tuberculosis

TB continues to be among the major public health problems in the country. Although there has been a gradual reduction in the number of notifications (see Figure xxx below). A total of 50,415 TB cases were recorded in 2007, compared to 47,333 in 2008, representing a decrease in notification rates from 419/100,000 in 2007 to 408/100,000 in 2008.

There is universal facility coverage with TB-DOTS services in all the provinces in the country and microscopy services have been expanding progressively since 2006. Innovations approaches have also been introduced, including the involvement of DOTS supporters and sputum referral systems where laboratory services are not available. Zambia has a policy of ensuring the availability of quality first line anti TB drugs at all times in all the public Health facilities.



This has made it possible to attain a treatment success rate of 86%,

surpassing the WHO target of 85%. Consequently, the country is likely to attain the MDG target on TB.

In 2008, the TB Case Detection Rate was 58%, against the target of 75%, while the Defaulter Rate and Death Rate were recorded at 3% and 7%, respectively. With the recent emerging threat of drug resistant TB in the region, programmatic management of MDR TB has been included in the core TB program in the country. With respect to drug resistance, a total of 59 cases of multi-drug resistant TB were reported.

Another concern is the observed spread of tuberculosis in clinical settings and prisons and other congregate settings. To deal with this problem, the National TB Program is implementing infection control activities. Additionally, communities and people affected with TB are being empowered with the relevant information and support.

## Zambia:Disease burden - Tuberculosis

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### Zambia:DOTS expansion and enhancement

There is universal facility coverage with TB-DOTS services in all the provinces in the country and microscopy services have been expanding progressively since 2006. Innovations approaches have also been introduced, including the involvement of DOTS supporters and sputum referral systems where laboratory services are not available. Zambia has a policy of ensuring the availability of quality first line anti TB drugs at all times in all the public Health facilities.

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## Zambia:State of surveillance - Tuberculosis

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## Zambia:Malaria

This analytical profile on malaria is structured as follows:

- 4.3.1 Analytical summary
- 4.3.2 Disease burden
- 4.3.3 Intervention policies and strategies
- 4.3.4 Implementing malaria control
- 4.3.5 Financing malaria control
- 4.3.6 State of surveillance
- 4.3.7 Impact of malaria control interventions

### Zambia: Analytical summary - Malaria

Malaria is a major public health problem in Zambia and has for a long time remained the leading cause of morbidity and mortality in the country. A total of 3.2 million cases (confirmed and unconfirmed) were reported in 2009, leading to approximately 4,000 deaths. Notwithstanding this situation, Zambia has made considerable progress in the fight against malaria, implementing effective malaria prevention, treatment and care interventions across the country.

Strong partnerships have also been established, with appropriate coordination mechanisms. As a result of all these efforts, over the past 5 years, malaria incidence decreased, from 412 cases per 1,000 in 2006 to 246 cases per 1,000 population in 2009. The figure presents the trends in the incidence of malaria in Zambia, from 2000 to 2009.

These achievements could be attributed to the continued scaling up of high impact preventive, curative and care interventions, particularly: Vector control, using Indoor Residual Spraying and Insecticide Treated Nets; Intermittent Presumptive Treatment of Malaria in Pregnancy; Malaria Case Management; Coartem use; and introduction and scaling out of the use of Rapid Diagnostic Tests in health facilities that do not have microscopy services.



Based on available evidence, and the National Malaria Programme

Review 2010 (MPR-2010), Zambia could be stratified into three malaria epidemiological zones:

**Zone 1**: Areas where malaria control has markedly reduced transmission and parasite prevalence is <1% (Lusaka city and environs).

**Zone 2**: Areas where sustained malaria prevention and control has markedly reduced transmission and parasite prevalence is at or under  $\sim 10\%$  in young children at the peak of transmission (Central, Copperbelt, North-western, Southern, and Western Provinces).

**Zone 3**: Areas where progress in malaria control has been attained, but not sustained and lapses in prevention coverage have led to resurgence of infection and illness, and parasite prevalence in young children exceeds 20% at the peak of the transmission season (Eastern, Luapula, and Northern Provinces).

### Zambia:Disease burden - Malaria

Malaria is a major public health problem in Zambia and has for a long time remained the leading cause of morbidity and mortality in the country. A total of 3.2 million cases (confirmed and unconfirmed) were reported in 2009, leading to approximately 4,000 deaths. Notwithstanding this situation, Zambia has made considerable progress in the fight against malaria, implementing effective malaria prevention, treatment and care interventions across the country.

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Source: Zambia National Malaria Programme Review 2010

These achievements could be attributed to the continued scaling up of high impact preventive, curative and care interventions, particularly: Vector control, using Indoor Residual Spraying (IRS) and Insecticide Treated Nets (ITNs); Intermittent Presumptive Treatment (IPT) of Malaria in Pregnancy (MIP); Malaria Case Management (MCM); Coartem use; and introduction and scaling out of the use of Rapid Diagnostic Tests (RDTs) in health facilities that do not have microscopy services.

### Zambia:State of surveillance - Malaria

Based on available evidence, and the National Malaria Programme Review 2010 (MPR-2010), Zambia could be stratified into three malaria epidemiological zones:

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### Zambia:Immunization and vaccines development

This analytical profile on immunization and vaccine development is structured as follows:

- 4.4.1 Analytical summary
- 4.4.2 Disease burden
- 4.4.3 Immunization schedule
- 4.4.4 Percentage of target population vaccinated, by antigen
- 4.4.5 Programme components
  - 4.4.5.1 Immunization systems strengthening
  - 4.4.5.2 Maternal and neonatal tetanus elimination
  - 4.4.5.3 Measles pre-elimination
  - 4.4.5.4 Meningococcal A meningitis elimination
  - 4.4.5.5 New and underutilized vaccines introduction
  - 4.4.5.6 Polio eradication
  - 4.4.5.7 Routine immunization
  - 4.4.5.8 Sentinel surveillance
  - 4.4.5.9 Paediatric bacterial meningitis and rotavirus
  - 4.4.5.10 Vaccine research and development
  - 4.4.5.11 Yellow fever control

## Zambia:Analytical summary - Immunization and vaccines development

Zambia has adopted the WHO guidelines for vaccinating children through the Expanded Programme on Immunization (EPI). Children are considered fully immunized if they receive a vaccination against TB, (BCG), and three doses of each of the following: diphtheria; pertussis; tetanus/hepatitis B/Haemophilis influenza type b (DPT-HepB-Hib). Additionally, they must be vaccinated against Polio and a Measles, within the first twelve months from birth. According to the ZDHS 2007, in 2007:

- 68% of children aged 12-23 months were fully immunized;
- 92% of children received the BCG vaccination;
- 85% were vaccinated against measles;
- The coverage of the first dose of DPT or DPT-HepB-Hib vaccine and polio was at 92% and 94%, respectively;
- 80% of children received the third dose of DPT or DPT-HepB-Hib vaccine; and
- 77% received the third dose of polio vaccine.

The Reaching Every District strategy remained the main strategy for EPI. The EPI programme has made tremendous achievements which include maintenance of the polio free status, maternal neonatal tetanus elimination since 2005, and significant reduction in morbidity and mortality from measles compared to the late 1990s. There is critical need to sustain this situation in order to avoid outbreaks.

The national target for immunization is to have at least 90% of the districts attaining 80% DPT3 coverage. The proportion of districts attaining coverage above 80% for DPT3 was 85% in 2008 and 77% in 2009 (HIMS).

# Zambia:Disease burden - Immunization and vaccines development

Zambia has adopted the WHO guidelines for vaccinating children through the Expanded Programme on Immunization (EPI). Children are considered fully immunized if they receive a vaccination against TB, (BCG), and three doses of each of the following: diphtheria; pertussis; tetanus/hepatitis B/Haemophilis influenza type b (DPT-HepB-Hib). Additionally, they must be vaccinated against Polio and a Measles, within the first twelve months from birth. According to the ZDHS 2007, in 2007:

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## Zambia:Programme components

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## Zambia:Child and adolescent health

This analytical profile on child and adolescent health is structured as follows:

- 4.5.1 Analytical summary
- 4.5.2 Disease burden
- 4.5.3 Nutrition
- 4.5.4 Intervention coverage
  - 4.5.4.1 Immunization coverage
  - 4.5.4.2 Prevention
  - 4.5.4.3 Newborn health
  - 4.5.4.4 Case management
- 4.5.5 Equity
- 4.5.6 Policies
- 4.5.7 Systems (financial flows and human resources)
- 4.5.8 State of surveillance

The country's objectives for child and adolescent health are aligned to the MDGs and other relevant global strategies and targets.

# Zambia:Analytical summary - Child and adolescent health

The country's objectives for child and adolescent health are aligned to the MDGs and other relevant global strategies and targets. The main child health interventions being implemented in Zambia are the Expanded Programme on Immunisation (EPI); and the Integrated Management of Child Illnesses (IMCI) programme. Both programmes have recorded significant achievements. However, the national response to adolescent health is not well coordinated and harmonized.

The EPI programme is strong and has scored tremendous success, with significant support from the partners. All the districts are implementing IMCI strategies, but reaching optimal saturation levels (80% health workers managing sick children trained in IMCI) has been a challenge due to resource constraints. Other major factors include: the supportive supervision monitoring tools used at provincial and district levels do not adequately address IMCI; staff shortages; and weak health systems.

Further, the level and quality of care of the severely sick children has been compromised due to limited capacity (equipment and skills of health workers) at first referral levels. For example, access to early infant diagnosis of HIV at 6 weeks, initiation of Co-trimoxazole prophylaxis and initiation of ART for children under the age of 15 years stand at 36%, 24% and 61% respectively (MOH Paediatric Reports). Equally, there has been no significant change in CFR for diarrhoea- fluctuating between 40 and 50 between 2004 and 2008 (HIMS).

Zambia has adopted the Integrated Community Case Management- ICCM aimed at increasing equity access to high impact life saving health interventions close to the family. Of the 16 key family and community practices adopted, 6 have been prioritized for national wide implementation. The monitoring of implementation of these practices remains a challenge because of lack of a formal community HMIS and high turnover of community health workers resulting from inadequate retention mechanisms.

Nutrition is a major determinant of child and adolescent health in Zambia. In general and when compared to WHO standards, nutrition levels in Zambia are unfavourable, which is having a negative impact on child health. Child Malnutrition in Zambia is decreasing but still contributes to 42% of all under five deaths in Zambia . The general situation relating to the nutrition status of women and children is summarized in the table below.

In Zambia, adolescents account for over a quarter (27%) of the total population. Due to the major biological and psychological transformations associated with this age group, adolescents are significantly exposed to risky behaviours, with high consequences on their immediate and long-term health and socio-economic lives. Various surveys have provided evidence of continued high prevalence of health risk behaviours among the adolescents.

Indicator	2002 (ZDHS)	2007 (ZDHS)
Stunting	53%	45%
Wasting	6%	5%
Underweight	23%	15%
Maternal underweight (BMI <18.5)	15%	10%
Overweight/obese	12%	19%
Vitamin A deficiency?	68% (NFNC ,1998)	54% (NFNC, 2003)
Anemia among children 6 - 59 months	65% (NFNC1998)	53% (NFNC2003)

Zambia Nutition Status Indicators Women and Children

Whilst the importance of this age group has been acknowledged in various national policy documents, including the National Population Policy 2007, the National Reproductive Health Policy 2008, and the National Strategy for the Prevention of HIV and AIDS 2009, the health of this population group has not been given the special attention that it deserves. Currently, the response to adolescent health is not clearly defined and packaged.

However, MOH and the partners have identified the need to put in place a comprehensive, harmonized and coordinated response to adolescent health. To this effect, the Adolescent Health Situation Analysis 2009 was conducted in 2009, and the process of developing the Adolescent Health Strategic Plan 2011-2015 has reached an advanced stage.

## Zambia:Immunization coverage

The main child health interventions being implemented in Zambia are the Expanded Programme on Immunisation (EPI); and the Integrated Management of Child Illnesses (IMCI) programme. Both programmes have recorded significant achievements. However, the national response to adolescent health is not well coordinated and harmonized.

The EPI programme is strong and has scored tremendous success, with significant support from the partners. All the districts are implementing IMCI strategies, but reaching optimal saturation levels (80% health workers managing sick children trained in IMCI) has been a challenge due to resource constraints. Other major factors include: the supportive supervision monitoring tools used at provincial and district levels do not adequately address IMCI; staff shortages; and weak health systems. Further, the level and quality of care of the severely sick children has been compromised due to limited capacity (equipment and skills of health workers) at first referral levels. For example, access to early infant diagnosis of HIV at 6 weeks, initiation of Co-trimoxazole prophylaxis and initiation of ART for children under the age of 15 years stand at 36%, 24% and 61% respectively (MOH Paediatric Reports). Equally, there has been no significant change in CFR for diarrhoea- fluctuating between 40 and 50 between 2004 and 2008 (HIMS).

## Zambia:Case management

Zambia has adopted the Integrated Community Case Management- ICCM aimed at increasing equity access to high impact life saving health interventions close to the family. Of the 16 key family and community practices adopted, 6 have been prioritized for national wide implementation. The monitoring of implementation of these practices remains a challenge because of lack of a formal community HMIS and high turnover of community health workers resulting from inadequate retention mechanisms.

Nutrition is a major determinant of child and adolescent health in Zambia. In general and when compared to WHO standards, nutrition levels in Zambia are unfavourable, which is having a negative impact on child health. Child Malnutrition in Zambia is decreasing but still contributes to 42% of all under five deaths in Zambia . The general situation relating to the nutrition status of women and children is summarized in the table below.

Indicator	2002 (ZDHS)	2007 (ZDHS)
Stunting	53%	45%
Wasting	6%	5%
Underweight	23%	15%
Maternal underweight (BMI <18.5)	15%	10%
Overweight/obese	12%	19%
Vitamin A deficiency	68% (NFNC ,1998)	54% (NFNC, 2003)
Anemia among children 6 – 59 months	65% (NFNC1998)	53% (NFNC2003)

#### Nutrition Status Indicators for Women and Children

#### Source: Ministry of Health

In Zambia, adolescents account for over a quarter (27%) of the total population. Due to the major biological and psychological transformations associated with this age group, adolescents are significantly exposed to risky behaviours, with high consequences on their immediate and long-term health and socio-economic lives. Various surveys have provided evidence of continued high prevalence of health risk behaviours among the adolescents.

Whilst the importance of this age group has been acknowledged in various national policy documents, including the National Population Policy 2007, the National Reproductive Health Policy 2008, and the National Strategy for the Prevention of HIV and AIDS 2009, the health of this population group has not been given the special attention that it deserves. Currently, the response to adolescent health is not clearly defined and packaged.

# Zambia:State of surveillance - Child and adolescent health

However, MOH and the partners have identified the need to put in place a comprehensive, harmonized and coordinated response to adolescent health. To this effect, the Adolescent Health Situation Analysis 2009 was conducted in 2009, and the process of developing the Adolescent Health Strategic Plan 2011-2015 has reached an advanced stage.

### Zambia:Maternal and newborn health

This analytical profile on maternal and newborn health is structured as follows:

- 4.6.1 Analytical summary
- 4.6.2 Disease burden
  - 4.6.2.1 Perinatal mortality rate
  - 4.6.2.2 Neonatal and post-neonatal mortality rate
  - 4.6.2.3 HIV in pregnancy
  - 4.6.2.4 Malaria in pregnancy
- 4.6.3 Risk factors/vulnerability
  - 4.6.3.1 Proportion of rural births
  - 4.6.3.2 Low birth weight
  - 4.6.3.3 Nutrition
  - 4.6.3.4 Fertility
  - 4.6.3.5 Teenage pregnancy
- 4.6.4 Intervention coverage
  - 4.6.4.1 Family planning
  - 4.6.4.2 Antenatal care
  - 4.6.4.3 Skilled birth attendant at delivery
  - 4.6.4.4 Place of delivery
  - 4.6.4.5 C-section
  - 4.6.4.6 Post-natal care
  - 4.6.4.7 ARV coverage in pregnant women living with HIV
- 4.6.5 Equity
- 4.6.6 Policies
- 4.6.7 Systems (financial flows and human resources)
- 4.6.8 State of surveillance
# Zambia:Analytical summary - Maternal and newborn health

The health care that a mother receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and her baby. In Zambia, maternal and newborn health is among the national health priorities. The objectives in this area are aligned to the Millennium Development Goals and other global objectives and strategies relevant to maternal and newborn health.

Zambia is among the countries with the highest maternal and neonatal mortality rates in the world. However, over the past 10 years, the country has intensified its efforts towards strengthening of maternal and newborn health by scaling up high impact interventions.

As a result of these efforts, significant progress has been reported, leading to reductions in maternal, infant and under five mortality rates. According to the ZDHS 2007, maternal mortality ratio has reduced from 729 per 100000 live births in 2002 to 591 in 2007, infant mortality rate has decreased from 95 deaths per 1000 live births to 70 and under-five mortality from 168 per 1000 live births to 119, respectively.

Although there has been a reduction in neonatal mortality from 37 to 34, this reduction is considered insignificant. Neonatal deaths constitute approximately half the proportion of infants who die, leading to concerns of poor perinatal care in the country. While these reductions in mortalities are impressive, they are still considered high by regional and global standards, and require more efforts to bring them down to acceptable levels, in line with the Millennium Development Goal targets.

# Zambia:Disease burden - Maternal and newborn health

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## Zambia:Risk factors/vulnerability

There are a number of factors that have an effect on the health situation of the mother and the newborn. These include the place of delivery, the birth weight, nutrition and fertility.

## Zambia:Fertility

In Zambia, the total fertility rate is high, at 6.2 births per woman in 2007, with an unmet need for family planning of 27% (ZDHS 2007).

## Zambia:Teenage pregnancy

In terms of adolescent health, teenage pregnancy is associated with higher morbidity and mortality for both the mother and child and also has adverse social consequences. According to the 2007 ZDHS, girls have earlier sex debuts than the boys and they are less likely to use condoms. It is estimated that 28% of young females aged 15 to 19 years have begun child bearing, 22% have had a child, while 6% are pregnant with their first child. Young females also test more (22%) for HIV than the males (10%).

## Zambia:Family planning

Knowledge of family planning in the country has been nearly universal since 1996. The ZDHS 2007 reported that 97% of women and 99% of men indicated that they knew about a contraceptive method. The pill, male condoms, and injectables were the most widely known methods. Estimates indicate that 70% of currently married women have used a family planning method, at least once in their lifetime; four in ten of currently married women are using any contraceptive method, and about three in ten reported using a modern method.

## Zambia:Antenatal care

The major objective of antenatal care is to achieve optimal health outcomes for the mother and baby. The key objectives include: early detection of complications and prompt treatment; prevention of diseases, through immunization and micro-nutrient supplementation; birth preparedness and complication readiness; and health promotion and disease prevention, by providing health messages and counseling to pregnant women. The following sections relate to how Zambia has faired with respect to the coverage of specific Antenatal care programmes.

## Zambia:Place of delivery

The place of delivery and assistance during childbirth are important factors that influence the birth outcome, as well as the health of both the mother and the baby. The skills and performance of the birth attendant determines whether or not he/she can manage complications and observe hygienic practices. Safe conditions and appropriate interventions during delivery contribute to the reduction of risks of complications and infections that may pose a danger to the mother and the baby. Over the period 2006-2008, there were mixed trends with regard to institutional and supervised deliveries. While supervised deliveries reduced from 62% in 2007 to 60% in 2008, institutional deliveries increased from 43% in 2006 to 45% in 2007.

## Zambia:Post-natal care

Zambia's target for first postnatal attendance is 80%. Over the period 2006-2008, this target was not met, as first postnatal attendance nationally was recorded at 51%, 56% and 55% in 2006, 2007 and 2008, respectively.

# Zambia:ARV coverage in pregnant women living with HIV

The target for 2008 was to have 60% of HIV positive pregnant women on free ARV prophylaxis, to prevent Mother to Child Transmission (PMTCT). At the end of 2008, however, this target was not met, as only 53.2% of the targeted number (i.e. 45,000 out of 84,568) of the pregnant women were recorded as having received ARV treatment.

## Zambia:Gender and women's health

This analytical profile on gender and women's health is structured as follows:

- 4.7.1 Analytical summary
- 4.7.2 The girl child
- 4.7.3 Adolescent girls
- 4.7.4 Adult women: the reproductive years
- 4.7.5 Adult women
- 4.7.6 Older women
- 4.7.7 State of surveillance

## Zambia:Analytical summary - Gender and women's health

Understanding of linkages between gender equity and the goals of the health sector is essential. Gender mainstreaming is therefore being strengthened in the design and implementation of all health programmes. In order to address basic human rights which deal with poverty and gender, the Ministry if Health has been striving to tackle the social determinants of health through:

- fair financing and social protection,
- health equity in all policies,
- engendering health programmes,
- promotion of universal health care, including maternal, newborn and early child development,
- alleviating the human resources crisis,
- infrastructure development,
- promotion of healthy places.

Some health policies on Reproductive Health, Food and Nutrition, and Child Health have incorporated gender mainstreaming issues. Gender Focal Point Persons were also appointed at all provincial and district levels and provided with short-term training in gender mainstreaming in 2006.

However, the Gender Focal Point Persons at all levels have not been fully functional. The structures within which they are supposed to operate in are not well developed and defined, while there are no gender mainstreaming guidelines in place. In addition, there is inadequate capacity to mainstream gender into programmes and activities . Further, although the HMIS system has been designed to collect gender disaggregated data, the data at provincial and national level is still not disaggregated by sex.

Zambia has made commitments towards promoting gender equality towards MDG 4 and SADC targets on gender mainstreaming. With regard to education, the Gender Parity Index (GPI) for primary education improved from 0.90 in 1990 to 1.01 in 2009.

However, for secondary level education, it decreased from 0.92 in 1990 to 0.87 in 2009, and for the 15-24 years old it stagnated at 0.8 from 2003 to 2005. On women's representation in parliament, despite the increase from 3.8% in 1991 to 14% in 2009, the country scored low against the target of 30%. There is still a lot of scope for enhancing gender mainstreaming in health.

#### Zambia:Epidemic and pandemic-prone diseases

This analytical profile on epidemic and pandemic-prone diseases is structured as follows:

- 4.8.1 Analytical summary
- 4.8.2 Disease burden
- 4.8.3 Epidemic alert and verification
- 4.8.4 Epidemic readiness and intervention
- 4.8.5 Laboratory and containment
- 4.8.6 State of integrated disease surveillance
- 4.8.7 Implementation of International Health Regulations (2005)

## Zambia:Analytical summary - Epidemic and pandemic-prone diseases

The majority of epidemics that occur in Zambia are due to environmental factors. According to the Zambia Demographic and Health Survey (ZDHS) 2007<sup>[1]</sup>, the country has challenges with respect to its preparedness and control of emerging and known epidemics, such as Cholera <sup>[2]</sup>, Typhoid <sup>[3]</sup>, HINI <sup>[4]</sup> (Influenza A virus subtype H1N1), Avian Influenza <sup>[5]</sup> and Measles <sup>[6]</sup>. To a large extent, these diseases are driven by lack of equitable access to improved water sources and safe sanitation. For instance, it is estimated that only 41% of the households have access to improved source of water and 25% of households in Zambia have no toilet facilities (ZDHS 2007).

For diseases such as cholera, the situation is compounded by waek multi-sectoral emergency preparedness and control coordination, communication strategy, and definition of the role of key stakeholders. As the control of human epidemics is enshrined in the Public Health Act <sup>[7]</sup>, the perception is that only the MOH <sup>[1]</sup> is responsible for health and should undertake such an activities. This undermines multi-sector response and participation of all stakeholders, particularly the communities and local authorities.

#### References

- [1] http://www.measuredhs.com/pubs/pdf/FR211/FR211%5Brevised-05-12-2009%5D.pdf
- [2] http://en.wikipedia.org/wiki/Cholera
- [3] http://en.wikipedia.org/wiki/Typhoid\_fever
- [4] http://en.wikipedia.org/wiki/Influenza\_A\_virus\_subtype\_H1N1
- [5] http://www.who.int/influenza/human\_animal\_interface/avian\_influenza/en/
- [6] http://en.wikipedia.org/wiki/Measles
- [7] http://www.parliament.gov.zm/downloads/VOLUME%2017.pdf

## Zambia:Neglected tropical diseases

This analytical profile on neglected tropical diseases is structured as follows:

- 4.9.1 Analytical summary
- 4.9.2 Disease burden
- 4.9.3 Infection/disease endemicity
- 4.9.4 Preventive chemotherapy
- 4.9.5 Disease-specific coverage
  - 4.9.5.1 Buruli ulcer
  - 4.9.5.2 Guinea worm disease
  - 4.9.5.3 Human African trypanosomiasis
  - 4.9.5.4 Leishmaniasis
  - 4.9.5.5 Leprosy
  - 4.9.5.6 Lymphatic filariasis
  - 4.9.5.7 Onchocerciasis
  - 4.9.5.8 Schistosomiasis
  - 4.9.5.9 Soil-transmitted helminthiasis
  - 4.9.5.10 Trachoma
- 4.9.6 State of surveillance

# Zambia:Analytical summary - Neglected tropical diseases

Neglected tropical diseases place an unacceptable burden on the health of the poorest people in Zambia. The main Neglected Tropical Diseases that are common in the country include schistosomiasis, lymphatic filariasis, human African trypanosomiasis, soil transmitted helminthes and trachoma.

Schistosomiasis (Bilharzia) is prevalent in rural districts especially those close to the Lakes and rivers, with close to 2 million people infected in Zambia. Infections with soil transmitted helminths (hookworm, Ascaris and whip worm) are also common throughout the country.

Other endemic NTDs include Lymphatic Filariasis (elephantiasis) with prevalence rates ranging between 1% and 25% of the circulating Filarial antigen, Trypanosomiasis (sleeping sickness) in Mpika, Chama, Chipata and Katete, and Trachoma in the southern and western provinces of Zambia. For the lallet, five districts were surveyed and the prevalence rates ranged between 14.3% of TF in Sinazongwe to 32.7 in Kaoma (MoH trachoma survey report 2007).

# Zambia:Disease burden - Neglected tropical diseases

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# Zambia:Non-communicable diseases and conditions

This analytical profile on noncommunicable diseases and conditions is structured as follows:

- 4.10.1 Analytical summary
- 4.10.2 Disease burden
- 4.10.3 Cancer prevention and control
- 4.10.4 Cardiovascular diseases prevention and control
- 4.10.5 Chronic respiratory diseases prevention and control
- 4.10.6 Diabetes mellitus control
- 4.10.7 Oral health and noma
- 4.10.8 Sickle cell disease and other genetic disorders prevention and control
- 4.10.9 Mental health
- 4.10.10 Violence and injuries
- 4.10.11 Eye and ear health
- 4.10.12 Disabilities and rehabilitation
- 4.10.13 State of surveillance

## Zambia:Analytical summary -Non-communicable diseases and conditions

Zambia is currently experiencing a major increase in the burden of non-communicable diseases (NCDs). The common NCDs include cardiovascular diseases, diabetes mellitus (Type II), cancers, chronic respiratory diseases, epilepsy, mental illnesses, oral health, eye diseases, injuries (mostly due to road traffic accidents and burns) and sickle anaemia.

Most of these health conditions are associated with lifestyles, such as unhealthy diets, physical inactivity, alcohol abuse and tobacco use, while some are also associated with biological risk factors, which run in families.

The figures below present the trends in morbidity and mortality due to some of the NCDs.

A needs assessment for the NCD programme was carried out and key findings were made, which also identified the gaps. Table xxx below, summarizes the key identified gaps.



Based on the recommendations from the NCD symposium (MOH NCD Symposium 2009), the NCDs programme has embarked on a number of interventions for the prevention and early detection of NCDs.

These include: the development of treatment protocols that will be used at the second level hospitals, where specialized clinics are being

set up for NCDs; development of clinical nutrition and dietary guidelines; training of health workers in the management of NCDs; raising awareness levels on NCDs, through IEC materials like TV documentaries, posters, brochures and media discussions; and collaboration with various associations, to carryout screening programs, such as Blood Pressure (BP) check, Nutritional assessment, prostate and breast cancer; and advocating for change in unhealthy lifestyles. However, these interventions are yet to be extended to all districts and institutions.

The other interventions that have been identified, but not yet being implemented, include: development and implementation of an NCD policy; introducing and strengthening physical activities in all schools; community physical/sporting activities; promotion of healthy diets; strengthening enforcement of legislation on tobacco use and harmful use of alcohol; operational research; and monitoring and evaluation.

## Zambia:Disease burden - Non-communicable diseases and conditions

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#### Source: HMIS

76.1
74.6
79.1
76.1
\$0.6
52.2
70.1



Source: HMIS

## Key Determinants

## **Zambia:Key Determinants**

This analytical profile on key determinants is structured as follows:

- 5.1 Risk factors for health
  - 5.1.2 Alcohol consumption
  - 5.1.3 Drug use
  - 5.1.4 Risk factors for chronic non-communicable diseases
  - 5.1.5 Risky sexual behaviour
  - 5.1.6 Hygiene (students)
  - 5.1.7 State of surveillance
- 5.2 The physical environment
  - 5.2.1 Analytical summary
  - 5.2.2 Vector-borne disease
  - 5.2.3 The urban environment
  - 5.2.4 Indoor air pollution and household energy
  - 5.2.5 Water, sanitation and ecosystems
  - 5.2.6 Climate change
  - 5.2.7 Toxic substances
- 5.3 Food safety and nutrition
  - 5.3.1 Analytical summary
  - 5.3.2 Food safety
  - 5.3.3 Nutrition
  - 5.3.4 State of surveillance
- 5.4 Social determinants
  - 5.4.1 Analytical summary
  - 5.4.2 Demography
  - 5.4.3 Resources and infrastructure
  - 5.4.4 Poverty and income inequality
  - 5.4.5 Gender equity
  - 5.4.6 Education
  - 5.4.7 Global partnerships and financial flows
  - 5.4.8 Science and technology
  - 5.4.9 Emergencies and disasters
  - 5.4.10 Governance

#### Zambia:Risk factors for health

This analytical profile on risk factors for health is structured as follows:

- 5.1.1 Analytical summary
- 5.1.2 Alcohol consumption
- 5.1.3 Drug use
- 5.1.4 Risk factors for chronic non-communicable diseases
  - 5.1.4.1 Tobacco use
  - 5.1.4.2 Fruit and vegetable consumption
  - 5.1.4.3 Physical activity
  - 5.1.4.4 Overweight and obesity
  - 5.1.4.5 Blood pressure
  - 5.1.4.6 Blood glucose and cholesterol measurements
  - 5.1.4.7 Summary of combined risk factors
- 5.1.5 Risky sexual behaviour
- 5.1.6 Hygiene (students)
- 5.1.7 State of surveillance

## Zambia:Alcohol consumption

Alcohol consumption and smocking are major health risk factors in Zambia. According to the ZDHS 2002, an estimated 76% of men and 23% of women consumed alcohol. Further, the Zambia Global School Health Survey (2004) conducted on 2,257 pupils in grades 7-10, revealed that 42.6% participated in alcohol consumption. With regard to smoking, the prevalence of smoking among adults in Zambia was estimated at 14%, for both sexes (22.7% for males and 5.7% for females).

## Zambia:Overweight and obesity

According to the STEPS Survey (2009), high cholesterol levels were recorded in 14.7% of males and 21.5% of females. Overweight and obesity were recorded at 19% and 7% in males, and 40% and 21.3% in females, respectively.

## Zambia: The physical environment

This analytical profile on the physical environment is structured as follows:

- 5.2.1 Analytical summary
- 5.2.2 Vector-borne disease
- 5.2.3 The urban environment
- 5.2.4 Indoor air pollution and household energy
- 5.2.5 Water, sanitation and ecosystems
- 5.2.6 Climate change
- 5.2.7 Toxic substances

## Zambia:Analytical summary - The physical environment

Poor environmental sanitation is a major source of public health problems and epidemics in Zambia. It is estimated that over 80% of health conditions presented at health institutions are diseases related to poor environmental sanitation, including water and food borne diseases, such as cholera <sup>[2]</sup>, dysentery <sup>[1]</sup> and typhoid <sup>[3]</sup>. These environmental health problems are caused by traditional and modern environmental factors.

#### References

[1] http://en.wikipedia.org/wiki/Dysentery

## Zambia:Water, sanitation and ecosystems

According to the ZDHS 2007, only 41% of households in Zambia have access to improved sources of water. Households in urban areas are more likely to have access to improved sources of water than those in rural areas (83% compared with 19%). More than half of the households (56%) draw their water from unprotected sources. About 56% of the households do not treat their water, while only 34% use appropriate methods of treating their water. Overall, 25% of households in Zambia have no toilet facilities. This problem is more common in rural areas (37%) than in urban areas (2%). Almost four in ten households in Zambia (39%) use pit latrines that are open or have no slab (27% in urban areas and 45% in rural areas). Flush toilets are mainly found in urban areas and are used by 26% of households in urban areas, compared with 1% in rural areas. Partly because of the water and sanitation conditions, the CFR for Diarrhea has only showed a slight decrease from 43 in 2006 and to 40 in 2008 per 1000 admissions (HIMS).

## Zambia:Climate change - The physical environment

Climate change is a major global threat to health, and is becoming a major problem for Zambia. The Zambia National Policy on Environment of 2005 recognizes the need to harmonize the different sectoral development strategies, through a National Climate Change Response Strategy.

## Zambia:Food safety and nutrition

This analytical profile on food safety and nutrition is structured as follows:

- 5.3.1 Analytical summary
- 5.3.2 Food safety
  - 5.3.2.1 Food production and consumption
  - 5.3.2.2 Food export trade (Including foods imported for re-export)
  - 5.3.2.3 Food import trade
  - 5.3.2.4 Food legislation
  - 5.3.2.5 Guidelines, codes of practice, advisory standards
  - 5.3.2.6 Food control implementation
  - 5.3.2.7 Human resources and training requirements
  - 5.3.2.8 Extension and advisory services
  - 5.3.2.9 Public education and participation
- 5.3.3 Nutrition
  - 5.3.3.1 Intersectoral nutrition policies
  - 5.3.3.2 Nutrition of mother and child
  - 5.3.3.3 School nutrition
  - 5.3.3.4 Malnutrition
  - 5.3.3.5 Micronutrient malnutrition

- 5.3.3.6 Nutritional surveillance
- 5.3.3.7 Nutritional transition
- 5.3.3.8 Food and physical exercise
- 5.3.4 State of surveillance

## Zambia:Analytical summary - Food safety and nutrition

Food safety and nutrition are important determinants of health in Zambia. Issues of food safety are addressed through environmental health services, whose objective is to promote, improve health through adhering to food safety standards, and maintaining conditions necessary for the prevention of disease. In order to strengthen this area, the country has formulated a draft National Environmental Health Policy. Further, the legislation relating to food and drugs (The Food and Drugs Regulations 2001), has been reviewed and updated to take into account challenges brought globalization and its effect on food safety, and other associated risks.

Access to good nutrition is a major and cross-cutting determinant of health. In Zambia, malnutrition underlies up to 52% of all under-five deaths. The stunting rate in under-five children currently stands at 45%, with 5% being acutely malnourished (wasted) and 15% underweight. The rates of micronutrient deficiencies are also high, with 53% Vitamin A deficiency and 46% Iron deficiency anaemia (NFNC, 2003), while 4% of school aged children were at risk of mild to severe iodine disorders deficiency (NFNC, 2002).

#### Zambia:Social determinants

#### OLD CONTENT -

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Zambia attaches significant importance to the need to achieve equity and universal coverage for health, and has over the years made significant efforts towards developing and implementing policies that incorporate the principles of the Social Determinants for Health (SDH) (see the report of the Commission on Social Determinants for Health <sup>[1]</sup> for more information on SDH).

In this respect, the country has undertaken major political, social and economic reforms aimed at achieving meaningful and sustainable socio-economic development and improving the health standards of its citizens. The country also complies with and places the relevant international protocols and initiatives that deal with the issue of inequities and its implications on health high on the agenda. These include: the United Nations (UN) Millennium Declarations and Millennium Development Goals (MDGs); the Highly Indebted Poor Countries' (HIPC) initiative; the Paris Declarations on health; the Abuja and Maputo Declarations on Health; and other specific initiatives, such as the Roll-Back Malaria.

Zambia is recognized as a credible actor regarding SDH, which partly explains why it is one of the first wave countries that have signed the International Health Partnerships and Related Initiatives (IHP+) (see the IHP+ 2008 Taking Stock Report for Zambia<sup>[2]</sup>). The Zambian health sector is also very much influenced by international trends and initiatives through the critical collaboration with international cooperating partners and other sector partners through the SWAp and Sector Advisory Groups (SAG) governance system and structures.

Over the past years, this commitment to incorporate the concept of SDH materialized through a combination of actions and strategies taken in the various sectors, aimed at reducing inequities and improving health and living

conditions. Some of the examples of the actions taken in various sectors, presented along the classifications adopted by the WHO Commission on SDH, are presented below. Some of these examples are further illustrated in next sections of this chapter:

- Improve daily conditions:
  - Nutrition: scaling up of nutrition and young child feeding activities, particularly in schools and vulnerable groups in rural areas, throughout the country, in collaboration with the MOH, Ministry of Agriculture, Food and Fisheries (MOAFF), Ministry of Education (MOE), the Office of the Vice President, and various local and international development partners;
  - Hygiene and sanitation: the "keep Zambia clean" campaign, spearheaded by the republican president through the local authorities, was launched in 2006 and is being implemented in all the districts, aimed at ensuring cleanliness and hygiene in public places;
  - Political leadership in HIV/AIDS awareness: the promotion of active participation of political leaders in the HIV/AIDS awareness campaign initiated by the president;
  - Road safety initiatives aimed at reducing accidents, with specific safety legislation, such as speed controls, no cell phones and alcohol when driving and the use of helmets for motor bike riders;
  - intensification of the fight against drug abuse by the Drug Enforcement Commission (DEC);
  - strengthening of primary health care and scaling up health information and education, particularly in respect of non-communicable diseases, by MOH and other relevant sectors, such as the Ministry of Information and Broadcasting.
- Equitable distribution of power, money and resource:
  - Decentralization policy in the health sector in 1995, recently restructured in 2005. Impacts of the latest development on the participation of the communities are still in question (also see the next section);
  - Social Health Insurance (SHI) is one of the option the MOH is currenly contemplating. Studies are ongoing since 2007 and have now reached an advanced stage:
  - Equitable distribution of health workers: efforts have been intensified through the scaling up of of the health workers' retention scheme and development of bonding mechanisms for sponsored students in health training schools;
  - The free Anti-retroviral Treatment (ART) initiative has facilitated equitable access to treatment for about 200,000 HIV positive patients across the country, on equal basis
  - Intensification of out reach operations, intended to bring health services closer to the families, particularly in rural areas.
- Measure and understand
  - The existing HMIS is computerised, comprehensive and flexible, allows for in-depth socio-economic analysis of health data and for a performance ranking of districts and facilities (see Structural organization of HIS;
  - The recently introduced Joint Annual Review (JAR since 2006) under the SWAp arrangements allows for an annual harmonized assessment and interpretation of the sector's performance, in coordination with all stakeholders.
  - SWAP institutional arrangements are constantly being improved towards enhancement of the participation of other sectors and previously excluded stakeholders (e.g. civil society);
  - Various performance feedback through the active commitment of Zambia into a set of international initiatives aimed at strengthening harmonisation and coordination of monitoring and evaluation, and evidence-based decision making (see above).

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#### References

[1] http://www.who.int/social\_determinants/thecommission/finalreport/en/index.html

## Zambia:Analytical summary - Social determinants

The social and economic environment is a major determinant of health. It includes factors such as the demographic situation and trends, income and socio-economic status, education and literacy, employment and working conditions.

#### Demographic situation and trends

The population of Zambia has rapidly grown from about 3 million people in 1964, to 13.2 Million in 2010. The average life expectancy at birth has also increased from 40.5 years in 1998 to 51.3 years in 2010. This rapid population growth, places an increasing burden on the national economy, particularly the country's capacity to keep pace with the health needs of a rapidly increasing population and its dynamics.

#### **Education and Literacy**

Education is the gateway to better employment and improved household income, while literacy is an important tool for accessing health information and education. Zambia has recorded major improvements in education and literacy.

According to the Economic Report for 2009, net enrolment of children in primary education (Grade 1 - 7) and completion rates have increased from 80% and 64% in 1990 to 101.4% and 93% in 2009, respectively. However, the completion rate for girls at secondary school level remained low, at 17.4% in 2009. It is estimated that 64% of women and 82% of men are literate, with urban areas having higher literacy levels than rural areas. Literacy rates among men are fairly high across all provinces, ranging from 71% in Eastern to 90% in Copperbelt province.

**Social and cultural environments:** Zambia is among the most politically stable countries in Africa, and has continued to experience uninterrupted peace since its independence in 1964. The country has a multi-cultural society, characterized by different racial and ethnic groups, religious and traditional groupings, urbanization, and increasing access to the internet and other sources of information, with significant potential for promoting good health. However, there are some social, cultural and religious beliefs and practices that negatively affect health. These include cultural practices, such as sexual cleansing of surviving spouses, unsafe traditional male circumcision procedures, early marriages for the girl child, gender discrimination in favour of males, and risky traditional health practices.

The family and community: The families and communities have an important role in shaping the character and behaviours of the people. Peer pressure also has potential to mislead people, particularly the adolescents, into practices that are risky to health, such as alcohol and substance abuse, smoking, sexual abuse, and violence. These could lead to severe consequences on health, including the risks of contracting HIV and other Sexually Transmitted Infections (STIs), trauma, teenage pregnancies and mental illnesses.

**Income and socio-economic Status:** The country is experiencing high levels of unemployment and weak socio-economic status of the population, which have implications on the health status of the population. Income inequity among the population has remained high, with the Gini Coefficient at 0.57 in 2004 (a drop from 0.66 in 1998). High poverty levels (67% in 2006) and poor access to safe water and sanitation also remain serious factors on health.

In 2009, Zambia ranked at 163 out of 182 countries on the 2009 United Nations Human Development Index (HDI). The standard of living is low while per capita annual incomes are currently much below their levels at independence

in 1964, and that of the African average. Figure xxx presents the trends in GDP Per Capita for Zambia, from 1962 to 2006.

Economic Status: Zambia has, however, realized strong economic performance in recent years. Over the past 5 years, average Real Gross Domestic Product (GDP) growth has been above 5%, and reached 6.3% in 2009. This economic growth has been led by increased mining output, thanks to the large investment in the mining sector, construction, agriculture and a growing tourism sector. Inflation has declined to single digits since 2009 and has continued to drop in 2010. The external position has strengthened, as the recovery of copper prices and a weak Kwacha have helped to reduce the current account deficit.



However, these achievements have not yet significantly impacted on the socio-economic status of the majority of the population, most of whom have continued to face poverty and socio-economic deprivation.

The situation is further compounded by the inequities in the distribution of wealth and socio-economic infrastructure across the country, which currently favours the urban areas and adversely impacts on the provision of social services, such as health and education in rural hard-to-reach areas.

Table xxx below presents a summary of selected demographic and socio-economic indicators for Zambia. More socio-economic data on Zambia could be accessed at www.zamstats.gov.zm and www.boz.zm).

Indicator	Source	Status
opulation	CSO 2010 Census, Interim results	13.2 million
Sex Ratio (Males per Female)	CSO	0.99
Average Annual Population Growth Rate	CSO Projections	2.7%
Life Expectancy at Birth	CSO Projections	51.3 Years
Population Under the Age of 15 Years (%)	CSO, 2000 Census	47%
Urban Population	CSO, 2000 Census	34.7%
Poverty Levels	ZDHS 200712	67% (overall)
Zambia Select	ted Demographic	and

## Zambia:Education

Education is the gateway to better employment and improved household income, while literacy is an important tool for accessing health information and education. Zambia has recorded major improvements in education and literacy. According to the Economic Report for 2009, net enrollment of children in primary education (Grade 1 - 7) and completion rates have increased from 80% and 64% in 1990 to 101.4% and 93% in 2009, respectively. However, the completion rate for girls at secondary school level remained low, at 17.4% in 2009. It is estimated that 64% of women and 82% of men are literate, with urban areas having higher literacy levels than rural areas. Literacy rates among men are fairly high across all provinces, ranging from 71% in Eastern to 90% in Copperbelt province.

## Progress on the Health-Related MDGs

### Zambia:Progress on the Health-Related MDGs

In September 2000, 189 heads of state adopted the UN Millennium Declaration and endorsed a framework for development. The plan was for countries and development partners to work together to reduce poverty and hunger, and tackle ill health, lack of education, gender inequality, lack of access to clean water and environmental degradation.

Eight Millennium Development Goals (MDGs) were established, with targets for 2015, and indicators to monitor progress. Three MDGs relate directly to health; to reduce child mortality by two thirds (MDG 4), to reduce maternal deaths by three quarters and achieve universal access to reproductive health (MDG 5), and to halt and reverse the spread of HIV/AIDS, achieve universal access to treatment for HIV/AIDS by 2010, and halt and reverse the incidence of malaria and other major diseases (MDG 6).

Other MDGs have an indirect influence on health; MDG 1 has a target of halving the proportion of people who suffer from hunger; MDG 7 includes a target of halving the proportion of the population without sustainable access to safe drinking water and basic sanitation; and MDG 8 has a target to provide access to a affordable essential drugs in developing countries. Primary education (MDG 2) and empowering women (MDG 3) also lead to health gains.

MDG goals, targets and indicators are interdependent measures of progress.¬ They are not meant to limit priorities in health, nor define how programmes should be organized and funded.

This analytical report on progress on the MDGs is structured as follows:

- 6.0 Analytical summary
- 6.1 Introduction and methods
- 6.2 Health MDGs
- 6.3 Health-related MDGs
- 6.4 Issues and challenges
- 6.5 The way forward
- 6.6 Endnotes: sources, abbreviations, etc
- 6.7 Other MDGs (as key determinants)

## Progress on the Ouagadougou and Algiers Declarations

## Zambia:Progress on the Ouagadougou and Algiers Declarations

The Ouagadougou Declaration on Primary Health Care and Health Systems in Africa: Achieving Better Health for Africa in the New Millennium was adopted during the International Conference on Primary Health Care and Health Systems in Africa, held in Ouagadougou, Burkina Faso, from 28 to 30 April 2008. The objective of the Conference was to review past experiences on Primary Health Care (PHC) and redefine strategic directions for scaling up essential health interventions to achieve health-related MDGs using the PHC approach for strengthening health systems through renewed commitment of all countries in the African Region.

The conference adopted the "Ouagadougou Declaration<sup>[1]</sup> on Primary Health Care and Health Systems in Africa: Achieving Better Health for Africa in the New Millennium," which has been signed by all the African Region Member States. During its fifty-eighth session, held in Yaounde, Cameroon in September 2008, the Regional Committee endorsed the Ouagadougou Declaration through its Resolution AFR/RC58/R3.

The Algiers Declaration <sup>[2]</sup> to Strengthen Research for Health was also adopted during the Ministerial Conference on Research for Health in the African Region, held in Algiers, Algeria from 23 to 26 June 2008. The Conference, which brought together Ministers from the African Region together with researchers, nongovernmental organizations, donors, and the private sector renewed commitments to narrow the knowledge gap in order to improve health development and health equity in the Region.

Assessment of progress on the 2008 Ouagadougou and 2008 Algiers Declarations will be conducted at the end of 2013 – five years after they came into effect. Please visit this page then for the results of the assessment.

Since the Alma-Ata Conference on Primary Health Care, progress has been made by countries in the African Region with regard to the eradication of smallpox, control of measles, eradication of poliomyelitis and guineaworm disease, and elimination of leprosy and river blindness. However, accelerated progress in strengthening health systems using the PHC approach is needed in a number of countries in the African Region in order to achieve nationally and internationally agreed health goals, including the MDGs. In this context, countries are encouraged to focus on the following priority areas, as outlined in the Ouagadougou Declaration:

- 7.1 Leadership and governance
- 7.2 Community ownership and participation
- 7.3 Partnerships for health development
- 7.4 Health financing
- 7.5 Health workforce
- 7.6 Medical products, equipment and infrastructure
- 7.7 Service delivery
- 7.8 Health information, evidence, and knowledge
- 7.9 Research



#### References

- [1] http://www.afro.who.int/en/downloads/doc\_download/601-ouagadougou-declaration.html
- [2] http://www.afro.who.int/en/downloads/doc\_download/546-algiers-declaration.html

## Zambia:Leadership and governance - Progress on the Ouagadougou and Algiers Declarations

Governance for health is a function of government that requires vision, influence and knowledge management, primarily by the Ministry of Health which must oversee and guide the development and implementation of the nation's health-related activities on the government's behalf. Governance includes the formulation of the national health policy and health strategic plans (including defining a vision and direction) that address governance for health and health equity; exerting influence through regulation and advocacy; collecting and using information; and accountability for equitable health outcomes.

Provision of oversight through collaboration and coordination mechanisms across sectors within and outside government, including the civil society, is essential to influencing action on key health determinants and access to health services, while ensuring accountability. Improving leadership at national and sub-national levels and building capacity will facilitate effective engagement with the private sector to ensure universal coverage.

The Ouagadougou Declaration calls on Member States to update their national health policies and plans according to the Primary Health Care approach, with a view to strengthening health systems in order to achieve the Millennium Development Goals, specifically those related to communicable and noncommunicable diseases, including HIV/AIDS, tuberculosis and malaria; child health; maternal health; trauma; and the emerging burden of chronic diseases.

In relation to leadership and governance, countries are encouraged to consider the following recommendations for implementing the Ouagadougou Declaration:

(a). Implement key recommendations of the WHO Commission on Social Determinants of Health relating to health governance and health equity.11

(b). Develop and adopt comprehensive national health policy (NHP) that is integrated into the country's overall development strategy through a broad-based, country driven, inclusive and participatory decision making process.12

(c). Develop and implement a comprehensive and costed national health strategic plan (NHSP) that is consistent with the NHP, taking into account multiple sources of funding within a realistic resource package.

(d). Develop and implement subsequent operational plans at the local (district) level of health systems, as planned for in the NHSP.

(e). Ensure the functionality of the Ministry of Health's organizational structures to facilitate the implementation of the NHP and NHSP.

(f). Update and enforce public health laws in line with the NHP to facilitate the implementation of the Ouagadougou Declaration and other health-related strategies, and

(g). Reinforce the oversight of health development across sectors in consultation with civil society, professional organizations and other stakeholders; and ensure transparency and accountability through regular audits.

## Zambia:Community ownership and participation - Progress on the Ouagadougou and Algiers Declarations

Community ownership in the context of health development refers to a representative mechanism that allows communities to influence the policy, planning, operation, use and enjoyment of the benefits arising from health services delivery. This results in increased responsiveness to the health needs of the community. It also refers to the community taking ownership of its health and taking actions and adopting behaviours that promote and preserve health. Community organizations, NGOs as well as intersectoral interaction play an important role in facilitating creation of enabling environment for communities to accept their roles.

In general, community-based activities have been left largely to community based and nongovernmental organizations, often without appropriate policy on community participation in health development or coordination, guidance and support by public-sector institutions. There exists a proliferation of externally driven processes that do not promote community ownership. In addition, health services have tended to use vertical approaches rather than building on what already exists in the communities from other sectors, including local authority structures and functions.

In order to improve community ownership and participation, the following recommendations are proposed for Member States' consideration:

(a). Develop a policy and provide guidelines to strengthen community participation, including adolescents, in health development.

(b). Promote health awareness and foster the adoption of healthier lifestyles.

(c). Consolidate and expand the use of health promotion to address determinants of health.

(d). Strengthen community management structures; link consumer activities to the health services delivery system; and enhance the community's participation in decision-making, priority setting and planning.

(e). Provide appropriate technical backup to community healthcare providers through on the-job training, mentoring and support supervision, and provide appropriate tools and supplies as required for their duties.

(f). Empower communities and ensure their involvement in the governance of health services through appropriate capacity-building.

(g). Establish and strengthen community and health service interaction to enhance needs-based and demand-driven provision of health services, including reorienting the health service delivery system to reach out and support communities, and

(h). Strengthen coordination and collaboration with civil society organizations, particularly CBOs and NGOs, in community health development.

## Zambia:Partnerships for health development -Progress on the Ouagadougou and Algiers Declarations

Partnerships for health are relationships between two or more organizations that jointly carry out interventions for health development. Each partner is expected to make financial, technical and material contributions. An effective partnership requires government stewardship and mutual respect between partners, as well as accountability to ensure coordinated action aimed at strengthening health systems. Intersectoral action for health among health and non-health sectors is a key strategy to achieve policy coherence and for addressing, more generally, the social determinants of health and health equity.

Global momentum towards the attainment of internationally determined health goals has led to a growing number of high profile initiatives. These include the GFATM, GAVI, Stop TB, Roll Back Malaria, PEPFAR, and the Catalytic Initiative, among others.

In order to strengthen partnership for health development, the following recommendations are proposed for Member States' consideration:

(a). Use mechanisms such as the International Health Partnership Plus (IHP+) and Harmonization for Health in Africa initiatives to promote harmonization and alignment with the PHC approach.

(b). Increase the development and use of mechanisms such as sector-wide approaches, multidonor budget support and the development of national health compacts (agreements between governments and partners to fund and implement a single national health plan in a harmonized and aligned manner) to strengthen health systems.

(c). Adopt intersectoral collaboration, public-private partnerships and civil society participation in policy formulation and service delivery.

(d). Explore south-south cooperation within the African Region, and

(e). Ensure community awareness and involvement in global initiatives to increase transparency and promote global accountability mechanisms in order to improve health development

### Zambia:Health financing

Health financing refers to the collection of funds from various sources (e.g. government, households, businesses and donors) and pooling them to pay for services from public and private health-care providers, thus sharing financial risks across larger population groups. The objectives of health financing are to make funding available, ensure rational selection and purchase of cost effective interventions, give appropriate financial incentives to providers, and ensure that all individuals have access to effective health services.

In relation to health financing, the following recommendations are proposed for consideration by Member States:

(a). Elaborate comprehensive health financing policies and plans consistent with the National Health Policy and National Health Strategic Plan. The health financing policy should be incorporated into national development frameworks such as PRSPs and MTEFs.

(b). Institutionalize national and district health accounts within health management information systems for better tracking of health expenditures.

(c). Increase the efficiency of the public and private health-care sectors through efficiency analysis, capacity strengthening, rational priority setting, needs-based resource allocation, and health system organizational and management reforms to curb wastage of resources, among others.17,18

(d). Fulfil the Heads of State pledge to allocate at least 15% of the national budget to health development, as well as adequate funds to the operational plans at the local level, which include the implementation of PHC and health promotion.

(e). Advocate with the Ministry of Finance and partners to target the US\$ 34–40 per capita required to provide the essential package of health services.19

(**f**). Strengthen financial management skills, including competencies in budgeting, planning, accounting, auditing, monitoring and evaluation at district/local levels, and then implement financial decentralization in order to promote transparency and accountability.

(g). Develop and implement social protection mechanisms, including social health insurance and tax-funded systems, to cushion households from catastrophic (impoverishing) out-of-pocket expenditures on health services.

(h). Improve coordination of the various financing mechanisms (including donor assistance) that reinforce efforts to implement national health policies and strategic plans, and

(i). Advocate with health development partners to fully implement the Paris Declaration on Aid Effectiveness and its Action Plan.

## Zambia:Health workforce - Progress on the Ouagadougou and Algiers Declarations

Human resources for health (HRH), or the health workforce, refer to all persons primarily engaged in actions intended to enhance health. Health service providers are the core of every health system and are central to advancing health. Their numbers, quality and distribution correlate with positive outcomes of health service delivery.15 The objective of HRH management is therefore to ensure that the required health workforce is available and functional (effectively planned for, managed and utilized) to deliver effective health services.16 In relation to human resources for health, the Ouagadougou Declaration calls for strengthening

The capacity of training institutions, management, and staff motivation and retention in order to enhance the coverage and quality of care in countries.

The following recommendations are proposed for Member States' consideration:

(a). Develop comprehensive policies and plans for health workforce development within the context of national health policies and plans.

(b). Advocate for the creation of fiscal (budgetary) space for improved production, retention and performance of the health workforce, including negotiating for a percentage of development funding.

(c). Strengthen the capacity of training institutions to scale up their production of health managers, decision makers and health workers, including a critical mass of multipurpose and mid-level health workers who can deliver promotive, preventive, curative and rehabilitative health care based on best available evidence.

(d). Improve systems for the management and stewardship of the health workforce to improve recruitment, utilization, taskshifting and performance, including at the community level.

(e). Develop and implement health workforce motivation and retention strategies, including management of migration through the development and implementation of bilateral and multilateral agreements to reverse and contain the health worker migration crisis.

(f). Generate and use evidence through strengthened human resource information subsystems, observatories and research to inform policy and planning implementation, and.

(g). Foster partnerships and networks of stakeholders to harness the contribution of all in advancing the health workforce agenda.

## Zambia:Medical products, equipment and infrastructure

Health technologies includes the application of organized technologies and skills in the form of devices, medicines, vaccines, biological equipment, procedures and systems developed to solve a health problem and improve quality of life. E-health applications (including electronic medical records and tele-medicine applications) and traditional medicines are included within the scope of health technologies.

Health technologies are essential when they are evidence-based, cost-effective and meet essential public health needs. In relation to health technologies, the following recommendations are proposed for Member States' consideration:

(a). Elaborate national policies and plans for health technologies within the context of overall national health policies and plans.

(b). Increase access to appropriate health technologies, including essential medicines, traditional medicine, vaccines, equipment, devices, eHealth applications, procedures and systems.

(c). Carry out an inventory and take into account maintenance of medical equipment based on national equipment development and maintenance plans.

(d). Promote appropriate prescribing and dispensing practices, and educate consumers on safe and optimal use of medicines.

(e). Ensure enhanced availability and affordability of traditional medicine through measures designed to protect and preserve traditional medical knowledge and national resources for their sustainable use.

(f). Establish or strengthen national pharmacovigilance systems for health technologies, including herbal medicines.

(g). Undertake appropriate studies with laboratory support for monitoring the emergence of antimicrobial drug resistance and for combating production, distribution and use of substandard and counterfeit medicines.

(h). Ensure availability and access to reliable and affordable laboratory and diagnostic services.

(i). Develop norms and standards and strengthen country capacities to ensure the quality, safety, selection and management of appropriate health technologies based on needs and national infrastructural plans.

(j). Package medicines and diagnostics such that they are user-friendly in the field.

(k). Develop national medicine formularies.

(I). Enforce national policies and regulations to ensure safety and quality of appropriate health technologies.

(m). Build sustainable capacity in pharmaceutical management as a fundamental component of functional and reliable health systems.

(n). Establish a mechanism to determine national requirements and forecast needs for essential medicines, commodities, essential technologies and infrastructure.

(**o**). Put in place, review or strengthen transparent and accountable procurement, supply management and distributions systems to ensure availability of quality, safe and affordable health technologies, and

(**p**). Undertaker national assessments of availability and use of information and communications technology in health technologies.

## Zambia:Service delivery - Progress on the Ouagadougou and Algiers Declarations

The ultimate goal of the health system is to improve people's health by providing comprehensive, integrated, equitable, quality and responsive essential health services. A functional health system ensures the enjoyment of health as a right by those who need it, especially vulnerable populations, when and where they need it as well as the attainment of universal coverage.

Health services delivery needs to be organized and managed in a way that allows effective and affordable health interventions that are people-centred and reach their beneficiary populations regardless of their ethnicity, geographical location, level of education and economic status. It is important to emphasize that consistent community actions towards health promotion and disease prevention are the most efficient and sustainable ways of ensuring better and equitable health outcomes.

The following recommendations for improving the performance of health service delivery are proposed for countries' consideration:

(a). Review essential health packages taking into consideration high priority conditions and high impact interventions to achieve universal coverage.

(b). Develop integrated service delivery models at all levels, taking into account the referral system regardless of the organization and nature of the services (promotive, preventive, curative and rehabilitative) so as to improve the economic efficiency and equity of health services delivery.

(c). Design health systems that provide comprehensive and integrated health care, ensure patient safety and improve accessibility, affordability and equity in service utilization.

(d). Institutionalize health services at community level using appropriate mechanisms that are fully described in the NHP and NHSP.

(e). Develop mechanisms to involve all private health providers to ensure a continuum of care among all citizens, regardless of their economic status.

(f). Ensure the availability of appropriate, relevant and functional health infrastructure, and

(g). Design service delivery models utilizing the priority health interventions as an entry point and taking into account the need to ensure universal coverage.

# Zambia:Health information, evidence, and knowledge

The Algiers Declaration was adopted by the 59th Session of the WHO Regional Committee (September 2009). The Algiers Declaration and the Framework for its implementation include a list of recommendations to countries, which, if implemented, could reinforce the availability, quality and use of knowledge to improve their people's health.

1. Establish broad multidisciplinary national working group composed of information scientists, statisticians, researchers, policy-makers and decision makers from the health, education, science and technology, and other relevant sectors, tasked with initiating the process of implementation of the Algiers Declaration.

2. Establish or strengthen national and multisectoral structures or mechanisms such as national coordination committee to oversee the development and implementation of policies and plans.

3. Conduct a national situation analysis to develop evidence base on the current state of national health information and research systems, and knowledge management, and ensure that the situation analysis is repeated at regular intervals.

4. Establish or strengthen a health research, information and knowledge management unit within the ministry of health to ensure coordination of efforts and to serve as a secretariat to the multidisciplinary national working group.

5. Develop a comprehensive evidence-informed national policy and strategic plan for narrowing the knowledge gap integrating health information, research and knowledge management systems.

6. Ensure that the health information, evidence, and research agenda includes broad and multi-dimensional determinants of health and that all efforts in these areas are linked to national health needs and policy priorities.

7. Adopt policies that promote access to global health information, evidence and knowledge by examining and adopting the application of intellectual property rights and by supporting North-South and public-private research partnerships within the context of the global strategy and plan of actions on public health, innovation and intellectual property.

8. Establish appropriate national policies and mechanisms for scientific and ethical oversight in the collection of data and generation of health information and evidence, including regulation of clinical trials; and for sensitization of people to their role, rights, and obligations when participating in studies

9. Establish or strengthen appropriate mechanisms of cooperation including public private, South-South and North-South cooperation, and technology transfer, and create regional centres of excellence to promote research and generate evidence for better decisions, particularly as regards disease surveillance, public health laboratories, and quality control of food and medicines.

10. Ensure that adequate financial, material and human resources are mobilized and available at each stage of the policy formulation and implementation process, and at all levels.

Countries will also need to consider the following in order to improved the availability and quality of health information and evidence:

11. Identify and integrate all existing sources of reliable information, including information from the private sector.

12. Institute procedures to ensure the generation and availability of information that meet international norms and standards and to clearly define relations between various components of the health information system

13. Ensure the availability of relevant and timely health information by increasing the frequency of national demographic and health surveys; completing the 2010 census round; strengthening birth and death registration;

carrying out surveillance and gathering service statistics; and enhancing monitoring of health systems strengthening.

14. Improve the management of health information through better analysis and interpretation of data; presentation of information using the proper format to ensure use for decision making; and sharing and reapplying information and experiential knowledge.

15. Promote innovative research directed towards discoveries in basic knowledge and its transformation into new tools such as medicines, vaccines and diagnostics.

16. Ensure the availability of relevant and timely evidence by reorienting the institutional research agenda to pressing local problems such as health systems research.

17. Promote the use of systematic reviews in the production of evidence.

18. Ensure appropriate and adequate generation of evidence by strengthening institutional mechanisms for adequate ethical and scientific review of research from inception to publication and use of results.

19. Promote open access to primary data, samples and published findings of research results.

Better dissemination and sharing of information, evidence and knowledge would require countries to:

20. Support the establishment of health libraries and information centres at local and national levels; link them to regional and international networks; and ensure that they have the necessary infrastructures, systems and human resources.

21. Ensure availability of printed and electronic materials in appropriate formats and languages.

22. Develop and strengthen the evidence base for health systems by consolidating and publishing existing evidence and facilitating knowledge generation in priority areas.

23. Establish mechanisms and procedures for documenting experiential knowledge and best practices in implementing health programmes.

24. Ensure that all local publications (in all formats and languages) are included on the relevant international indexes.

In order to improve the use of information, evidence and knowledge countries should also consider to:

25. Ensure that policy-makers and decision-makers articulate their need for evidence and that they are part of the agenda setting process.

26. Improve the capacity of decision and policy makers to access and apply evidence.

27. Improve the sharing and application of information, evidence and experiential knowledge by, for example, supporting the establishment of Communities of Practice .

28. Support the translation of research results into policy and action by creating appropriate mechanisms and structures including promoting regional and country networks of researchers, decision makers, and policy-makers for evidence-informed public health action.

29. Promote translational and operational research to assess how discoveries might be optimally utilized and strategically implemented to enhance access.

Better access to existing global health information, evidence and knowledge is the foundation to any efforts to narrow the knowledge gap. Countries should:

30. Promote wider use of indexes including those that enable access to local, non-English, and unpublished (i.e., 'gray literature') materials.

31. Improve use of expertise locators and social networks to better access and utilize experiential knowledge.

32. Promote open-access journals and institutional access to copyrighted publications (e.g. through HINARI).

Wider access to information and communication technologies for health is also essential. Within the framework of national ICT development policies and plans, countries would also need to:

33. Develop/strengthen webbased applications and databases.

34. Strengthen the management of databases, information, evidence and knowledge, particularly at district levels.

Countries are also expected to establish or strengthen monitoring and evaluation mechanisms to track the implementation of the Algiers Declaration by identifying relevant input, process, output, and outcome. It is also important to develop or strengthen existing mechanisms in order to institutionalize monitoring and evaluation of all aspects of the implementation of the Declaration.

Assessment of progress on the 2008 Ouagadougou and 2008 Algiers Declarations will be conducted at the end of 2013 – five years after they came into effect. Please visit this page then for the results of the assessment.

## Zambia:Research - Progress on the Ouagadougou and Algiers Declarations

The Algiers Declaration was adopted by the 59th Session of the WHO Regional Committee (September 2009). The Algiers Declaration and the Framework for its implementation include a list of recommendations to countries, which, if implemented, could reinforce the availability, quality and use of knowledge to improve their people's health.

1. Establish broad multidisciplinary national working group composed of information scientists, statisticians, researchers, policy-makers and decision makers from the health, education, science and technology, and other relevant sectors, tasked with initiating the process of implementation of the Algiers Declaration.

2. Establish or strengthen national and multisectoral structures or mechanisms such as national coordination committee to oversee the development and implementation of policies and plans.

3. Conduct a national situation analysis to develop evidence base on the current state of national health information and research systems, and knowledge management, and ensure that the situation analysis is repeated at regular intervals.

4. Establish or strengthen a health research, information and knowledge management unit within the ministry of health to ensure coordination of efforts and to serve as a secretariat to the multidisciplinary national working group.

5. Develop a comprehensive evidence-informed national policy and strategic plan for narrowing the knowledge gap integrating health information, research and knowledge management systems.

6. Ensure that the health information, evidence, and research agenda includes broad and multi-dimensional determinants of health and that all efforts in these areas are linked to national health needs and policy priorities.

7. Adopt policies that promote access to global health information, evidence and knowledge by examining and adopting the application of intellectual property rights and by supporting North-South and public-private research partnerships within the context of the global strategy and plan of actions on public health, innovation and intellectual property.

8. Establish appropriate national policies and mechanisms for scientific and ethical oversight in the collection of data and generation of health information and evidence, including regulation of clinical trials; and for sensitization of people to their role, rights, and obligations when participating in studies

9. Establish or strengthen appropriate mechanisms of cooperation including public private, South-South and North-South cooperation, and technology transfer, and create regional centres of excellence to promote research and generate evidence for better decisions, particularly as regards disease surveillance, public health laboratories, and quality control of food and medicines.

10. Ensure that adequate financial, material and human resources are mobilized and available at each stage of the policy formulation and implementation process, and at all levels.

Countries will also need to consider the following in order to improved the availability and quality of health information and evidence:

11. Identify and integrate all existing sources of reliable information, including information from the private sector.

12. Institute procedures to ensure the generation and availability of information that meet international norms and standards and to clearly define relations between various components of the health information system

13. Ensure the availability of relevant and timely health information by increasing the frequency of national demographic and health surveys; completing the 2010 census round; strengthening birth and death registration; carrying out surveillance and gathering service statistics; and enhancing monitoring of health systems strengthening.

14. Improve the management of health information through better analysis and interpretation of data; presentation of information using the proper format to ensure use for decision making; and sharing and reapplying information and experiential knowledge.

15. Promote innovative research directed towards discoveries in basic knowledge and its transformation into new tools such as medicines, vaccines and diagnostics.

16. Ensure the availability of relevant and timely evidence by reorienting the institutional research agenda to pressing local problems such as health systems research.

17. Promote the use of systematic reviews in the production of evidence.

18. Ensure appropriate and adequate generation of evidence by strengthening institutional mechanisms for adequate ethical and scientific review of research from inception to publication and use of results.

19. Promote open access to primary data, samples and published findings of research results.

Better dissemination and sharing of information, evidence and knowledge would require countries to:

20. Support the establishment of health libraries and information centres at local and national levels; link them to regional and international networks; and ensure that they have the necessary infrastructures, systems and human resources.

21. Ensure availability of printed and electronic materials in appropriate formats and languages.

22. Develop and strengthen the evidence base for health systems by consolidating and publishing existing evidence and facilitating knowledge generation in priority areas.

23. Establish mechanisms and procedures for documenting experiential knowledge and best practices in implementing health programmes.

24. Ensure that all local publications (in all formats and languages) are included on the relevant international indexes.

In order to improve the use of information, evidence and knowledge countries should also consider to:

25. Ensure that policy-makers and decision-makers articulate their need for evidence and that they are part of the agenda setting process.

26. Improve the capacity of decision and policy makers to access and apply evidence.

27. Improve the sharing and application of information, evidence and experiential knowledge by, for example, supporting the establishment of Communities of Practice .

28. Support the translation of research results into policy and action by creating appropriate mechanisms and structures including promoting regional and country networks of researchers, decision makers, and policy-makers for evidence-informed public health action.

29. Promote translational and operational research to assess how discoveries might be optimally utilized and strategically implemented to enhance access.

Better access to existing global health information, evidence and knowledge is the foundation to any efforts to narrow the knowledge gap. Countries should:

30. Promote wider use of indexes including those that enable access to local, non-English, and unpublished (i.e., 'gray literature') materials.

31. Improve use of expertise locators and social networks to better access and utilize experiential knowledge.

32. Promote open-access journals and institutional access to copyrighted publications (e.g. through HINARI).

Wider access to information and communication technologies for health is also essential. Within the framework of national ICT development policies and plans, countries would also need to:

33. Develop/strengthen webbased applications and databases.

34. Strengthen the management of databases, information, evidence and knowledge, particularly at district levels.

Countries are also expected to establish or strengthen monitoring and evaluation mechanisms to track the implementation of the Algiers Declaration by identifying relevant input, process, output, and outcome. It is also important to develop or strengthen existing mechanisms in order to institutionalize monitoring and evaluation of all aspects of the implementation of the Declaration.

## Progress on the Libreville Declaration

#### Zambia:Progress on the Libreville Declaration

The environment is one of the primary determinants of individual and community health, and exposure to physical, chemical and biological risk factors in the environment can harm human health in various ways. Africa continues to face the "traditional" challenges of poor access to safe drinking water, hygiene and sanitation; absent or poorly designed irrigation and water management systems; and inadequate and poorly constructed road infrastructure, housing and waste management systems. Yet the continent must now also deal with new and emerging challenges, including the effects on health of climate change, accelerated urbanization and indoor and outdoor air pollution.

Increasingly, African governments are becoming motivated to improve environmental conditions in order to protect the health and well-being of their populations. However, in order to tackle the interlinked health and environmental challenges, there was a need for creation of an enhanced awareness among ministries of health and environment of the mutual relevance and benefits of each others' policies, strategies and programmes.

In an effort to catalyse these linkages, the World Health Organization (WHO) and the United Nations Environment Programme (UNEP) in partnership with the Government of Gabon, organized the first-ever Interministerial Conference for Health and Environment in Africa in Libreville, Gabon, from 26–29 August 2008.

The general objective of the conference was to secure political commitment for catalysing the policy, institutional and investment changes required to reduce environmental threats to health, in support of sustainable development. The specific objectives of the conference were: a). To demonstrate the importance of recognizing the interlinkages between the environment and health to achieving sustainable development; b). To promote an integrated approach to policy-making in the health and environment sectors that values the services that ecosystems provide to human health; c). To agree on specific actions required to leverage the needed changes in institutional arrangements and investment frameworks for mitigating environmental threats to human health. A two-and-a-half-day scientific and technical meeting took place at la Cité de la Démocratie from 26 to 28 August 2008 to discuss the scientific evidence and programmatic issues. This meeting was followed by the one-and-a-half-day ministerial summit.

The ministers of health and ministers and environment of 52 African countries adopted the Libreville Declaration on Health and Environment in Africa. They declared the following: "We African countries commit ourselves to: 1. Establishing a health and environment strategic alliance, as the basis for plans of joint action;

2. Developing or updating our national, subregional and regional frameworks in order to address more effectively the issue of environmental impacts on health, through integration of these links in policies, strategies, regulations and national development plans;

3. Ensuring integration of agreed objectives in the areas of health and environment in national poverty-reduction strategies by implementing priority intersectoral programmes at all levels, aimed at accelerating achievement of the Millennium Development Goals;

4. Building national, subregional and regional capacities to better prevent environment-related health problems, through the establishment or strengthening of health and environment institutions;

5. Supporting knowledge acquisition and management on health and environment, particularly through applied research at local, subregional and regional levels, while ensuring coordination of scientific and technical publications so as to identify knowledge gaps and research priorities and to support education and training at all levels;

6. Establishing or strengthening systems for health and environment surveillance to allow measurement of interlinked health and environment impacts and to identify emerging risks, in order to manage them better;

7. Implementing effectively national, subregional and regional mechanisms for enforcing compliance with international conventions and national regulations to protect populations from health threats related to the environment, including accession to and implementation of the Bamako Convention by those countries that have not done so;

8. Setting up national monitoring and evaluation mechanisms to assess performance in implementing priority programmes and peer review mechanisms to learn from each other's experience;

9. Instituting the practice of systematic assessment of health and environment risks, in particular through the development of procedures to assess impacts on health, and to produce national environment outlook reports;

10. Developing partnerships for targeted and specific advocacy on health and environment issues towards institutions and communities including the youth, parliamentarians, local government, education ministries, civil society and the private sector;

11. Achieving a balance in the allocation of national budgetary resources for intersectoral health and environment programmes."

They called upon WHO and UNEP to: • support, along with other partners and donors, including the African development banks and African subregional economic communities, the implementation of this Declaration, and to increase their efforts in advocacy, in resource mobilization and in obtaining new and additional investments in order to strengthen the strategic alliance between health and environment; • help African countries in sharing experiences, developing capacity and establishing a mechanism to monitor progress towards the fulfillment of the commitments made at this conference, through peer review, and to organize a second Interministerial Conference on Health and Environment in Africa before the end of 2010, and; • support the implementation of health and environment conventions and agreements and the establishment of an African network for surveillance of communicable and noncommunicable diseases, in particular those with environment determinants.

Assessment of progress on the 2008 Libreville Declaration will be conducted in 2013 – five years after it came into effect. Please visit this page then for the result of the assessment.

For your information, the full text of the frameworks for the implementation of the Declaration is reproduced in this section.

This section of the profile on the progress on the Libreville Declaration is structured as follows: 8.1 Vector-borne disease 8.2 The urban environment 8.3 Indoor air pollution and household energy 8.4 Water, sanitation, and ecosystems 8.5 Climate change 8.6 Toxic substances

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